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NELAP Certification Number: CA00046
DoD-ELAP Certification Number 4064.01
State Certification Number:

April 20, 2023

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

RE: Red Hill AFFF Assessment Sampling
23D0056

Enclosed are the results of analyses for samples received by our laboratory on 4/7/2023. 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,

Karen Volpendesta
Project Manager

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1001 Bishop Street, Suite 1600
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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:32

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 LOQ in the BCD0235-BLK1. No PFOSA was detected in these samples.

Sample 02 - AF-RHMW02-WGN01LF-2304W1 was reextracted due to low recoveries of long chain and neutral PFAS. Only the reextracted data has been provided.

The analytes PFHxA, 6:2FTS, and 3:3FTcA recovered above the upper control limit in the SC01502-LCV1.

The analyte NMeFOSAA recovered below the lower control limit in the SC01534-LCV1.

The SC01534-PEM2 was miss-acquired and no TDCA peak can be seen in the chromatogram. The retention time check cannot be provided showing TDCA and the most branched peak for PFOS are more than 1 minute apart. The next TDCA check analyzed has been provided in leu of SC01534-PEM2.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23D0056-01	AF-RHMW03-WGN01LF-2304W1	Water	04/06/2023 12:15	04/07/2023
23D0056-02	AF-RHMW02-WGN01LF-2304W1	Water	04/06/2023 10:20	04/07/2023

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Project Manager: Watson Tanji

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Containers Received

Lab ID	Container Type	Count	Preservation Check
23D0056-01	500mL P	2	
23D0056-02	500mL P	2	

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

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Sample Results

Sample: AF-RHMW03-WGN01LF-2304W1
23D0056-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.2 J	1.4	0.71	0.18	ng/L	04/14/23	1	EPA 1633	BCD0119
PFPEA	2.2	0.71	0.35	0.057	ng/L	04/14/23	1	EPA 1633	BCD0119
PFHXA	1.6	0.35	0.18	0.049	ng/L	04/14/23	1	EPA 1633	BCD0119
PFHPA	1.3	0.35	0.18	0.036	ng/L	04/14/23	1	EPA 1633	BCD0119
PFOA	0.31 J	0.35	0.27	0.13	ng/L	04/14/23	1	EPA 1633	BCD0119
PFNA	0.11 J	0.35	0.18	0.072	ng/L	04/14/23	1	EPA 1633	BCD0119
PFDA	0.15 J	0.35	0.18	0.090	ng/L	04/14/23	1	EPA 1633	BCD0119
PFUnA	0.27 U IR2,	0.35	0.27	0.14	ng/L	04/14/23	1	EPA 1633	BCD0119
PFDOA	0.18 U	0.35	0.18	0.099	ng/L	04/14/23	1	EPA 1633	BCD0119
PFTRDA	0.27 U	0.35	0.27	0.18	ng/L	04/14/23	1	EPA 1633	BCD0119
PFTEDA	0.27 U	0.35	0.27	0.17	ng/L	04/14/23	1	EPA 1633	BCD0119
PFBS	0.18 U	0.35	0.18	0.032	ng/L	04/14/23	1	EPA 1633	BCD0119
PFPEs	0.18 U	0.35	0.18	0.055	ng/L	04/14/23	1	EPA 1633	BCD0119
PFHXS	0.18 U	0.35	0.18	0.028	ng/L	04/14/23	1	EPA 1633	BCD0119
PFHPS	0.18 U	0.35	0.18	0.045	ng/L	04/14/23	1	EPA 1633	BCD0119
PFOS	0.18 U	0.35	0.18	0.056	ng/L	04/14/23	1	EPA 1633	BCD0119
PFNS	0.18 U	0.35	0.18	0.11	ng/L	04/14/23	1	EPA 1633	BCD0119
PFDS	0.27 U	0.35	0.27	0.13	ng/L	04/14/23	1	EPA 1633	BCD0119
PFDOS	0.18 U	0.35	0.18	0.11	ng/L	04/14/23	1	EPA 1633	BCD0119
4:2FTS	0.71 U	1.4	0.71	0.26	ng/L	04/14/23	1	EPA 1633	BCD0119
6:2FTS	11	1.4	0.71	0.28	ng/L	04/14/23	1	EPA 1633	BCD0119
8:2FTS	0.71 U	1.4	0.71	0.073	ng/L	04/14/23	1	EPA 1633	BCD0119
PFOSA	0.18 U	0.35	0.18	0.092	ng/L	04/14/23	1	EPA 1633	BCD0119
NMeFOSA	0.71 U	1.4	0.71	0.42	ng/L	04/14/23	1	EPA 1633	BCD0119
NEtFOSA	0.71 U	1.4	0.71	0.36	ng/L	04/14/23	1	EPA 1633	BCD0119
NMeFOSAA	0.18 U	0.35	0.18	0.093	ng/L	04/14/23	1	EPA 1633	BCD0119
NEtFOSAA	0.18 U	0.35	0.18	0.10	ng/L	04/14/23	1	EPA 1633	BCD0119
NMeFOSE	1.1 U	1.4	1.1	0.89	ng/L	04/14/23	1	EPA 1633	BCD0119
NEtFOSE	1.1 U	1.4	1.1	0.93	ng/L	04/14/23	1	EPA 1633	BCD0119
HFPO-DA	0.35 U	0.71	0.35	0.15	ng/L	04/14/23	1	EPA 1633	BCD0119
ADONA	0.35 U	0.71	0.35	0.11	ng/L	04/14/23	1	EPA 1633	BCD0119
PFEESA	0.35 U	0.71	0.35	0.096	ng/L	04/14/23	1	EPA 1633	BCD0119
PFMPA	0.35 U	0.71	0.35	0.048	ng/L	04/14/23	1	EPA 1633	BCD0119
PFMBA	0.35 U	0.71	0.35	0.080	ng/L	04/14/23	1	EPA 1633	BCD0119
NFDHA	0.35 U	0.71	0.35	0.27	ng/L	04/14/23	1	EPA 1633	BCD0119
9CL-PF3ONS	0.35 U	0.71	0.35	0.18	ng/L	04/14/23	1	EPA 1633	BCD0119
11CL-PF3OUDS	0.35 U	0.71	0.35	0.18	ng/L	04/14/23	1	EPA 1633	BCD0119
3:3FTCA	0.71 U	1.4	0.71	0.51	ng/L	04/14/23	1	EPA 1633	BCD0119
5:3FTCA	0.71 U	1.4	0.71	0.39	ng/L	04/14/23	1	EPA 1633	BCD0119
7:3FTCA	0.71 U	1.4	0.71	0.49	ng/L	04/14/23	1	EPA 1633	BCD0119
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Surrogate: 13C4-PFBA	85.5%		10-130			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C5-PFPEA	58.3%		35-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C5-PFHXA	78.0%		55-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C4-PFHPA	78.6%		55-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C8-PFOA	92.5%		60-140			04/14/23	1	EPA 1633	BCD0119

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Project Manager: Watson Tanji

Reported: 04/20/2023 19:32

Sample Results (Continued)

Sample: AF-RHMW03-WGN01LF-2304W1 (Continued) 23D0056-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	99.8%		55-140			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C6-PFDA	83.4%		50-140			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C7-PFUnA	85.6%		30-140			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C2-PFDOA	83.7%		10-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C2-PFTEDA	68.1%		10-130			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C3-PFBS	88.8%		55-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C3-PFHXS	90.1%		55-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C8-PFOS	87.9%		45-140			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C2-4:2FTS	120%		60-200			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C2-6:2FTS	147%		60-200			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C2-8:2FTS	164%		50-200			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C8-PFOA	60.4%		30-130			04/14/23	1	EPA 1633	BCD0119
Surrogate: D3-NMEFOA	49.3%		15-130			04/14/23	1	EPA 1633	BCD0119
Surrogate: D5-NETFOA	55.2%		10-130			04/14/23	1	EPA 1633	BCD0119
Surrogate: D3-NMEFOA	86.4%		45-200			04/14/23	1	EPA 1633	BCD0119
Surrogate: D5-NETFOA	92.8%		10-200			04/14/23	1	EPA 1633	BCD0119
Surrogate: D7-NMEFOSE	54.7%		10-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: D9-NETFOSE	63.7%		10-150			04/14/23	1	EPA 1633	BCD0119
Surrogate: 13C3-HFPO-DA	78.6%		25-160			04/14/23	1	EPA 1633	BCD0119

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Sample Results (Continued)

**Sample: AF-RHMW02-WGN01LF-2304W1
23D0056-02 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	20	1.4	0.70	0.18	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEA	1.4	0.70	0.35	0.057	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXA	0.34 J	0.35	0.17	0.048	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPA	0.28 J	0.35	0.17	0.036	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOA	0.26 U	0.35	0.26	0.13	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNA	0.17 U	0.35	0.17	0.072	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDA	0.17 U	0.35	0.17	0.089	ng/L	04/19/23	1	EPA 1633	BCD0235
PFUnA	0.26 U	0.35	0.26	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOA	0.17 U	0.35	0.17	0.098	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTRDA	0.26 U	0.35	0.26	0.18	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTEDA	0.26 U	0.35	0.26	0.17	ng/L	04/19/23	1	EPA 1633	BCD0235
PFBS	0.17 U	0.35	0.17	0.032	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEs	0.17 U	0.35	0.17	0.055	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXS	0.17 U	0.35	0.17	0.028	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPS	0.17 U	0.35	0.17	0.045	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOS	0.11 J MI4,	0.35	0.17	0.056	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNS	0.17 U	0.35	0.17	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDS	0.26 U	0.35	0.26	0.13	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOS	0.17 U	0.35	0.17	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
4:2FTS	0.70 U	1.4	0.70	0.25	ng/L	04/19/23	1	EPA 1633	BCD0235
6:2FTS	6.4	1.4	0.70	0.27	ng/L	04/19/23	1	EPA 1633	BCD0235
8:2FTS	0.70 U	1.4	0.70	0.072	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOSA	0.17 U	0.35	0.17	0.091	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSA	0.70 U	1.4	0.70	0.41	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSA	0.70 U	1.4	0.70	0.36	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSAA	0.17 U	0.35	0.17	0.092	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSAA	0.17 U	0.35	0.17	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSE	1.0 U	1.4	1.0	0.88	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSE	1.0 U	1.4	1.0	0.91	ng/L	04/19/23	1	EPA 1633	BCD0235
HFPO-DA	0.35 U	0.70	0.35	0.15	ng/L	04/19/23	1	EPA 1633	BCD0235
ADONA	0.35 U	0.70	0.35	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFEESA	0.35 U	0.70	0.35	0.095	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMPA	0.35 U	0.70	0.35	0.047	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMBA	0.35 U	0.70	0.35	0.079	ng/L	04/19/23	1	EPA 1633	BCD0235
NFDHA	0.35 U	0.70	0.35	0.26	ng/L	04/19/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.35 U	0.70	0.35	0.18	ng/L	04/19/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.35 U	0.70	0.35	0.18	ng/L	04/19/23	1	EPA 1633	BCD0235
3:3FTCA	0.70 U	1.4	0.70	0.50	ng/L	04/19/23	1	EPA 1633	BCD0235
5:3FTCA	0.70 U	1.4	0.70	0.39	ng/L	04/19/23	1	EPA 1633	BCD0235
7:3FTCA	0.70 U	1.4	0.70	0.48	ng/L	04/19/23	1	EPA 1633	BCD0235
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Surrogate: 13C4-PFBA	64.6%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	65.7%		35-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	85.8%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFHPA	95.9%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	102%		60-140			04/19/23	1	EPA 1633	BCD0235

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Reported: 04/20/2023 19:32

Sample Results (Continued)

Sample: AF-RHMW02-WGN01LF-2304W1 (Continued) 23D0056-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	96.6%		55-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	97.8%		50-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	98.2%		30-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	91.8%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	61.1%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	93.9%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	101%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	96.2%		45-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	172%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	177%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	234% S2		50-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	109%		50-200			04/19/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	73.8%		30-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	48.6%		15-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	45.9%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	101%		45-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	91.6%		10-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	46.9%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	44.0%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	98.1%		25-160			04/19/23	1	EPA 1633	BCD0235

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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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Method: EPA 1633

Batch: BCD0119 - EPA 1633

Blank (BCD0119-BLK1)

Prepared: 04/10/23 08:18 Analyzed: 04/14/23 15:47

	ng/L			
PFBA	0.80 U	1.6	0.80	0.21
PFPEA	0.40 U	0.80	0.40	0.065
PFHXA	0.20 U	0.40	0.20	0.055
PFHPA	0.20 U	0.40	0.20	0.041
PFOA	0.30 U	0.40	0.30	0.15
PFNA	0.20 U	0.40	0.20	0.082
PFDA	0.20 U	0.40	0.20	0.10
PFUnA	0.30 U	0.40	0.30	0.16
PFDOA	0.20 U	0.40	0.20	0.11
PFTRDA	0.30 U	0.40	0.30	0.20
PFTEDA	0.30 U	0.40	0.30	0.20
PFBS	0.20 U	0.40	0.20	0.037
PFPEs	0.20 U	0.40	0.20	0.063
PFHXS	0.20 U	0.40	0.20	0.032
PFHPS	0.20 U	0.40	0.20	0.051
PFOS	0.166 J MI2,	0.40	0.20	0.064
PFNS	0.20 U	0.40	0.20	0.12
PFDS	0.30 U	0.40	0.30	0.15
PFDOS	0.20 U	0.40	0.20	0.12
4:2FTS	0.80 U	1.6	0.80	0.29
6:2FTS	0.80 U	1.6	0.80	0.31
8:2FTS	0.80 U	1.6	0.80	0.082
PFOSA	0.20 U	0.40	0.20	0.10
NMeFOSA	0.80 U	1.6	0.80	0.47
NEtFOSA	0.80 U	1.6	0.80	0.41
NMeFOSAA	0.20 U	0.40	0.20	0.11
NEtFOSAA	0.20 U	0.40	0.20	0.11
NMeFOSE	1.2 U	1.6	1.2	1.0
NEtFOSE	1.2 U	1.6	1.2	1.0
HFPO-DA	0.40 U	0.80	0.40	0.17
ADONA	0.40 U	0.80	0.40	0.12
PFEESA	0.40 U	0.80	0.40	0.11
PFMPA	0.40 U	0.80	0.40	0.054
PFMBA	0.40 U	0.80	0.40	0.091
NFDHA	0.40 U	0.80	0.40	0.30
9CL-PF3ONS	0.40 U	0.80	0.40	0.21
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21
3:3FTCA	0.80 U	1.6	0.80	0.57
5:3FTCA	0.80 U	1.6	0.80	0.44
7:3FTCA	0.80 U	1.6	0.80	0.55

Surrogates

13C4-PFBA	28.6	32.0	89.3	10-130
13C5-PFPEA	14.1	16.0	88.4	35-150
13C5-PFHXA	7.08	8.00	88.5	55-150

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Project Manager: Watson Tanji

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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
Blank (BCD0119-BLK1)						Prepared: 04/10/23 08:18 Analyzed: 04/14/23 15:47				
	ng/L									
Surrogates										
13C4-PFHFA	7.72				8.00		96.5	55-150		
13C8-PFOA	7.13				8.00		89.2	60-140		
13C9-PFNA	3.40				4.00		84.9	55-140		
13C6-PFDA	3.06				4.00		76.6	50-140		
13C7-PFUnA	3.33				4.00		83.1	30-140		
13C2-PFDOA	3.21				4.00		80.2	10-150		
13C2-PFTEDA	2.63				4.00		65.7	10-130		
13C3-PFBS	6.14				8.00		76.8	55-150		
13C3-PFHXS	6.83				8.00		85.4	55-150		
13C8-PFOS	6.55				8.00		81.9	45-140		
13C2-4:2FTS	13.5				16.0		84.6	60-200		
13C2-6:2FTS	13.9				16.0		86.9	60-200		
13C2-8:2FTS	11.4				16.0		71.1	50-200		
13C8-PFOA	5.40				8.00		67.4	30-130		
D3-NMEFOA	2.09				8.00		26.1	15-130		
D5-NETFOA	1.78				8.00		22.3	10-130		
D3-NMEFOSAA	11.2				16.0		69.8	45-200		
D5-NETFOSAA	10.5				16.0		65.9	10-200		
D7-NMEFOSE	37.1				80.0		46.3	10-150		
D9-NETFOSE	41.3				80.0		51.7	10-150		
13C3-HFPO-DA	25.8				32.0		80.5	25-160		

LCS (BCD0119-BS1)

Prepared: 04/10/23 08:18 Analyzed: 04/14/23 16:00

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
PFBA	16.2				16.0		101	58-148		
PFPEA	7.80				8.00		97.5	54-152		
PFHXA	4.00				4.00		99.9	55-152		
PFHFA	4.25				4.00		106	54-154		
PFOA	4.07				4.00		102	52-161		
PFNA	4.03				4.00		101	59-149		
PFDA	3.70				4.00		92.6	52-147		
PFUnA	3.66				4.00		91.5	48-159		
PFDOA	4.35				4.00		109	64-142		
PFTRDA	3.99				4.00		99.8	49-148		
PFTEDA	4.44				4.00		111	47-161		
PFBS	3.43				3.54		96.8	62-144		
PFPEA	3.83				3.76		102	59-151		
PFHXS	3.64				3.66		99.5	57-146		
PFHPS	4.01				3.82		105	55-152		
PFOS	3.74				3.72		100	58-149		
PFNS	3.55				3.84		92.5	52-148		
PFDS	3.21				3.86		83.2	51-147		
PFDOS	3.19				3.88		82.1	36-145		
4:2FTS	14.4				15.0		96.1	67-146		
6:2FTS	17.2				15.2		113	61-151		
8:2FTS	14.9				15.4		97.0	63-152		
PFOSA	4.73				4.00		118	61-148		

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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
LCS (BCD0119-BS1)						Prepared: 04/10/23 08:18 Analyzed: 04/14/23 16:00				
	ng/L									
NMeFOSA	15.6				16.0		97.7	63-145		
NETFOSA	15.4				16.0		96.6	65-139		
NMeFOSAA	3.67				4.00		91.8	58-144		
NETFOSAA	3.58				4.00		89.5	59-146		
NMeFOSE	17.2				16.0		107	71-136		
NETFOSE	15.7				16.0		97.9	69-137		
HFPO-DA	7.95				8.00		99.4	63-144		
ADONA	8.44				7.56		112	68-146		
PFEESA	6.95				7.12		97.6	56-151		
PFMPA	8.79				8.00		110	51-145		
PFMBA	7.79				8.00		97.3	55-148		
NFDHA	7.68				8.00		96.0	48-161		
9CL-PF3ONS	7.99				7.48		107	56-156		
11CL-PF3OUDS	7.13				7.56		94.3	46-156		
3:3FTCA	16.1				16.0		100	62-129		
5:3FTCA	14.8				16.0		92.7	63-134		
7:3FTCA	15.5				16.0		97.0	50-138		
Surrogates										
13C4-PFBA	31.0				32.0		97.0	10-130		
13C5-PFPEA	15.8				16.0		98.8	35-150		
13C5-PFHXA	7.79				8.00		97.4	55-150		
13C4-PFHFA	8.39				8.00		105	55-150		
13C8-PFOA	7.98				8.00		99.8	60-140		
13C9-PFNA	3.88				4.00		97.1	55-140		
13C6-PFDA	3.94				4.00		98.4	50-140		
13C7-PFUa	4.37				4.00		109	30-140		
13C2-PFDOA	3.91				4.00		97.8	10-150		
13C2-PFTEDA	3.33				4.00		83.2	10-130		
13C3-PFBS	7.22				8.00		90.2	55-150		
13C3-PFHXS	7.61				8.00		95.1	55-150		
13C8-PFOS	7.11				8.00		88.9	45-140		
13C2-4:2FTS	15.1				16.0		94.3	60-200		
13C2-6:2FTS	15.8				16.0		98.5	60-200		
13C2-8:2FTS	14.9				16.0		93.3	50-200		
13C8-PFOA	5.71				8.00		71.4	30-130		
D3-NMEFOSA	2.94				8.00		36.7	15-130		
D5-NETFOSA	3.10				8.00		38.8	10-130		
D3-NMEFOSAA	12.2				16.0		76.3	45-200		
D5-NETFOSAA	11.6				16.0		72.3	10-200		
D7-NMEFOSE	35.5				80.0		44.3	10-150		
D9-NETFOSSE	63.2				80.0		79.0	10-150		
13C3-HFPO-DA	29.1				32.0		90.8	25-160		

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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
MRL Check (BCD0119-MRL1)						Prepared: 04/10/23 08:18 Analyzed: 04/14/23 16:12				
	ng/L									
PFBA	1.42 J				1.60		88.7	44-157		
PFPEA	0.746 J				0.800		93.3	57-148		
PFHXA	0.462				0.400		116	62-149		
PFHPA	0.483 IR2				0.400		121	56-150		
PFOA	0.523				0.400		131	57-161		
PFNA	0.440				0.400		110	53-157		
PFDA	0.477 IR1				0.400		119	43-158		
PFUnA	0.306 J				0.400		76.6	50-155		
PFDOA	0.412				0.400		103	60-141		
PFTRDA	0.365 J				0.400		91.3	52-140		
PFTEDA	0.406				0.400		101	52-156		
PFBS	0.309 J				0.354		87.4	63-145		
PFPEs	0.330 J				0.376		87.8	58-144		
PFHXS	0.384 J				0.366		105	44-158		
PFHPS	0.353 J				0.382		92.4	51-150		
PFOS	0.450 M12				0.372		121	43-162		
PFNS	0.340 J				0.384		88.5	46-151		
PFDS	0.324 J				0.386		83.9	50-144		
PFDOS	0.282 J				0.388		72.6	30-138		
4:2FTS	1.36 J				1.50		90.9	52-158		
6:2FTS	2.39				1.52		157	48-158		
8:2FTS	1.41 J				1.54		92.0	46-165		
PFOSA	0.498				0.400		125	47-163		
NMeFOSA	1.53 J				1.60		95.7	54-155		
NETFOSA	1.40 J				1.60		87.7	49-156		
NMeFOSAA	0.322 J				0.400		80.4	32-160		
NETFOSAA	0.348 J				0.400		86.9	51-154		
NMeFOSE	1.42 J				1.60		88.5	56-151		
NETFOSE	1.34 J				1.60		84.0	60-147		
HFPO-DA	0.742 J				0.800		92.8	58-154		
ADONA	0.761 J				0.756		101	61-148		
PFEESA	0.581 J				0.712		81.6	56-144		
PFMPA	0.802				0.800		100	48-150		
PFMBA	0.860				0.800		108	49-154		
NFDHA	0.650 J				0.800		81.2	47-160		
9CL-PF3ONS	0.615 J				0.748		82.2	44-167		
11CL-PF3OUDS	0.703 J				0.756		93.0	36-158		
3:3FTCA	1.39 J				1.60		86.8	32-161		
5:3FTCA	1.63				1.60		102	39-156		
7:3FTCA	1.61				1.60		101	36-149		
Surrogates										
13C4-PFBA	31.7				32.0		99.2	10-130		
13C5-PFPEA	15.8				16.0		98.7	35-150		
13C5-PFHXA	7.90				8.00		98.7	55-150		
13C4-PFHPA	8.14				8.00		102	55-150		
13C8-PFOA	7.52				8.00		94.0	60-140		
13C9-PFNA	3.46				4.00		86.5	55-140		

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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
MRL Check (BCD0119-MRL1)						Prepared: 04/10/23 08:18 Analyzed: 04/14/23 16:12				
	ng/L									
Surrogates										
13C6-PFDA	3.62				4.00		90.4	50-140		
13C7-PFUnA	3.90				4.00		97.5	30-140		
13C2-PFDOA	3.89				4.00		97.3	10-150		
13C2-PFTEDA	3.58				4.00		89.4	10-130		
13C3-PFBS	6.52				8.00		81.5	55-150		
13C3-PFHXS	7.64				8.00		95.5	55-150		
13C8-PFOS	7.08				8.00		88.5	45-140		
13C2-4:2FTS	15.2				16.0		94.9	60-200		
13C2-6:2FTS	15.9				16.0		99.6	60-200		
13C2-8:2FTS	13.3				16.0		83.1	50-200		
13C8-PFOA	5.82				8.00		72.8	30-130		
D3-NMEFOSA	2.70				8.00		33.8	15-130		
D5-NETFOSA	2.79				8.00		34.9	10-130		
D3-NMEFOSAA	13.0				16.0		81.3	45-200		
D5-NETFOSAA	12.1				16.0		75.4	10-200		
D7-NMEFOSE	51.0				80.0		63.8	10-150		
D9-NETFOS	59.3				80.0		74.1	10-150		
13C3-HFPO-DA	30.4				32.0		94.9	25-160		

Method: EPA 1633

Batch: BCD0235 - EPA 1633

Blank (BCD0235-BLK1)

Prepared: 04/17/23 11:15 Analyzed: 04/18/23 22:56

	ng/L			
PFBA	0.80 U	1.6	0.80	0.21
PFPEA	0.40 U	0.80	0.40	0.065
PFHXA	0.20 U	0.40	0.20	0.055
PFHPA	0.20 U	0.40	0.20	0.041
PFOA	0.30 U	0.40	0.30	0.15
PFNA	0.20 U	0.40	0.20	0.082
PFDA	0.20 U	0.40	0.20	0.10
PFUnA	0.30 U	0.40	0.30	0.16
PFDOA	0.20 U	0.40	0.20	0.11
PFTRDA	0.30 U	0.40	0.30	0.20
PFTEDA	0.30 U	0.40	0.30	0.20
PFBS	0.20 U	0.40	0.20	0.037
PFPEs	0.20 U	0.40	0.20	0.063
PFHXS	0.20 U	0.40	0.20	0.032
PFHPS	0.20 U	0.40	0.20	0.051
PFOS	0.20 U	0.40	0.20	0.064
PFNS	0.20 U	0.40	0.20	0.12
PFDS	0.30 U	0.40	0.30	0.15
PFDOS	0.20 U	0.40	0.20	0.12
4:2FTS	0.80 U	1.6	0.80	0.29
6:2FTS	0.80 U	1.6	0.80	0.31
8:2FTS	0.80 U	1.6	0.80	0.082

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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
Blank (BCD0235-BLK1)						Prepared: 04/17/23 11:15 Analyzed: 04/18/23 22:56				
	ng/L									
PFOSA	0.246 J B,	0.40	0.20	0.10						
NMeFOSA	0.80 U	1.6	0.80	0.47						
NETFOSA	0.80 U	1.6	0.80	0.41						
NMeFOSAA	0.20 U	0.40	0.20	0.11						
NETFOSAA	0.20 U	0.40	0.20	0.11						
NMeFOSE	1.2 U	1.6	1.2	1.0						
NETFOSE	1.2 U	1.6	1.2	1.0						
HFPO-DA	0.40 U	0.80	0.40	0.17						
ADONA	0.40 U	0.80	0.40	0.12						
PFEESA	0.40 U	0.80	0.40	0.11						
PFMPA	0.40 U	0.80	0.40	0.054						
PFMBA	0.40 U	0.80	0.40	0.091						
NFDHA	0.40 U	0.80	0.40	0.30						
9CL-PF3ONS	0.40 U	0.80	0.40	0.21						
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21						
3:3FTCA	0.80 U	1.6	0.80	0.57						
5:3FTCA	0.80 U	1.6	0.80	0.44						
7:3FTCA	0.80 U	1.6	0.80	0.55						
Surrogates										
13C4-PFBA	30.3				32.0		94.7	10-130		
13C5-PFPEA	15.2				16.0		95.0	35-150		
13C5-PFHXA	7.58				8.00		94.8	55-150		
13C4-PFHFA	6.93				8.00		86.7	55-150		
13C8-PFOA	7.16				8.00		89.6	60-140		
13C9-PFNA	3.53				4.00		88.3	55-140		
13C6-PFDA	3.42				4.00		85.5	50-140		
13C7-PFUnA	3.48				4.00		87.0	30-140		
13C2-PFDOA	3.31				4.00		82.8	10-150		
13C2-PFTEDA	3.19				4.00		79.7	10-130		
13C3-PFBS	8.51				8.00		106	55-150		
13C3-PFHXS	7.80				8.00		97.5	55-150		
13C8-PFOS	7.30				8.00		91.3	45-140		
13C2-4:2FTS	16.8				16.0		105	60-200		
13C2-6:2FTS	15.6				16.0		97.6	60-200		
13C2-8:2FTS	28.5				16.0		178	50-200		
13C8-PFOSA	5.56				8.00		69.5	30-130		
D3-NMEFOSA	3.12				8.00		39.0	15-130		
D5-NETFOSA	3.07				8.00		38.4	10-130		
D3-NMEFOSAA	14.7				16.0		91.9	45-200		
D5-NETFOSAA	13.7				16.0		85.6	10-200		
D7-NMEFOSE	40.2				80.0		50.3	10-150		
D9-NETFOSSE	39.0				80.0		48.8	10-150		
13C3-HFPO-DA	29.5				32.0		92.2	25-160		

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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
LCS (BCD0235-BS1)						Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:12				
	ng/L									
PFBA	16.3				16.0		102	58-148		
PFPEA	8.13				8.00		102	54-152		
PFHXA	4.24				4.00		106	55-152		
PFHPA	3.81				4.00		95.2	54-154		
PFOA	3.95				4.00		98.8	52-161		
PFNA	4.16				4.00		104	59-149		
PFDA	4.11				4.00		103	52-147		
PFUnA	3.79				4.00		94.8	48-159		
PFDOA	4.03				4.00		101	64-142		
PFTEDA	4.07				4.00		102	49-148		
PFTEDA	4.19				4.00		105	47-161		
PFBS	3.46				3.54		97.7	62-144		
PFPEs	3.82				3.76		102	59-151		
PFHXS	3.80 MI4				3.66		104	57-146		
PFHPS	4.42				3.82		116	55-152		
PFOS	4.07				3.72		109	58-149		
PFNS	3.95				3.84		103	52-148		
PFDS	4.13				3.86		107	51-147		
PFDOS	3.69				3.88		95.0	36-145		
4:2FTS	14.8				15.0		98.8	67-146		
6:2FTS	16.5				15.2		109	61-151		
8:2FTS	15.5				15.4		101	63-152		
PFOSA	4.20				4.00		105	61-148		
NMeFOSA	16.2				16.0		101	63-145		
NETFOSA	16.1				16.0		101	65-139		
NMeFOSAA	3.97				4.00		99.1	58-144		
NETFOSAA	3.85				4.00		96.3	59-146		
NMeFOSE	15.5				16.0		96.8	71-136		
NETFOSE	15.7				16.0		98.2	69-137		
HFPO-DA	7.54				8.00		94.2	63-144		
ADONA	7.94				7.56		105	68-146		
PFEESA	7.29				7.12		102	56-151		
PFMPA	7.46				8.00		93.3	51-145		
PFMBA	8.33				8.00		104	55-148		
NFDHA	7.97				8.00		99.7	48-161		
9CL-PF3ONS	8.09				7.48		108	56-156		
11CL-PF3OUDS	8.37				7.56		111	46-156		
3:3FTCA	14.4				16.0		89.9	62-129		
5:3FTCA	16.5				16.0		103	63-134		
7:3FTCA	15.3				16.0		95.4	50-138		
Surrogates										
13C4-PFBA	32.8				32.0		103	10-130		
13C5-PFPEA	16.2				16.0		101	35-150		
13C5-PFHXA	7.80				8.00		97.5	55-150		
13C4-PFHPA	8.16				8.00		102	55-150		
13C8-PFOA	8.27				8.00		103	60-140		
13C9-PFNA	4.34				4.00		108	55-140		

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

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:32

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BCD0235-BS1)						Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:12				
	ng/L									
Surrogates										
13C6-PFDA	3.87				4.00		96.7	50-140		
13C7-PFUnA	4.11				4.00		103	30-140		
13C2-PFDOA	3.63				4.00		90.8	10-150		
13C2-PFTEDA	3.87				4.00		96.6	10-130		
13C3-PFBS	8.24				8.00		103	55-150		
13C3-PFHXS	7.93				8.00		99.1	55-150		
13C8-PFOS	7.76				8.00		96.9	45-140		
13C2-4:2FTS	16.2				16.0		102	60-200		
13C2-6:2FTS	15.4				16.0		96.3	60-200		
13C2-8:2FTS	27.0				16.0		169	50-200		
13C8-PFOA	6.41				8.00		80.1	30-130		
D3-NMEFOSA	3.65				8.00		45.6	15-130		
D5-NETFOA	3.72				8.00		46.5	10-130		
D3-NMEFOSAA	16.3				16.0		102	45-200		
D5-NETFOSAA	15.3				16.0		95.6	10-200		
D7-NMEFOSE	50.4				80.0		63.0	10-150		
D9-NETFOSE	50.2				80.0		62.8	10-150		
13C3-HFO-DA	31.8				32.0		99.3	25-160		

MRL Check (BCD0235-MRL1)

Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:28

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
PFBA	2.94				3.20		91.7	44-157		
PFPEA	1.41				1.60		88.3	57-148		
PFHXA	0.797				0.800		99.6	62-149		
PFHPA	0.652				0.800		81.5	56-150		
PFOA	0.762				0.800		95.3	57-161		
PFNA	0.738				0.800		92.2	53-157		
PFDA	0.772				0.800		96.5	43-158		
PFUnA	0.714				0.800		89.2	50-155		
PFDOA	0.755				0.800		94.4	60-141		
PFTRDA	0.685				0.800		85.7	52-140		
PFTEDA	0.722 IR2				0.800		90.3	52-156		
PFBS	0.696				0.708		98.4	63-145		
PFPEA	0.730				0.752		97.1	58-144		
PFHXS	0.731 MI4				0.732		99.9	44-158		
PFHPS	0.880				0.764		115	51-150		
PFOS	0.694				0.744		93.3	43-162		
PFNS	0.780				0.768		102	46-151		
PFDS	0.808				0.772		105	50-144		
PFDOS	0.617				0.776		79.5	30-138		
4:2FTS	3.14				3.00		105	52-158		
6:2FTS	2.96				3.04		97.5	48-158		
8:2FTS	3.08				3.07		100	46-165		
PFOA	0.850				0.800		106	47-163		
NMeFOSA	2.76				3.20		86.1	54-155		
NETFOA	2.93				3.20		91.5	49-156		
NMeFOSAA	0.471 MI4				0.800		58.9	32-160		

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:32

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MRL Check (BCD0235-MRL1)						Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:28				
	ng/L									
NETFOSAA	0.681 M14				0.800		85.1	51-154		
NMeFOSE	3.12				3.20		97.4	56-151		
NETFOSE	3.12				3.20		97.5	60-147		
HFPO-DA	1.66				1.60		103	58-154		
ADONA	1.57				1.51		104	61-148		
PFEESA	1.23				1.42		86.6	56-144		
PFMPA	1.37				1.60		85.5	48-150		
PFMBA	1.49				1.60		93.2	49-154		
NFDHA	1.46				1.60		91.1	47-160		
9CL-PF3ONS	1.43				1.50		95.9	44-167		
11CL-PF3OUDS	1.36				1.51		90.0	36-158		
3:3FTCA	2.49				3.20		77.7	32-161		
5:3FTCA	3.39				3.20		106	39-156		
7:3FTCA	2.93				3.20		91.5	36-149		
Surrogates										
13C4-PFBA	32.7				32.0		102	10-130		
13C5-PFPEA	15.7				16.0		98.3	35-150		
13C5-PFHXA	7.66				8.00		95.8	55-150		
13C4-PFHFA	7.67				8.00		95.8	55-150		
13C8-PFOA	8.17				8.00		102	60-140		
13C9-PFNA	3.97				4.00		99.3	55-140		
13C6-PFDA	3.91				4.00		97.8	50-140		
13C7-PFUnA	3.61				4.00		90.3	30-140		
13C2-PFDOA	3.51				4.00		87.9	10-150		
13C2-PFTEDA	3.53				4.00		88.2	10-130		
13C3-PFBS	8.51				8.00		106	55-150		
13C3-PFHXS	7.81				8.00		97.6	55-150		
13C8-PFOS	7.87				8.00		98.4	45-140		
13C2-4:2FTS	16.3				16.0		102	60-200		
13C2-6:2FTS	15.5				16.0		96.7	60-200		
13C2-8:2FTS	31.7				16.0		198	50-200		
13C8-PFOA	6.57				8.00		82.2	30-130		
D3-NMEFOSA	4.86				8.00		60.7	15-130		
D5-NETFOA	4.81				8.00		60.2	10-130		
D3-NMEFOSAA	16.2				16.0		101	45-200		
D5-NETFOSAA	15.5				16.0		97.2	10-200		
D7-NMEFOSE	49.2				80.0		61.4	10-150		
D9-NETFOSE	47.3				80.0		59.1	10-150		
13C3-HFPO-DA	29.7				32.0		92.7	25-160		

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:32

Notes and Definitions

Item	Definition
B	Blank contamination
CV1	Calibration verification recovered below the lower control limit
CV2	Calibration verification recovered above the upper control limit
E	Response exceeds linear range
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
IS1	Internal standard recovered below the lower control limit
J	Estimated value
MI2	Manual integration, non-target peak interference
MI4	Manual integration, peak unsplit
MI5	Manual integration, whole peak was not integrated
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.
DF	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.
LOQ, Limit of Quantitation = Method Reporting Limit (MRL).	

CUSTODY SEAL

AECOM (808)-521-3051

Initials: kk Date: 4/6/23

1400

PFAS

SAMPLE DATA

FORM I

ANALYSIS DATA SHEET

AF-RHMW03-WGN01LF-2304W1

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	23D0056-01
		File ID:	S2023-04-14A (44)
Sampled:	04/06/23 12:15	Prepared:	04/10/23 08:18
		Analyzed:	04/14/23 23:43
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	565.66 mL / 2 mL	Instrument:	Saphira
Batch:	BCD0119	Sequence:	SC01502
		Calibration:	2315014

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.2 J	1.4	0.71	0.18	
PFPEA	2.2	0.71	0.35	0.057	
PFHXA	1.6	0.35	0.18	0.049	
PFHPA	1.3	0.35	0.18	0.036	
PFOA	0.31 J	0.35	0.27	0.13	
PFNA	0.11 J	0.35	0.18	0.072	
PFDA	0.15 J	0.35	0.18	0.090	
PFUnA	0.27 U	0.35	0.27	0.14	IR2,
PFDOA	0.18 U	0.35	0.18	0.099	
PFTRDA	0.27 U	0.35	0.27	0.18	
PFTEDA	0.27 U	0.35	0.27	0.17	
PFBS	0.18 U	0.35	0.18	0.032	
PFPEs	0.18 U	0.35	0.18	0.055	
PFHXS	0.18 U	0.35	0.18	0.028	
PFHPS	0.18 U	0.35	0.18	0.045	
PFOS	0.18 U	0.35	0.18	0.056	
PFNS	0.18 U	0.35	0.18	0.11	
PFDS	0.27 U	0.35	0.27	0.13	
PFDOS	0.18 U	0.35	0.18	0.11	
4:2FTS	0.71 U	1.4	0.71	0.26	
6:2FTS	11	1.4	0.71	0.28	
8:2FTS	0.71 U	1.4	0.71	0.073	
PFOSA	0.18 U	0.35	0.18	0.092	
NMeFOSA	0.71 U	1.4	0.71	0.42	
NEtFOSA	0.71 U	1.4	0.71	0.36	
NMeFOSAA	0.18 U	0.35	0.18	0.093	
NEtFOSAA	0.18 U	0.35	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.89	
NEtFOSE	1.1 U	1.4	1.1	0.93	
HFPO-DA	0.35 U	0.71	0.35	0.15	

FORM I

ANALYSIS DATA SHEET

AF-RHMW03-WGN01LF-2304W1

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	23D0056-01
		File ID:	S2023-04-14A (44)
Sampled:	04/06/23 12:15	Prepared:	04/10/23 08:18
		Analyzed:	04/14/23 23:43
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	565.66 mL / 2 mL	Instrument:	Saphira
Batch:	BCD0119	Sequence:	SC01502
		Calibration:	2315014

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.35 U	0.71	0.35	0.11	
PFEESA	0.35 U	0.71	0.35	0.096	
PFMPA	0.35 U	0.71	0.35	0.048	
PFMBA	0.35 U	0.71	0.35	0.080	
NFDHA	0.35 U	0.71	0.35	0.27	
9CL-PF3ONS	0.35 U	0.71	0.35	0.18	
11CL-PF3OUDS	0.35 U	0.71	0.35	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4	0.71	0.39	
7:3FTCA	0.71 U	1.4	0.71	0.49	



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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	(213.0 / 169.0) 19216	(3.41, 1.00) (0.00, N/A, 0.0)	64.0	N/A 0.0 0.0	0.3413	N/A			
PFPeA	(263.0 / 219.0) 94505 (263.0 / 69.0) 2632	(4.28, 1.00) (0.00, N/A, -0.4)	96.3 6.6	0.0278 212.1 237.9	0.6341	N/A			
PFHxA	(313.0 / 269.0) 112969 (313.0 / 119.0) 10009	(5.11, 1.00) (0.01, N/A, -0.2)	52.0 40.8	0.0886 81.2 91.0	0.4463	N/A			
PFHpA	(363.0 / 319.0) 71530 (363.0 / 169.0) 21383	(5.76, 1.00) (0.00, N/A, 0.2)	87.2 700.5	0.2989 97.9 96.0	0.3590	N/A			
PFOA	(413.0 / 369.0) 26076 (413.0 / 169.0) 6918	(6.38, 1.00) (0.00, N/A, 0.5)	60.5 238.8	0.2653 84.8 84.7	0.0878	N/A			
PFNA	(463.0 / 419.0) 8792 (463.0 / 169.0) 2293	(6.98, 1.00) (0.00, N/A, 0.7)	59.2 74.9	0.2608 122.2 126.5	0.0303	N/A			
PFDA	(513.0 / 469.0) 14351 (513.0 / 169.0) 1593	(7.55, 1.00) (0.00, N/A, -1.4)	59.2 18.7	0.1110 96.9 99.5	0.0434	N/A			
PFUnA	(563.0 / 519.0) 7814 (563.0 / 169.0) 2338	(8.07, 1.00) (-0.01, N/A, -0.7)	41.9 40.4	0.2992 253.2 262.9	0.0265	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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) 690448 (427.0 / 81.0) 476587	(6.14 , 1.00) (0.00 , N/A , 0.0)	1245.0 342.5	0.6903 98.0 95.6	3.0908	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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
PFOSA	(498.0 / 78.0) 12255 (498.0 / 478.0) 167	(9.72, 1.00) (0.00, N/A, 2.9)	103.0 4.4	0.0136 55.1 61.5	0.0131	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 71099	(3.41, N/A) (N/A, 0.04, N/A)	601.3	N/A	0.5832 [1.0000]	58.3% { 56.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 237385	(5.11, N/A) (N/A, 0.02, N/A)	876.7	N/A	1.1704 [1.0000]	117.0% { 118.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 344984	(6.37, N/A) (N/A, -0.01, N/A)	2988.0	N/A	1.0856 [1.0000]	108.6% { 104.2% }			

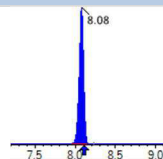
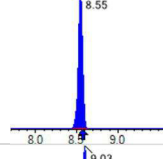
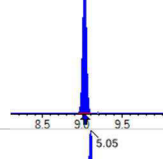
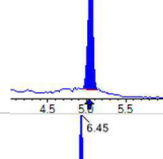
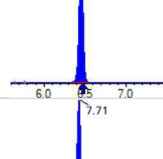
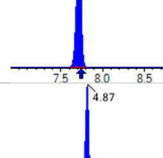
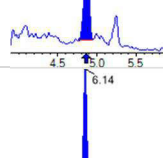
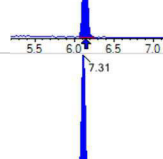
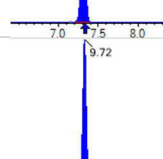
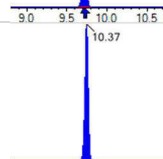
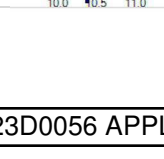


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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
13C5_PFNA_IIS	(468.0 / 423.0) 335121	(6.99, N/A) (N/A, -0.01, N/A)	1169.4	N/A	1.1042 [1.0000]	110.4% { 104.4% }			
13C2_PFDA_IIS	(515.0 / 470.1) 375736	(7.55, N/A) (N/A, -0.03, N/A)	1293.9	N/A	1.1580 [1.0000]	115.8% { 114.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 551116	(6.45, N/A) (N/A, -0.01, N/A)	1844.7	N/A	1.2306 [1.0000]	123.1% { 112.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 897093	(7.71, N/A) (N/A, -0.03, N/A)	937.2	N/A	1.3191 [1.0000]	131.9% { 126.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 515459	(3.41, N/A) (N/A, 0.04, N/A)	4166.0	N/A	6.8379 [8.0000]	85.5% { 47.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 620360	(4.28, N/A) (N/A, 0.01, N/A)	2011.0	N/A	2.3331 [4.0000]	58.3% { 72.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 524778	(5.10, N/A) (N/A, 0.02, N/A)	1248.2	N/A	1.5596 [2.0000]	78.0% { 89.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 462283	(5.76, N/A) (N/A, 0.01, N/A)	1903.7	N/A	1.5729 [2.0000]	78.6% { 84.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 629680	(6.37, N/A) (N/A, -0.01, N/A)	2561.8	N/A	1.8493 [2.0000]	92.5% { 95.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 314157	(6.98, N/A) (N/A, -0.01, N/A)	5371.5	N/A	0.9978 [1.0000]	99.8% { 98.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 351720	(7.55, N/A) (N/A, -0.02, N/A)	45322.4	N/A	0.8344 [1.0000]	83.4% { 100.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 334901	(8.08, N/A) (N/A, -0.02, N/A)	3439.4	N/A	0.8559 [1.0000]	85.6% { 91.9% }			
13C2_PFDa_EIS	(615.0 / 570.0) 280394	(8.55, N/A) (N/A, -0.02, N/A)	1404.9	N/A	0.8369 [1.0000]	83.7% { 106.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 215106	(9.03, N/A) (N/A, -0.01, N/A)	1241.8	N/A	0.6809 [1.0000]	68.1% { 92.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1536945	(5.05, N/A) (N/A, 0.02, N/A)	215.6	N/A	1.7763 [2.0000]	88.8% { 116.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 915866	(6.45, N/A) (N/A, -0.01, N/A)	1199.0	N/A	1.8029 [2.0000]	90.1% { 103.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1910829	(7.71, N/A) (N/A, -0.03, N/A)	1738.7	N/A	1.7582 [2.0000]	87.9% { 115.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 373912	(4.87, N/A) (N/A, 0.02, N/A)	92.4	N/A	4.7981 [4.0000]	120.0% { 156.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 522154	(6.14, N/A) (N/A, -0.01, N/A)	494.9	N/A	5.8706 [4.0000]	146.8% { 180.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 770779	(7.31, N/A) (N/A, -0.02, N/A)	1075.3	N/A	6.5458 [4.0000]	163.6% { 207.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2131293	(9.72, N/A) (N/A, 0.00, N/A)	4219.1	N/A	1.2080 [2.0000]	60.4% { 87.1% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 371486	(10.37, N/A) (N/A, 0.00, N/A)	1778.0	N/A	0.9867 [2.0000]	49.3% { 59.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (44)
 Acquired: 2023/04/14 - 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
D5_NEiFOSA_EIS	(531.0 / 169.0) 342679	(10.55 , N/A) (N/A , 0.01 , N/A)	2271.9	N/A	1.1032 [2.0000]	55.2% { 61.2% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 804832	(7.69 , N/A) (N/A , -0.03 , N/A)	2521.3	N/A	3.4551 [4.0000]	86.4% { 123.5% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 709465	(7.94 , N/A) (N/A , -0.03 , N/A)	86810.3	N/A	3.7132 [4.0000]	92.8% { 128.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1368313	(10.31 , N/A) (N/A , 0.00 , N/A)	1438.3	N/A	10.9472 [20.0000]	54.7% { 63.0% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2104732	(10.48 , N/A) (N/A , 0.00 , N/A)	1319.9	N/A	12.7404 [20.0000]	63.7% { 71.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1193317	(5.36 , N/A) (N/A , 0.02 , N/A)	2009.7	N/A	6.2867 [8.0000]	78.6% { 98.4% }			

FORM I ANALYSIS DATA SHEET

AF-RHMW02-WGN01LF-2304W1

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	23D0056-02RE3
		File ID:	S2023-04-18C (20)
Sampled:	04/06/23 10:20	Prepared:	04/17/23 11:15
		Analyzed:	04/19/23 02:22
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	572.06 mL / 2 mL	Instrument:	Saphira
Batch:	BCD0235	Sequence:	SC01534
		Calibration:	2316009

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	20	1.4	0.70	0.18	
PFPEA	1.4	0.70	0.35	0.057	
PFHXA	0.34 J	0.35	0.17	0.048	
PFHPA	0.28 J	0.35	0.17	0.036	
PFOA	0.26 U	0.35	0.26	0.13	
PFNA	0.17 U	0.35	0.17	0.072	
PFDA	0.17 U	0.35	0.17	0.089	
PFUnA	0.26 U	0.35	0.26	0.14	
PFDOA	0.17 U	0.35	0.17	0.098	
PFTRDA	0.26 U	0.35	0.26	0.18	
PFTEDA	0.26 U	0.35	0.26	0.17	
PFBS	0.17 U	0.35	0.17	0.032	
PFPEs	0.17 U	0.35	0.17	0.055	
PFHXS	0.17 U	0.35	0.17	0.028	
PFHPS	0.17 U	0.35	0.17	0.045	
PFOS	0.11 J	0.35	0.17	0.056	MI4,
PFNS	0.17 U	0.35	0.17	0.11	
PFDS	0.26 U	0.35	0.26	0.13	
PFDOS	0.17 U	0.35	0.17	0.11	
4:2FTS	0.70 U	1.4	0.70	0.25	
6:2FTS	6.4	1.4	0.70	0.27	
8:2FTS	0.70 U	1.4	0.70	0.072	
PFOSA	0.17 U	0.35	0.17	0.091	
NMeFOSA	0.70 U	1.4	0.70	0.41	
NEtFOSA	0.70 U	1.4	0.70	0.36	
NMeFOSAA	0.17 U	0.35	0.17	0.092	
NEtFOSAA	0.17 U	0.35	0.17	0.10	
NMeFOSE	1.0 U	1.4	1.0	0.88	
NEtFOSE	1.0 U	1.4	1.0	0.91	
HFPO-DA	0.35 U	0.70	0.35	0.15	

FORM I ANALYSIS DATA SHEET

AF-RHMW02-WGN01LF-2304W1

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	23D0056-02RE3
		File ID:	S2023-04-18C (20)
Sampled:	04/06/23 10:20	Prepared:	04/17/23 11:15
		Analyzed:	04/19/23 02:22
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	572.06 mL / 2 mL	Instrument:	Saphira
Batch:	BCD0235	Sequence:	SC01534
		Calibration:	2316009

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.35 U	0.70	0.35	0.11	
PFEESA	0.35 U	0.70	0.35	0.095	
PFMPA	0.35 U	0.70	0.35	0.047	
PFMBA	0.35 U	0.70	0.35	0.079	
NFDHA	0.35 U	0.70	0.35	0.26	
9CL-PF3ONS	0.35 U	0.70	0.35	0.18	
11CL-PF3OUDS	0.35 U	0.70	0.35	0.18	
3:3FTCA	0.70 U	1.4	0.70	0.50	
5:3FTCA	0.70 U	1.4	0.70	0.39	
7:3FTCA	0.70 U	1.4	0.70	0.48	



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 352134	(3.19, 1.00) (0.01, N/A, 0.0)	55.3	N/A 0.0 0.0	5.7102	N/A			
PFPeA	(263.0 / 219.0) 72914 (263.0 / 69.0) 2256	(4.39, 1.00) (0.00, N/A, -0.7)	34.3 16.7	0.0309 263.7 265.7	0.4100	N/A			
PFHxA	(313.0 / 269.0) 28818 (313.0 / 119.0) 2788	(5.34, 1.00) (0.00, N/A, 0.1)	42.2 12.5	0.0967 115.9 111.9	0.0967	N/A			
PFHpA	(363.0 / 319.0) 21030 (363.0 / 169.0) 7563	(6.13, 1.00) (0.00, N/A, 0.4)	21.4 20.0	0.3596 129.7 130.5	0.0793	N/A			
PFOA	(413.0 / 369.0) 10331 (413.0 / 169.0) 3496	(6.82, 1.00) (0.00, N/A, 0.3)	16.8 13.6	0.3384 113.3 115.4	0.0264	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.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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) 29724 (499.0 / 99.0) 5455	(8.32 , 1.00) (0.00 , N/A , 0.8)	58.2 180990.5	0.1835 79.7 73.7	0.0329	N/A			M14 ABK 4/19/23
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

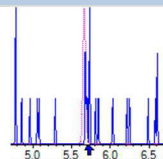
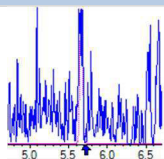
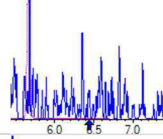
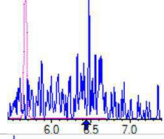
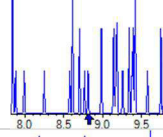
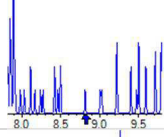
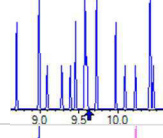
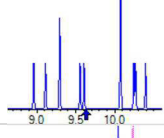
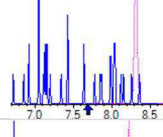
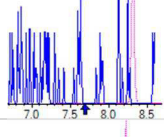
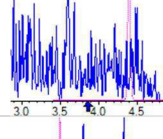
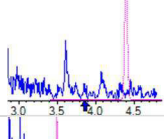
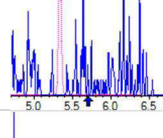
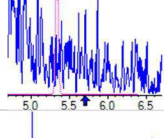
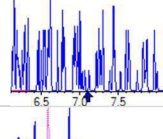
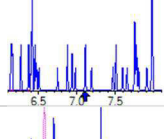
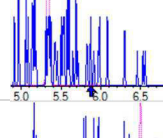
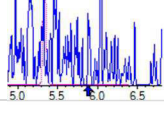
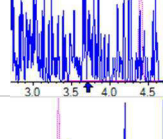
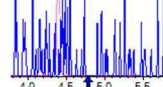


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 265081 (427.0 / 81.0) 185143	(6.51 , 1.00) (0.00 , N/A , -0.2)	372.1 174.6	0.6984 94.6 95.6	1.8223	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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 103342	(3.18, N/A) (N/A, -0.04, N/A)	378.0	N/A	0.5015 [1.0000]	50.1% { 53.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 147505	(5.34, N/A) (N/A, -0.06, N/A)	514.2	N/A	1.0174 [1.0000]	101.7% { 104.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 322528	(6.81, N/A) (N/A, -0.07, N/A)	318.2	N/A	1.1828 [1.0000]	118.3% { 117.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 336234	(7.46, N/A) (N/A, -0.07, N/A)	667.6	N/A	1.3432 [1.0000]	134.3% { 141.4% }			
13C2_PFDA_IIS	(515.0 / 470.1) 325328	(8.06, N/A) (N/A, -0.08, N/A)	525.7	N/A	1.3702 [1.0000]	137.0% { 133.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 486474	(7.01, N/A) (N/A, -0.08, N/A)	487.2	N/A	1.2738 [1.0000]	127.4% { 130.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 595617	(8.32, N/A) (N/A, -0.08, N/A)	369.0	N/A	1.2492 [1.0000]	124.9% { 101.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 571898	(3.18, N/A) (N/A, -0.04, N/A)	1260.2	N/A	5.1660 [8.0000]	64.6% { 35.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 767020	(4.40, N/A) (N/A, -0.06, N/A)	714.8	N/A	2.6299 [4.0000]	65.7% { 69.0% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 567012	(5.34, N/A) (N/A, -0.06, N/A)	698.8	N/A	1.7168 [2.0000]	85.8% { 95.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 500044	(6.12, N/A) (N/A, -0.06, N/A)	1246.3	N/A	1.9183 [2.0000]	95.9% { 112.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 784368	(6.81, N/A) (N/A, -0.06, N/A)	405.2	N/A	2.0437 [2.0000]	102.2% { 125.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 337065	(7.46, N/A) (N/A, -0.07, N/A)	968.2	N/A	0.9657 [1.0000]	96.6% { 141.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 377535	(8.06, N/A) (N/A, -0.08, N/A)	391.6	N/A	0.9782 [1.0000]	97.8% { 136.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 364616	(8.63, N/A) (N/A, -0.08, N/A)	193.0	N/A	0.9819 [1.0000]	98.2% { 144.4% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 289095	(9.09, N/A) (N/A, -0.08, N/A)	675.3	N/A	0.9179 [1.0000]	91.8% { 136.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 237224	(9.79, N/A) (N/A, -0.09, N/A)	554.8	N/A	0.6107 [1.0000]	61.1% { 88.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1738490	(5.36, N/A) (N/A, -0.07, N/A)	612.2	N/A	1.8783 [2.0000]	93.9% { 121.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 788206	(7.01, N/A) (N/A, -0.07, N/A)	475.7	N/A	2.0197 [2.0000]	101.0% { 129.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1431986	(8.32, N/A) (N/A, -0.09, N/A)	521.6	N/A	1.9249 [2.0000]	96.2% { 101.0% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (20)
 Acquired: 2023/04/19 - 02:22

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 306964	(5.03, N/A) (N/A, -0.05, N/A)	305.8	N/A	6.8812 [4.0000]	172.0% { 219.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 391624	(6.51, N/A) (N/A, -0.06, N/A)	310.1	N/A	7.0770 [4.0000]	176.9% { 230.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 585626	(7.76, N/A) (N/A, -0.07, N/A)	739.3	N/A	9.3684 [4.0000]	234.2% { 341.5% }			S2,
13C8_PFOA_EIS	(506.0 / 78.0) 1232392	(8.87, N/A) (N/A, -0.04, N/A)	471.1	N/A	1.4760 [2.0000]	73.8% { 92.5% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 251192	(9.84, N/A) (N/A, -0.02, N/A)	436.6	N/A	0.9717 [2.0000]	48.6% { 61.4% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 233310	(10.05, N/A) (N/A, -0.02, N/A)	490.0	N/A	0.9188 [2.0000]	45.9% { 59.2% }			
D3_MeFOA_EIS	(573.0 / 419.0) 629075	(8.02, N/A) (N/A, -0.07, N/A)	591.8	N/A	4.0496 [4.0000]	101.2% { 129.5% }			
D5_EtFOA_EIS	(589.0 / 419.0) 454795	(8.27, N/A) (N/A, -0.08, N/A)	423.9	N/A	3.6659 [4.0000]	91.6% { 115.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 767773	(9.74, N/A) (N/A, -0.02, N/A)	753.0	N/A	9.3748 [20.0000]	46.9% { 62.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 893862	(9.97, N/A) (N/A, -0.02, N/A)	1002.8	N/A	8.8051 [20.0000]	44.0% { 57.2% }			
13C3_HFOA_EIS	(287.0 / 169.0) 1334618	(5.66, N/A) (N/A, -0.06, N/A)	643.9	N/A	7.8517 [8.0000]	98.1% { 106.1% }			

FORM I

ANALYSIS DATA SHEET

AF-RHMW02-WGN01LF-2304W1

Laboratory:	APPL, LLC	Work Order:	23D0056		
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810		
Matrix:	Water	Laboratory ID:	23D0056-02RE4	File ID:	S2023-04-18C (21)
Sampled:	04/06/23 10:20	Prepared:	04/17/23 11:15	Analyzed:	04/19/23 02:38
Solids:		Preparation:	EPA 1633	Dilution:	10
Initial/Final:	572.06 mL / 2 mL			Instrument:	Saphira
Batch:	BCD0235	Sequence:	SC01534	Calibration:	2316009

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 62348	(3.24, 1.01) (0.03, N/A, 0.0)	35.0	N/A 0.0 0.0	0.5089	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 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			

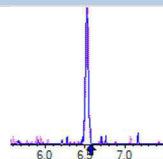
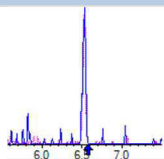
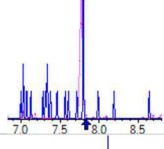
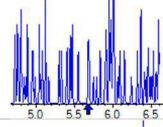
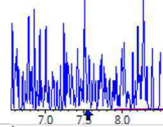
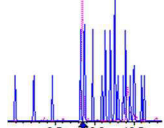
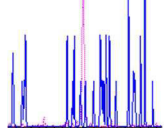
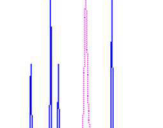
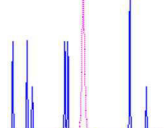

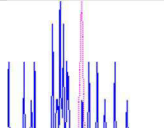
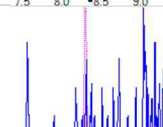

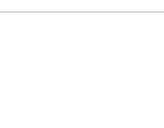


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23D0056-02RE4@10
 DF, IV: 1, 1.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (21)
 Acquired: 2023/04/19 - 02:38

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

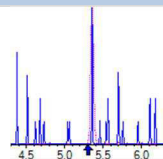
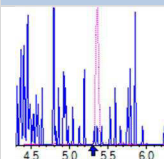
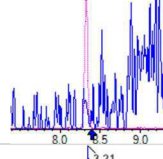
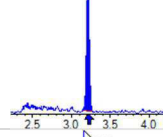
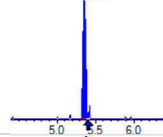
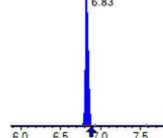
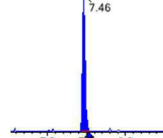
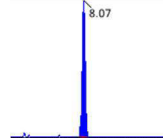
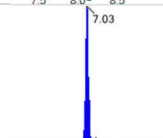
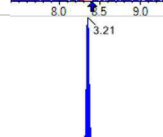
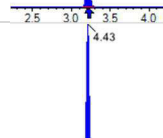


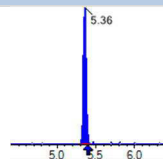
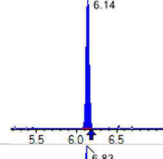
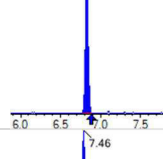
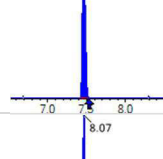
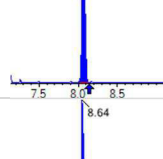
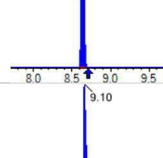
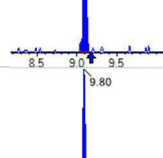
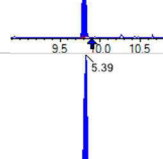
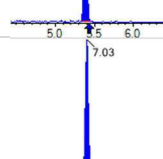
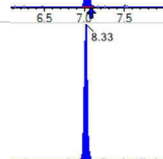
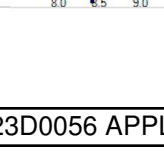
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

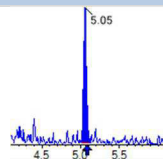
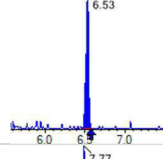
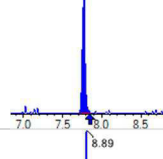
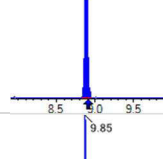
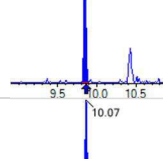
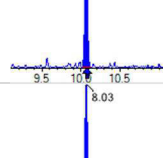
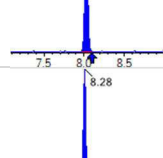
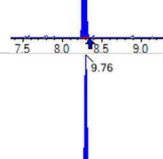
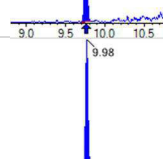
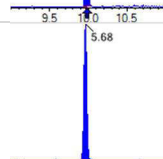
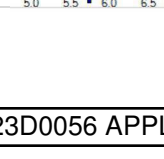
Sample I.D.: 23D0056-02RE4@10
 DF, IV: 1, 1.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (21)
 Acquired: 2023/04/19 - 02:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 20281	(3.21, N/A) (N/A, -0.01, N/A)	179.8	N/A	0.9842 [1.0000]	98.4% { 10.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 15376	(5.36, N/A) (N/A, -0.04, N/A)	142.7	N/A	1.0606 [1.0000]	106.1% { 10.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 31880	(6.83, N/A) (N/A, -0.06, N/A)	209.4	N/A	1.1691 [1.0000]	116.9% { 11.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 30650	(7.46, N/A) (N/A, -0.06, N/A)	262.2	N/A	1.2244 [1.0000]	122.4% { 12.9% }			
13C2_PFDA_IIS	(515.0 / 470.1) 22945	(8.07, N/A) (N/A, -0.07, N/A)	205.6	N/A	0.9664 [1.0000]	96.6% { 9.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 41991	(7.03, N/A) (N/A, -0.06, N/A)	193.4	N/A	1.0995 [1.0000]	110.0% { 11.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 47647	(8.33, N/A) (N/A, -0.07, N/A)	185.0	N/A	0.9993 [1.0000]	99.9% { 8.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 113608	(3.21, N/A) (N/A, -0.01, N/A)	932.9	N/A	0.5229 [0.8000]	65.4% { 7.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 117119	(4.43, N/A) (N/A, -0.03, N/A)	429.2	N/A	0.3852 [0.4000]	96.3% { 10.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 70455	(5.36, N/A) (N/A, -0.04, N/A)	274.0	N/A	0.2046 [0.2000]	102.3% {11.8%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 54059	(6.14, N/A) (N/A, -0.05, N/A)	363.0	N/A	0.1989 [0.2000]	99.5% {12.2%}			
13C8_PFOA_EIS	(421.0 / 376.0) 62413	(6.83, N/A) (N/A, -0.05, N/A)	286.5	N/A	0.1645 [0.2000]	82.3% {10.0%}			
13C9_PFNA_EIS	(472.0 / 427.0) 25714	(7.46, N/A) (N/A, -0.06, N/A)	211.4	N/A	0.0808 [0.1000]	80.8% {10.8%}			
13C6_PFDA_EIS	(519.0 / 474.0) 28241	(8.07, N/A) (N/A, -0.07, N/A)	182.4	N/A	0.1037 [0.1000]	103.7% {10.2%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 24951	(8.64, N/A) (N/A, -0.07, N/A)	162.0	N/A	0.0953 [0.1000]	95.3% {9.9%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 21907	(9.10, N/A) (N/A, -0.07, N/A)	124.0	N/A	0.0986 [0.1000]	98.6% {10.3%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 20814	(9.80, N/A) (N/A, -0.08, N/A)	213.3	N/A	0.0760 [0.1000]	76.0% {7.7%}			
13C3_PFBS_EIS	(302.0 / 80.0) 157202	(5.39, N/A) (N/A, -0.04, N/A)	264.1	N/A	0.1968 [0.2000]	98.4% {10.9%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 67881	(7.03, N/A) (N/A, -0.06, N/A)	311.3	N/A	0.2015 [0.2000]	100.8% {11.2%}			
13C8_PFOS_EIS	(507.0 / 80.0) 101137	(8.33, N/A) (N/A, -0.08, N/A)	199.5	N/A	0.1699 [0.2000]	85.0% {7.1%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 18338	(5.05, N/A) (N/A, -0.03, N/A)	48.0	N/A	0.4762 [0.4000]	119.1% {13.1%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 17577	(6.53, N/A) (N/A, -0.04, N/A)	114.9	N/A	0.3680 [0.4000]	92.0% {10.3%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 23512	(7.77, N/A) (N/A, -0.06, N/A)	137.4	N/A	0.4358 [0.4000]	108.9% {13.7%}			
13C8_PFOSA_EIS	(506.0 / 78.0) 110885	(8.89, N/A) (N/A, -0.02, N/A)	368.9	N/A	0.1660 [0.2000]	83.0% {8.3%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 24685	(9.85, N/A) (N/A, -0.01, N/A)	86.2	N/A	0.1194 [0.2000]	59.7% {6.0%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 21768	(10.07, N/A) (N/A, -0.01, N/A)	125.9	N/A	0.1072 [0.2000]	53.6% {5.5%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 56086	(8.03, N/A) (N/A, -0.07, N/A)	337.3	N/A	0.4513 [0.4000]	112.8% {11.5%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 37755	(8.28, N/A) (N/A, -0.06, N/A)	302.0	N/A	0.3804 [0.4000]	95.1% {9.6%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 84746	(9.76, N/A) (N/A, -0.01, N/A)	131.8	N/A	1.2935 [2.0000]	64.7% {6.9%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 92700	(9.98, N/A) (N/A, -0.01, N/A)	333.5	N/A	1.1415 [2.0000]	57.1% {5.9%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 144979	(5.68, N/A) (N/A, -0.04, N/A)	355.1	N/A	0.8182 [0.8000]	102.3% {11.5%}			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW03-WGN01LF-2304W1 (23D0056-01) ng/L		Lab File ID: S2023-04-14A (44)		Analyzed: 04/14/23 23:43
13C4-PFBA	28.3	85.5	10 - 130	
13C5-PFPEA	14.1	58.3	35 - 150	
13C5-PFHXA	7.07	78.0	55 - 150	
13C4-PFHFA	7.07	78.6	55 - 150	
13C8-PFOA	7.07	92.5	60 - 140	
13C9-PFNA	3.54	99.8	55 - 140	
13C6-PFDA	3.54	83.4	50 - 140	
13C7-PFUnA	3.54	85.6	30 - 140	
13C2-PFDOA	3.54	83.7	10 - 150	
13C2-PFTEDA	3.54	68.1	10 - 130	
13C3-PFBS	7.07	88.8	55 - 150	
13C3-PFHXS	7.07	90.1	55 - 150	
13C8-PFOS	7.07	87.9	45 - 140	
13C2-4:2FTS	14.1	120	60 - 200	
13C2-6:2FTS	14.1	147	60 - 200	
13C2-8:2FTS	14.1	164	50 - 200	
13C8-PFOSA	7.07	60.4	30 - 130	
D3-NMEFOSA	7.07	49.3	15 - 130	
D5-NETFOSA	7.07	55.2	10 - 130	
D3-NMEFOSAA	14.1	86.4	45 - 200	
D5-NETFOSAA	14.1	92.8	10 - 200	
D7-NMEFOSE	70.7	54.7	10 - 150	
D9-NETFOSSE	70.7	63.7	10 - 150	
13C3-HFPO-DA	28.3	78.6	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCD0119-BLK1) . ng/L				
	Lab File ID: S2023-04-14A (7)			Analyzed: 04/14/23 15:47
13C4-PFBA	32.0	89.3	10 - 130	
13C5-PFPEA	16.0	88.4	35 - 150	
13C5-PFHXA	8.00	88.5	55 - 150	
13C4-PFHPA	8.00	96.5	55 - 150	
13C8-PFOA	8.00	89.2	60 - 140	
13C9-PFNA	4.00	84.9	55 - 140	
13C6-PFDA	4.00	76.6	50 - 140	
13C7-PFUnA	4.00	83.1	30 - 140	
13C2-PFDOA	4.00	80.2	10 - 150	
13C2-PFTEDA	4.00	65.7	10 - 130	
13C3-PFBS	8.00	76.8	55 - 150	
13C3-PFHXS	8.00	85.4	55 - 150	
13C8-PFOS	8.00	81.9	45 - 140	
13C2-4:2FTS	16.0	84.6	60 - 200	
13C2-6:2FTS	16.0	86.9	60 - 200	
13C2-8:2FTS	16.0	71.1	50 - 200	
13C8-PFOSA	8.00	67.4	30 - 130	
D3-NMEFOSA	8.00	26.1	15 - 130	
D5-NETFOSA	8.00	22.3	10 - 130	
D3-NMEFOSAA	16.0	69.8	45 - 200	
D5-NETFOSAA	16.0	65.9	10 - 200	
D7-NMEFOSE	80.0	46.3	10 - 150	
D9-NETFOSE	80.0	51.7	10 - 150	
13C3-HFPO-DA	32.0	80.5	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCD0119-BS1) . ng/L	Lab File ID: S2023-04-14A (8)			Analyzed: 04/14/23 16:00
13C4-PFBA	32.0	97.0	10 - 130	
13C5-PFPEA	16.0	98.8	35 - 150	
13C5-PFHXA	8.00	97.4	55 - 150	
13C4-PFHPA	8.00	105	55 - 150	
13C8-PFOA	8.00	99.8	60 - 140	
13C9-PFNA	4.00	97.1	55 - 140	
13C6-PFDA	4.00	98.4	50 - 140	
13C7-PFUnA	4.00	109	30 - 140	
13C2-PFDOA	4.00	97.8	10 - 150	
13C2-PFTEDA	4.00	83.2	10 - 130	
13C3-PFBS	8.00	90.2	55 - 150	
13C3-PFHXS	8.00	95.1	55 - 150	
13C8-PFOS	8.00	88.9	45 - 140	
13C2-4:2FTS	16.0	94.3	60 - 200	
13C2-6:2FTS	16.0	98.5	60 - 200	
13C2-8:2FTS	16.0	93.3	50 - 200	
13C8-PFOSA	8.00	71.4	30 - 130	
D3-NMEFOSA	8.00	36.7	15 - 130	
D5-NETFOSA	8.00	38.8	10 - 130	
D3-NMEFOSAA	16.0	76.3	45 - 200	
D5-NETFOSAA	16.0	72.3	10 - 200	
D7-NMEFOSE	80.0	44.3	10 - 150	
D9-NETFOSE	80.0	79.0	10 - 150	
13C3-HFPO-DA	32.0	90.8	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCD0119-MRL1) . ng/L	Lab File ID: S2023-04-14A (9)			Analyzed: 04/14/23 16:12
13C4-PFBA	32.0	99.2	10 - 130	
13C5-PFPEA	16.0	98.7	35 - 150	
13C5-PFHXA	8.00	98.7	55 - 150	
13C4-PFHPA	8.00	102	55 - 150	
13C8-PFOA	8.00	94.0	60 - 140	
13C9-PFNA	4.00	86.5	55 - 140	
13C6-PFDA	4.00	90.4	50 - 140	
13C7-PFUnA	4.00	97.5	30 - 140	
13C2-PFDOA	4.00	97.3	10 - 150	
13C2-PFTEDA	4.00	89.4	10 - 130	
13C3-PFBS	8.00	81.5	55 - 150	
13C3-PFHXS	8.00	95.5	55 - 150	
13C8-PFOS	8.00	88.5	45 - 140	
13C2-4:2FTS	16.0	94.9	60 - 200	
13C2-6:2FTS	16.0	99.6	60 - 200	
13C2-8:2FTS	16.0	83.1	50 - 200	
13C8-PFOSA	8.00	72.8	30 - 130	
D3-NMEFOSA	8.00	33.8	15 - 130	
D5-NETFOSA	8.00	34.9	10 - 130	
D3-NMEFOSAA	16.0	81.3	45 - 200	
D5-NETFOSAA	16.0	75.4	10 - 200	
D7-NMEFOSE	80.0	63.8	10 - 150	
D9-NETFOSE	80.0	74.1	10 - 150	
13C3-HFPO-DA	32.0	94.9	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW02-WGN01LF-2304W1 (23D0056-02RE3) ng/L Lab File ID: S2023-04-18C (20)				Analyzed: 04/19/23 02:22
13C4-PFBA	28.0	64.6	10 - 130	
13C5-PFPEA	14.0	65.7	35 - 150	
13C5-PFHXA	6.99	85.8	55 - 150	
13C4-PFHPA	6.99	95.9	55 - 150	
13C8-PFOA	6.99	102	60 - 140	
13C9-PFNA	3.50	96.6	55 - 140	
13C6-PFDA	3.50	97.8	50 - 140	
13C7-PFUnA	3.50	98.2	30 - 140	
13C2-PFDOA	3.50	91.8	10 - 150	
13C2-PFTEDA	3.50	61.1	10 - 130	
13C3-PFBS	6.99	93.9	55 - 150	
13C3-PFHXS	6.99	101	55 - 150	
13C8-PFOS	6.99	96.2	45 - 140	
13C2-4:2FTS	14.0	172	60 - 200	
13C2-6:2FTS	14.0	177	60 - 200	
13C2-8:2FTS	14.0	234	50 - 200	*
13C8-PFOSA	6.99	73.8	30 - 130	
D3-NMEFOSA	6.99	48.6	15 - 130	
D5-NETFOSA	6.99	45.9	10 - 130	
D3-NMEFOSAA	14.0	101	45 - 200	
D5-NETFOSAA	14.0	91.6	10 - 200	
D7-NMEFOSE	69.9	46.9	10 - 150	
D9-NETFOSSE	69.9	44.0	10 - 150	
13C3-HFPO-DA	28.0	98.1	25 - 160	
AF-RHMW02-WGN01LF-2304W1 (23D0056-02RE4) ng/L Lab File ID: S2023-04-18C (21)				Analyzed: 04/19/23 02:38
13C2-8:2FTS	14.0	109	50 - 200	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCD0235-BLK1) . ng/L	Lab File ID: S2023-04-18C (7)			Analyzed: 04/18/23 22:56
13C4-PFBA	32.0	94.7	10 - 130	
13C5-PFPEA	16.0	95.0	35 - 150	
13C5-PFHXA	8.00	94.8	55 - 150	
13C4-PFHPA	8.00	86.7	55 - 150	
13C8-PFOA	8.00	89.6	60 - 140	
13C9-PFNA	4.00	88.3	55 - 140	
13C6-PFDA	4.00	85.5	50 - 140	
13C7-PFUnA	4.00	87.0	30 - 140	
13C2-PFDOA	4.00	82.8	10 - 150	
13C2-PFTEDA	4.00	79.7	10 - 130	
13C3-PFBS	8.00	106	55 - 150	
13C3-PFHXS	8.00	97.5	55 - 150	
13C8-PFOS	8.00	91.3	45 - 140	
13C2-4:2FTS	16.0	105	60 - 200	
13C2-6:2FTS	16.0	97.6	60 - 200	
13C2-8:2FTS	16.0	178	50 - 200	
13C8-PFOSA	8.00	69.5	30 - 130	
D3-NMEFOSA	8.00	39.0	15 - 130	
D5-NETFOSA	8.00	38.4	10 - 130	
D3-NMEFOSAA	16.0	91.9	45 - 200	
D5-NETFOSAA	16.0	85.6	10 - 200	
D7-NMEFOSE	80.0	50.3	10 - 150	
D9-NETFOSSE	80.0	48.8	10 - 150	
13C3-HFPO-DA	32.0	92.2	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCD0235-BS1) . ng/L	Lab File ID: S2023-04-18C (8)			Analyzed: 04/18/23 23:12
13C4-PFBA	32.0	103	10 - 130	
13C5-PFPEA	16.0	101	35 - 150	
13C5-PFHXA	8.00	97.5	55 - 150	
13C4-PFHPA	8.00	102	55 - 150	
13C8-PFOA	8.00	103	60 - 140	
13C9-PFNA	4.00	108	55 - 140	
13C6-PFDA	4.00	96.7	50 - 140	
13C7-PFUnA	4.00	103	30 - 140	
13C2-PFDOA	4.00	90.8	10 - 150	
13C2-PFTEDA	4.00	96.6	10 - 130	
13C3-PFBS	8.00	103	55 - 150	
13C3-PFHXS	8.00	99.1	55 - 150	
13C8-PFOS	8.00	96.9	45 - 140	
13C2-4:2FTS	16.0	102	60 - 200	
13C2-6:2FTS	16.0	96.3	60 - 200	
13C2-8:2FTS	16.0	169	50 - 200	
13C8-PFOSA	8.00	80.1	30 - 130	
D3-NMEFOSA	8.00	45.6	15 - 130	
D5-NETFOSA	8.00	46.5	10 - 130	
D3-NMEFOSAA	16.0	102	45 - 200	
D5-NETFOSAA	16.0	95.6	10 - 200	
D7-NMEFOSE	80.0	63.0	10 - 150	
D9-NETFOSSE	80.0	62.8	10 - 150	
13C3-HFPO-DA	32.0	99.3	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCD0235-MRL1) . ng/L				
		Lab File ID: S2023-04-18C (9)		Analyzed: 04/18/23 23:28
13C4-PFBA	32.0	102	10 - 130	
13C5-PFPEA	16.0	98.3	35 - 150	
13C5-PFHXA	8.00	95.8	55 - 150	
13C4-PFHPA	8.00	95.8	55 - 150	
13C8-PFOA	8.00	102	60 - 140	
13C9-PFNA	4.00	99.3	55 - 140	
13C6-PFDA	4.00	97.8	50 - 140	
13C7-PFUnA	4.00	90.3	30 - 140	
13C2-PFDOA	4.00	87.9	10 - 150	
13C2-PFTEDA	4.00	88.2	10 - 130	
13C3-PFBS	8.00	106	55 - 150	
13C3-PFHXS	8.00	97.6	55 - 150	
13C8-PFOS	8.00	98.4	45 - 140	
13C2-4:2FTS	16.0	102	60 - 200	
13C2-6:2FTS	16.0	96.7	60 - 200	
13C2-8:2FTS	16.0	198	50 - 200	
13C8-PFOSA	8.00	82.2	30 - 130	
D3-NMEFOSA	8.00	60.7	15 - 130	
D5-NETFOSA	8.00	60.2	10 - 130	
D3-NMEFOSAA	16.0	101	45 - 200	
D5-NETFOSAA	16.0	97.2	10 - 200	
D7-NMEFOSE	80.0	61.4	10 - 150	
D9-NETFOSSE	80.0	59.1	10 - 150	
13C3-HFPO-DA	32.0	92.7	25 - 160	

METHOD BLANK SUMMARY

EPA 1633

Laboratory: APPL, LLC Work Order: 23D0056
Client: AECOM Project: Red Hill AFFF Assessment Sampling / 60697810
Blank ID: BCD0235-BLK1 Batch: BCD0235 Prepared: 04/17/2023 11:15

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCD0235-BS1	S2023-04-18C (8)	23:12
MRL Check	BCD0235-MRL1	S2023-04-18C (9)	23:28
AF-RHMW02-WGN01LF-2304W1	23D0056-02RE3	S2023-04-18C (20)	02:22
DF 10	23D0056-02RE4	S2023-04-18C (21)	02:38

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BLK1
Sampled:		Prepared:	04/10/23 08:18
Solids:		Preparation:	EPA 1633
Batch:	BCD0119	Sequence:	SC01502
Column:	1	Calibration:	2315014
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.30 U	0.40	0.30	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.30 U	0.40	0.30	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPEs	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.166 J	0.40	0.20	0.064	MI2, J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.30 U	0.40	0.30	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U	0.80	0.40	0.17	U

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BLK1
Sampled:		Prepared:	04/10/23 08:18
Solids:		Preparation:	EPA 1633
Batch:	BCD0119	Sequence:	SC01502
Column:	1	Calibration:	2315014
			Instrument: Saphira
			File ID: S2023-04-14A (7)
			Analyzed: 04/14/23 15:47
			Dilution: 1

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80 U	1.6	0.80	0.44	U
7:3FTCA	0.80 U	1.6	0.80	0.55	U

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BLK1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.30 U	0.40	0.30	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.30 U	0.40	0.30	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPEs	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.20 U	0.40	0.20	0.064	U
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.30 U	0.40	0.30	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.246 J	0.40	0.20	0.10	B, J
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U	0.80	0.40	0.17	U

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BLK1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
			Instrument: Saphira
			File ID: S2023-04-18C (7)
			Analyzed: 04/18/23 22:56
			Dilution: 1

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80 U	1.6	0.80	0.44	U
7:3FTCA	0.80 U	1.6	0.80	0.55	U

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

Matrix: Water

Preparation: EPA 1633

Batch: BCD0119

Laboratory ID: BCD0119-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	16.2	101	58 - 148
PFPEA	8.00	7.80	97.5	54 - 152
PFHXA	4.00	4.00	99.9	55 - 152
PFHPA	4.00	4.25	106	54 - 154
PFOA	4.00	4.07	102	52 - 161
PFNA	4.00	4.03	101	59 - 149
PFDA	4.00	3.70	92.6	52 - 147
PFUnA	4.00	3.66	91.5	48 - 159
PFDOA	4.00	4.35	109	64 - 142
PFTRDA	4.00	3.99	99.8	49 - 148
PFTEDA	4.00	4.44	111	47 - 161
PFBS	3.54	3.43	96.8	62 - 144
PFPEs	3.76	3.83	102	59 - 151
PFHXS	3.66	3.64	99.5	57 - 146
PFHPS	3.82	4.01	105	55 - 152
PFOS	3.72	3.74	100	58 - 149
PFNS	3.84	3.55	92.5	52 - 148
PFDS	3.86	3.21	83.2	51 - 147
PFDOS	3.88	3.19	82.1	36 - 145
4:2FTS	15.0	14.4	96.1	67 - 146
6:2FTS	15.2	17.2	113	61 - 151
8:2FTS	15.4	14.9	97.0	63 - 152
PFOSA	4.00	4.73	118	61 - 148
NMeFOSA	16.0	15.6	97.7	63 - 145
NEtFOSA	16.0	15.4	96.6	65 - 139
NMeFOSAA	4.00	3.67	91.8	58 - 144
NEtFOSAA	4.00	3.58	89.5	59 - 146
NMeFOSE	16.0	17.2	107	71 - 136
NEtFOSE	16.0	15.7	97.9	69 - 137
HFPO-DA	8.00	7.95	99.4	63 - 144
ADONA	7.56	8.44	112	68 - 146
PFEESA	7.12	6.95	97.6	56 - 151
PFMPA	8.00	8.79	110	51 - 145
PFMBA	8.00	7.79	97.3	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

Matrix: Water

Preparation: EPA 1633

Batch: BCD0119

Laboratory ID: BCD0119-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	7.68	96.0	48 - 161
9CL-PF3ONS	7.48	7.99	107	56 - 156
11CL-PF3OUDS	7.56	7.13	94.3	46 - 156
3:3FTCA	16.0	16.1	100	62 - 129
5:3FTCA	16.0	14.8	92.7	63 - 134
7:3FTCA	16.0	15.5	97.0	50 - 138

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

Matrix: Water

Preparation: EPA 1633

Batch: BCD0235

Laboratory ID: BCD0235-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	16.3	102	58 - 148
PFPEA	8.00	8.13	102	54 - 152
PFHXA	4.00	4.24	106	55 - 152
PFHPA	4.00	3.81	95.2	54 - 154
PFOA	4.00	3.95	98.8	52 - 161
PFNA	4.00	4.16	104	59 - 149
PFDA	4.00	4.11	103	52 - 147
PFUnA	4.00	3.79	94.8	48 - 159
PFDOA	4.00	4.03	101	64 - 142
PFTRDA	4.00	4.07	102	49 - 148
PFTEDA	4.00	4.19	105	47 - 161
PFBS	3.54	3.46	97.7	62 - 144
PFPEs	3.76	3.82	102	59 - 151
PFHXS	3.66	3.80	104	57 - 146
PFHPS	3.82	4.42	116	55 - 152
PFOS	3.72	4.07	109	58 - 149
PFNS	3.84	3.95	103	52 - 148
PFDS	3.86	4.13	107	51 - 147
PFDOS	3.88	3.69	95.0	36 - 145
4:2FTS	15.0	14.8	98.8	67 - 146
6:2FTS	15.2	16.5	109	61 - 151
8:2FTS	15.4	15.5	101	63 - 152
PFOSA	4.00	4.20	105	61 - 148
NMeFOSA	16.0	16.2	101	63 - 145
NEtFOSA	16.0	16.1	101	65 - 139
NMeFOSAA	4.00	3.97	99.1	58 - 144
NEtFOSAA	4.00	3.85	96.3	59 - 146
NMeFOSE	16.0	15.5	96.8	71 - 136
NEtFOSE	16.0	15.7	98.2	69 - 137
HFPO-DA	8.00	7.54	94.2	63 - 144
ADONA	7.56	7.94	105	68 - 146
PFEESA	7.12	7.29	102	56 - 151
PFMPA	8.00	7.46	93.3	51 - 145
PFMBA	8.00	8.33	104	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

Matrix: Water

Preparation: EPA 1633

Batch: BCD0235

Laboratory ID: BCD0235-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	7.97	99.7	48 - 161
9CL-PF3ONS	7.48	8.09	108	56 - 156
11CL-PF3OUDS	7.56	8.37	111	46 - 156
3:3FTCA	16.0	14.4	89.9	62 - 129
5:3FTCA	16.0	16.5	103	63 - 134
7:3FTCA	16.0	15.3	95.4	50 - 138

CALIBRATION SUMMARY

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.43691 x (std. dev. = 0.01299) (weighting: None)	%RSE=3.0
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.48050 x (std. dev. = 0.04189) (weighting: None)	%RSE=8.7
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.48233 x (std. dev. = 0.04735) (weighting: None)	%RSE=9.8
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.43100 x (std. dev. = 0.01330) (weighting: None)	%RSE=3.1
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.47144 x (std. dev. = 0.01483) (weighting: None)	%RSE=3.1
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.92238 x (std. dev. = 0.06691) (weighting: None)	%RSE=7.3
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.93994 x (std. dev. = 0.04139) (weighting: None)	%RSE=4.4
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.87986 x (std. dev. = 0.06286) (weighting: None)	%RSE=7.1
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.90697 x (std. dev. = 0.10285) (weighting: None)	%RSE=11.3
PFTeDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.82635 x (std. dev. = 0.11138) (weighting: None)	%RSE=13.5
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.91649 x (std. dev. = 0.07187) (weighting: None)	%RSE=7.8
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.31553 x (std. dev. = 0.01410) (weighting: None)	%RSE=4.5
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.86571 x (std. dev. = 0.05930) (weighting: None)	%RSE=6.8
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.71613 x (std. dev. = 0.02797) (weighting: None)	%RSE=3.9
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.38359 x (std. dev. = 0.01481) (weighting: None)	%RSE=3.9
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.52480 x (std. dev. = 0.02350) (weighting: None)	%RSE=4.5
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.50756 x (std. dev. = 0.01735) (weighting: None)	%RSE=3.4
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.57570 x (std. dev. = 0.03324) (weighting: None)	%RSE=5.8
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.44582 x (std. dev. = 0.02632) (weighting: None)	%RSE=5.9
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.77506 x (std. dev. = 0.18390) (weighting: None)	%RSE=6.6
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.62410 x (std. dev. = 0.12394) (weighting: None)	%RSE=7.6
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.35204 x (std. dev. = 0.16012) (weighting: None)	%RSE=11.8
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.43809 x (std. dev. = 0.03161) (weighting: None)	%RSE=7.2
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.65948 x (std. dev. = 0.18905) (weighting: None)	%RSE=11.4
NEiFOSA	(526.0 / 219.0)	D5_NEiFOSA_EIS	4.0000	1.0000	y = 2.10109 x (std. dev. = 0.08353) (weighting: None)	%RSE=4.0
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.21250 x (std. dev. = 0.02042) (weighting: None)	%RSE=9.6
NEiFOSAA	(584.0 / 419.0)	D5_EiFOSAA_EIS	1.0000	1.0000	y = 0.22115 x (std. dev. = 0.01480) (weighting: None)	%RSE=6.7
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.21835 x (std. dev. = 0.00826) (weighting: None)	%RSE=3.8
NEiFOSE	(630.0 / 59.0)	D9_NEiFOSE_EIS	4.0000	1.0000	y = 0.19696 x (std. dev. = 0.00566) (weighting: None)	%RSE=2.9
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.21113 x (std. dev. = 0.01087) (weighting: None)	%RSE=5.1
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.71112 x (std. dev. = 0.05507) (weighting: None)	%RSE=7.7
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = 2.11952 x (std. dev. = 0.15858) (weighting: None)	%RSE=7.5
11Cl-Pf3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.26621 x (std. dev. = 0.09245) (weighting: None)	%RSE=7.3
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.03521 x (std. dev. = 0.00270) (weighting: None)	%RSE=7.7
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.30323 x (std. dev. = 0.03529) (weighting: None)	%RSE=11.6
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.53101 x (std. dev. = 0.04389) (weighting: None)	%RSE=8.3
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 1.08296 x (std. dev. = 0.10921) (weighting: None)	%RSE=10.1
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.10232 x (std. dev. = 0.00542) (weighting: None)	%RSE=5.3
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.37466 x (std. dev. = 0.01726) (weighting: None)	%RSE=4.6
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.49308 x (std. dev. = 0.05432) (weighting: None)	%RSE=11.0
TDCA	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	1.0000	y = 0.48700 x (std. dev. = 0.05274) (weighting: None)	%RSE=10.8
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 121908.6832 x	%RSD=11.8
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 202823.2734 x	%RSD=6.9
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 317791.4785 x	%RSD=7.1
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 303499.3685 x	%RSD=3.9
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 324469.4448 x	%RSD=7.7
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 447856.5431 x	%RSD=5.4

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 680071.7374 x	%RSD=5.9
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 8.4820 x	%RSD=3.9
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 4.4805 x	%RSD=6.7
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.8348 x	%RSD=5.9
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.4761 x	%RSD=6.3
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 1.9740 x	%RSD=5.4
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 0.9395 x	%RSD=7.3
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1218 x	%RSD=7.6
13C7_PFUhA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.0414 x	%RSD=9.2
13C2_PFDaA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 0.8916 x	%RSD=7.2
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 0.8408 x	%RSD=11.2
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 3.1400 x	%RSD=8.1
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.8435 x	%RSD=5.6
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.4230 x	%RSD=3.9
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5656 x	%RSD=7.4
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.6456 x	%RSD=8.6
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.8546 x	%RSD=11.8
13C8_PFOA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 3.9335 x	%RSD=3.8
D3_NMeFOA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.8394 x	%RSD=11.6
D5_NEtFOA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.6925 x	%RSD=5.3
D3_MeFOA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.0386 x	%RSD=6.6
D5_EtFOA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.8519 x	%RSD=8.5
D7_NMeFOE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 2.7866 x	%RSD=7.9
D9_NEtFOE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 3.6830 x	%RSD=6.4
13C3_HFOA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 6.3969 x	%RSD=7.5

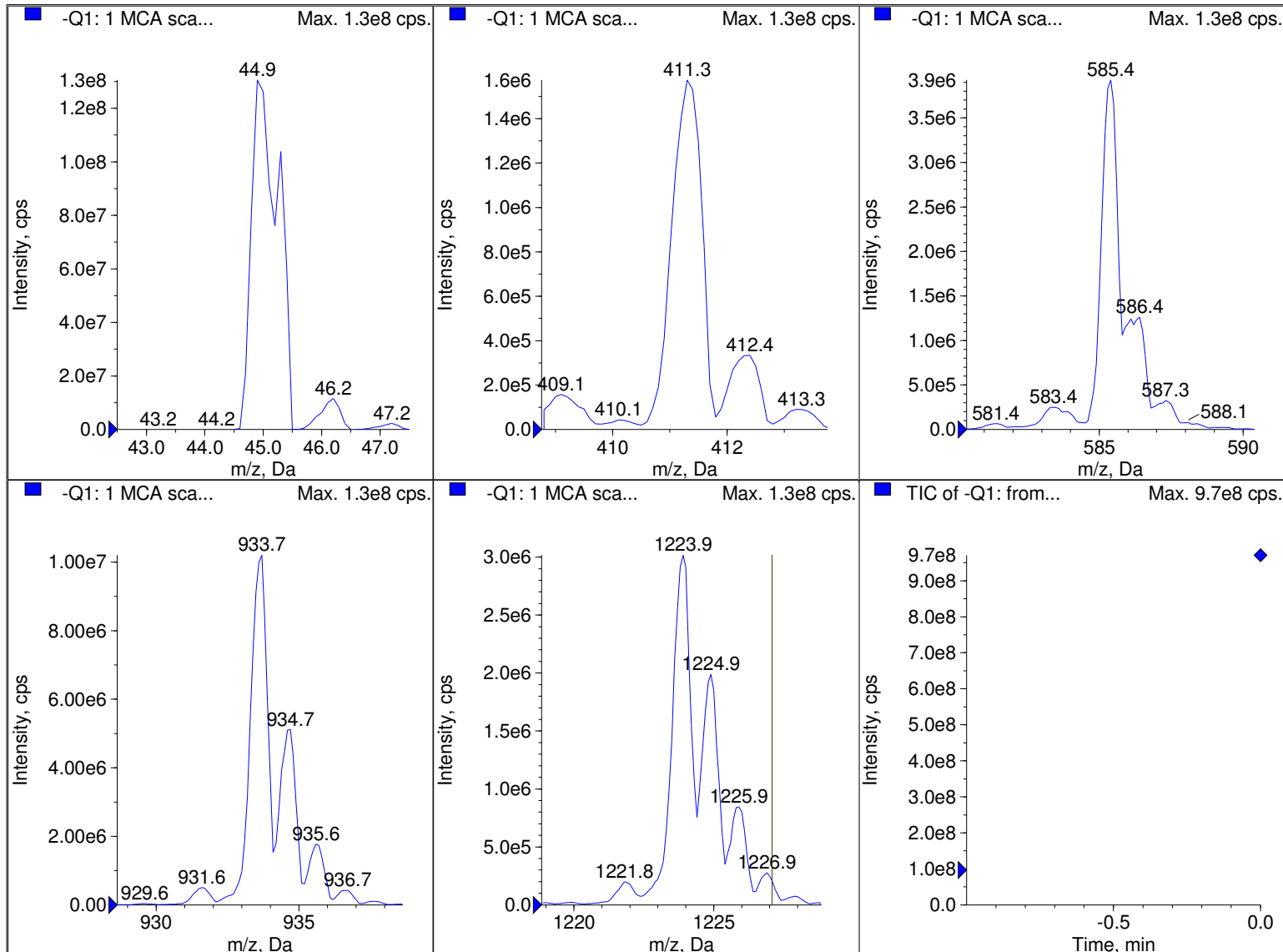
x= Concentration Analyte

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

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

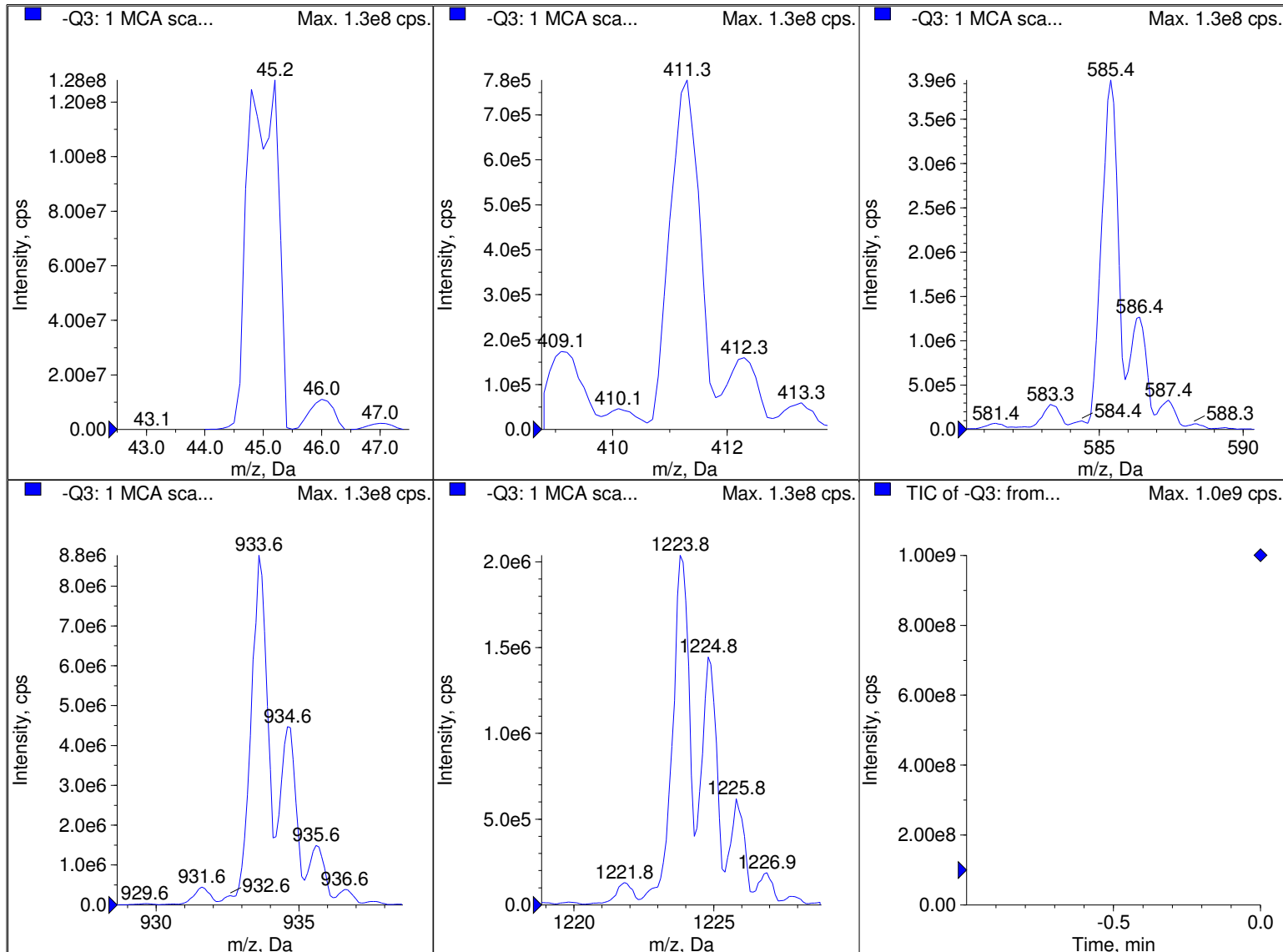
$$\text{Multiplier} = \frac{\text{Concentration of Analyte in curve standard mix}}{\text{Concentration of PFOA}}$$

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



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

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.43132 x (std. dev. = 0.01782) (weighting: None)	%RSE=4.1
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.46376 x (std. dev. = 0.01789) (weighting: None)	%RSE=3.9
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.52537 x (std. dev. = 0.02708) (weighting: None)	%RSE=5.2
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.53065 x (std. dev. = 0.03882) (weighting: None)	%RSE=7.3
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.49905 x (std. dev. = 0.03069) (weighting: None)	%RSE=6.1
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.94349 x (std. dev. = 0.06469) (weighting: None)	%RSE=6.9
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.96720 x (std. dev. = 0.05348) (weighting: None)	%RSE=5.5
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.90666 x (std. dev. = 0.04111) (weighting: None)	%RSE=4.5
PFDaA	(613.0 / 569.0)	13C2_PFDaA_EIS	1.0000	1.0000	y = 0.92894 x (std. dev. = 0.07071) (weighting: None)	%RSE=7.6
PFTrDA	(663.0 / 619.0)	13C2_PFDaA_EIS	1.0000	1.0000	y = 0.99060 x (std. dev. = 0.07407) (weighting: None)	%RSE=7.5
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.92280 x (std. dev. = 0.04264) (weighting: None)	%RSE=4.6
PFHxDA	(813.0 / 769.0)	13C3_PFBs_EIS	4.0000	1.0000	y = 1.27235 x (std. dev. = 0.14733) (weighting: None)	%RSE=11.6
PFODA	(913.0 / 869.0)	13C3_PFBs_EIS	4.0000	1.0000	y = 0.81556 x (std. dev. = 0.07390) (weighting: None)	%RSE=9.1
PFBS	(299.0 / 80.0)	13C3_PFBs_EIS	1.0000	0.8847	y = 0.26992 x (std. dev. = 0.01201) (weighting: None)	%RSE=4.4
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 1.07834 x (std. dev. = 0.05212) (weighting: None)	%RSE=4.8
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.87014 x (std. dev. = 0.04771) (weighting: None)	%RSE=5.5
PFHpS	(449.0 / 80.0)	13C8_PFOs_EIS	1.0000	0.9514	y = 0.41872 x (std. dev. = 0.06446) (weighting: None)	%RSE=15.4
PFOS	(499.0 / 80.0)	13C8_PFOs_EIS	1.0000	0.9275	y = 0.58595 x (std. dev. = 0.03136) (weighting: None)	%RSE=5.4
PFNS	(549.0 / 80.0)	13C8_PFOs_EIS	1.0000	0.9599	y = 0.47815 x (std. dev. = 0.05315) (weighting: None)	%RSE=11.1
PFDS	(599.0 / 80.0)	13C8_PFOs_EIS	1.0000	0.9631	y = 0.55187 x (std. dev. = 0.07406) (weighting: None)	%RSE=13.4
PFDoS	(699.0 / 80.0)	13C8_PFOs_EIS	1.0000	0.9696	y = 0.62737 x (std. dev. = 0.08489) (weighting: None)	%RSE=13.5
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.99143 x (std. dev. = 0.18077) (weighting: None)	%RSE=6.0
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.41008 x (std. dev. = 0.10454) (weighting: None)	%RSE=7.4
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.32315 x (std. dev. = 0.15863) (weighting: None)	%RSE=12.0
PFSBA	(297.9 / 78.0)	13C8_PFOsA_EIS	4.0000	1.0000	y = 2.33073 x (std. dev. = 0.21154) (weighting: None)	%RSE=9.1
PFHxSA	(397.9 / 78.0)	13C8_PFOsA_EIS	4.0000	1.0000	y = 1.70861 x (std. dev. = 0.14497) (weighting: None)	%RSE=8.5
PFOSA	(498.0 / 78.0)	13C8_PFOsA_EIS	1.0000	1.0000	y = 0.41745 x (std. dev. = 0.01713) (weighting: None)	%RSE=4.1
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.95155 x (std. dev. = 0.11841) (weighting: None)	%RSE=6.1
NEiFOSA	(526.0 / 219.0)	D5_NEiFOSA_EIS	4.0000	1.0000	y = 2.15277 x (std. dev. = 0.07067) (weighting: None)	%RSE=3.3
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.21933 x + 0.01632 (r = 0.99940) (weighting: 1 / x)	%RSE=7.4
NEiFOSAA	(584.0 / 419.0)	D5_EiFOSAA_EIS	1.0000	1.0000	y = 0.22477 x + -0.00226 (r = 0.99963) (weighting: 1 / x)	%RSE=10.3
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.22805 x (std. dev. = 0.01354) (weighting: None)	%RSE=5.9
NEiFOSE	(630.0 / 59.0)	D9_NEiFOSE_EIS	4.0000	1.0000	y = 0.20288 x (std. dev. = 0.01077) (weighting: None)	%RSE=5.3
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.12591 x (std. dev. = 0.00579) (weighting: None)	%RSE=4.6
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.69948 x (std. dev. = 0.05893) (weighting: None)	%RSE=8.4
9CI-PF3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = 1.35368 x (std. dev. = 0.19371) (weighting: None)	%RSE=14.3
11CI-PF3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.20603 x (std. dev. = 0.11540) (weighting: None)	%RSE=9.6
PFECHS	(461.0 / 98.9)	13C8_PFOs_EIS	4.0000	0.9239	y = 1.67083 x (std. dev. = 0.27064) (weighting: None)	%RSE=16.2
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.03409 x (std. dev. = 0.00424) (weighting: None)	%RSE=12.4
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.26973 x (std. dev. = 0.03125) (weighting: None)	%RSE=11.6
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.32041 x (std. dev. = 0.03198) (weighting: None)	%RSE=10.0
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.89669 x (std. dev. = 0.05880) (weighting: None)	%RSE=6.6
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.11863 x (std. dev. = 0.00708) (weighting: None)	%RSE=6.0
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.33421 x (std. dev. = 0.01842) (weighting: None)	%RSE=5.5
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.56027 x (std. dev. = 0.03584) (weighting: None)	%RSE=6.4
TDCA	(499.0 / 80.0)	13C8_PFOs_EIS	1.0000	1.0000	y = 0.59121 x (std. dev. = 0.03255) (weighting: None)	%RSE=5.5
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 206073.0434 x	%RSD=11.8

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 144978.1066 x	%RSD=9.4
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 272679.5131 x	%RSD=9.8
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 250319.6856 x	%RSD=7.4
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 237432.8591 x	%RSD=11.9
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 381903.2791 x	%RSD=6.1
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 476806.2750 x	%RSD=16.8
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 8.5699 x	%RSD=2.1
13C5_PPFaA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 7.9090 x	%RSD=6.0
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 4.4780 x	%RSD=5.8
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 3.5345 x	%RSD=6.5
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.3800 x	%RSD=3.8
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0381 x	%RSD=3.6
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1864 x	%RSD=7.9
13C7_PFUaA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1414 x	%RSD=10.0
13C2_PFDaA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 0.9681 x	%RSD=11.5
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1941 x	%RSD=8.5
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 3.8052 x	%RSD=4.0
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.6044 x	%RSD=5.3
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.4981 x	%RSD=5.0
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.3668 x	%RSD=6.5
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4550 x	%RSD=6.8
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5140 x	%RSD=13.6
13C8_PFOA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.8036 x	%RSD=10.9
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.8680 x	%RSD=12.6
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.8527 x	%RSD=9.8
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.0432 x	%RSD=14.4
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.8332 x	%RSD=11.5
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 2.7500 x	%RSD=12.3
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 3.4088 x	%RSD=10.1
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 9.2189 x	%RSD=5.5

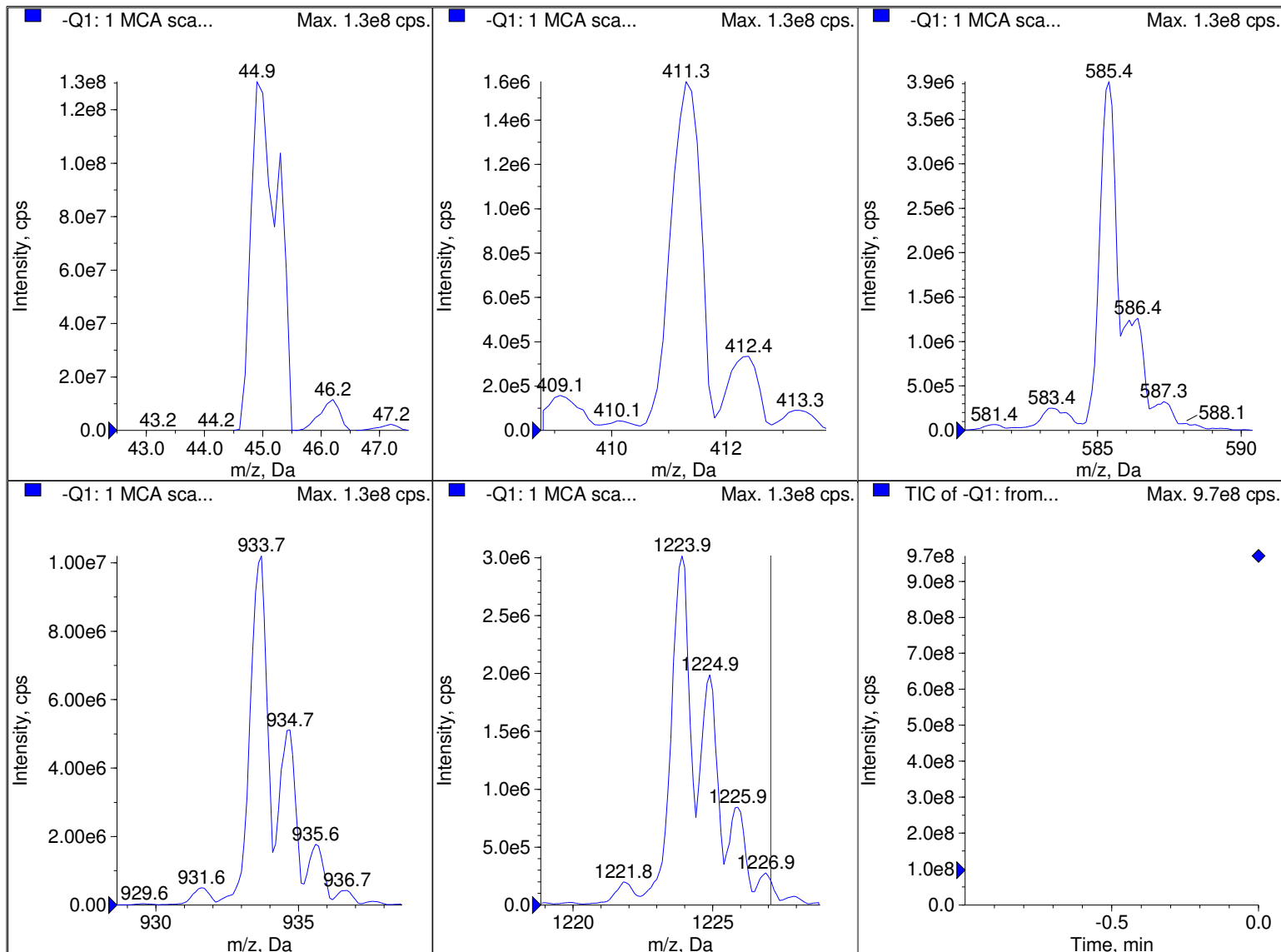
x= Concentration Analyte

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

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

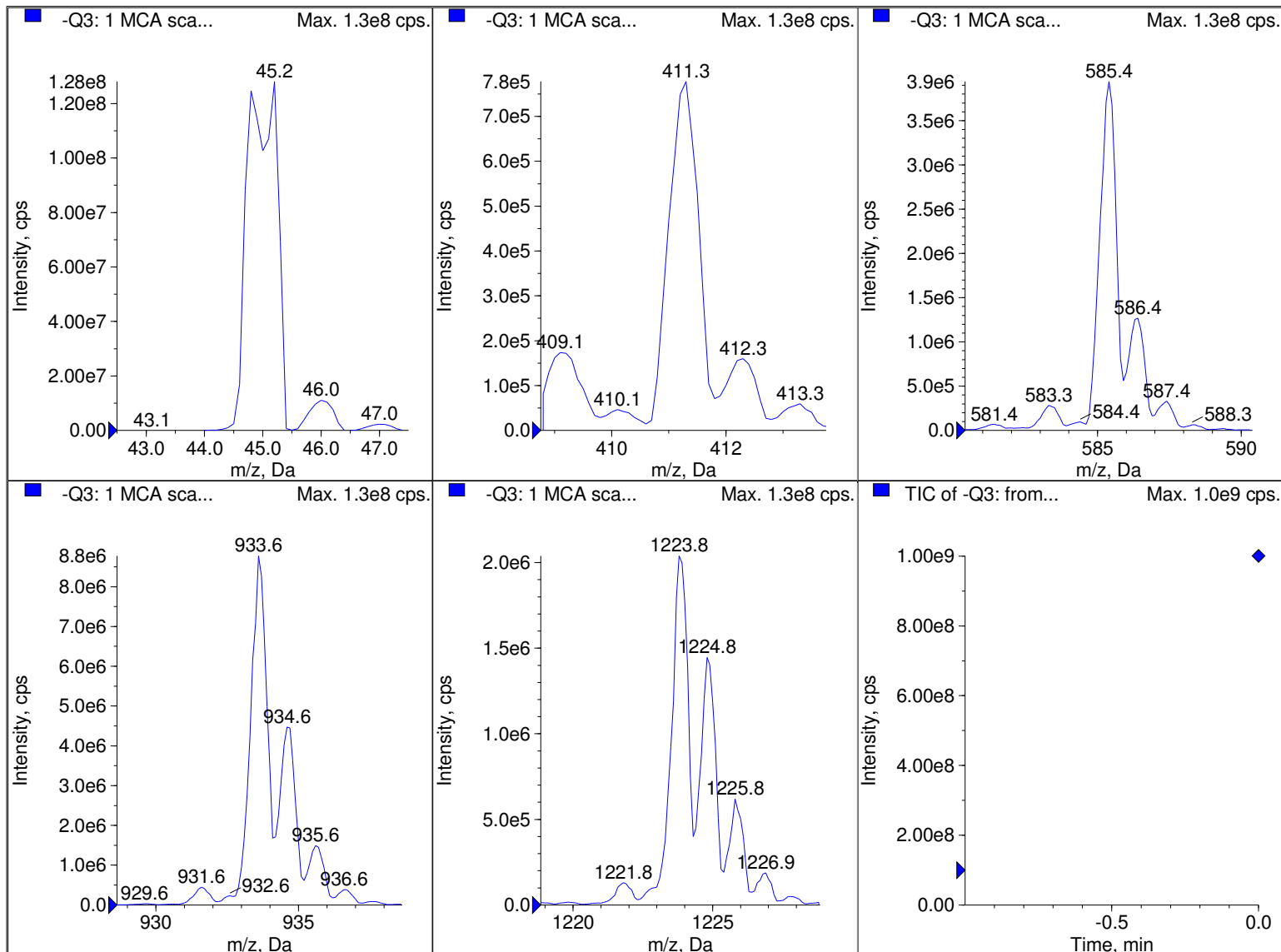
$$\text{Multiplier} = \frac{\text{Concentration of Analyte}}{\text{Concentration of PFOA}} \text{ in curve standard mix}$$

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



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

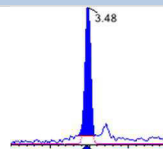
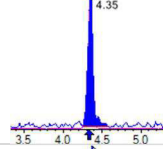
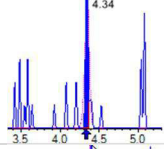
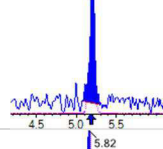
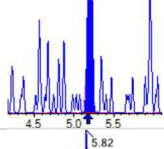
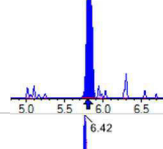
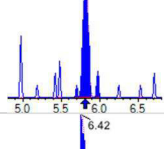
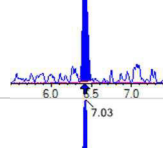
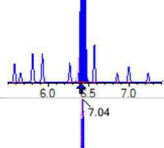
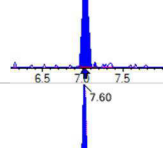
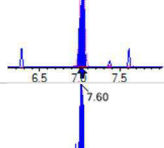
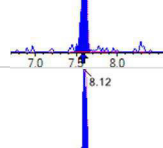
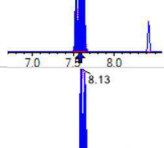
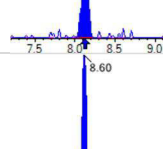
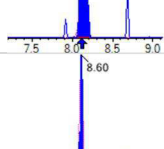
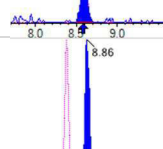
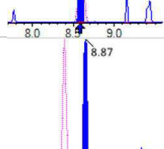
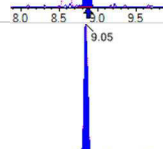
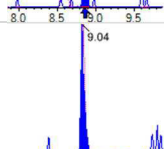
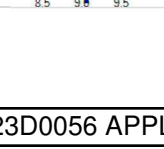
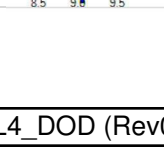


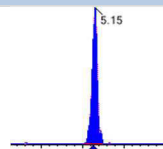
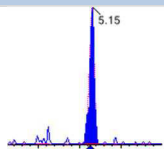
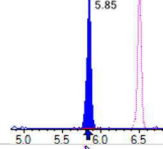
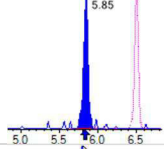
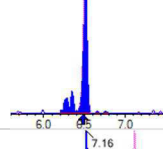
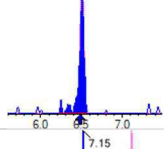
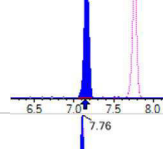
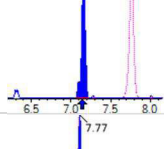
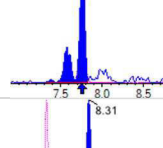
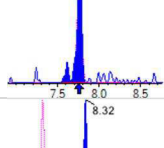
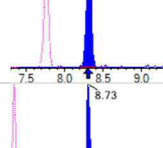
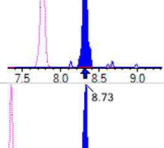
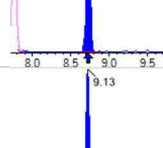
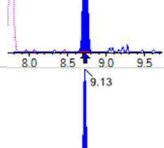
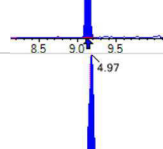
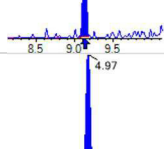
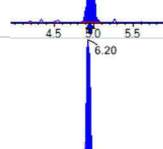
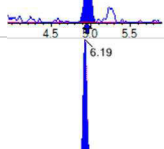
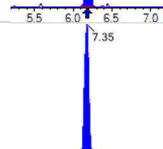
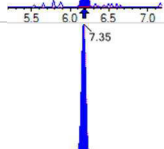

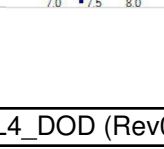
Peak List for "-Q3: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142403.wiff (Turbo Spray)"

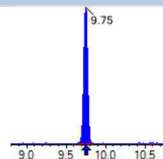
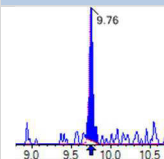
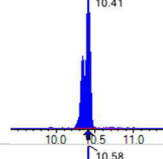
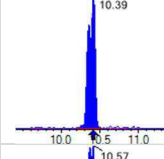
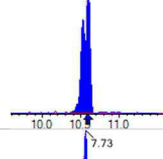
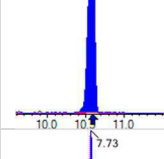
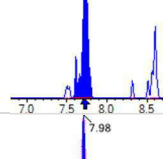
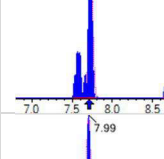
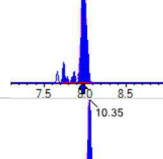
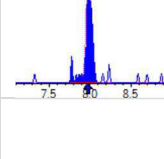
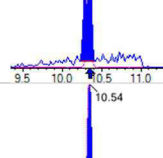
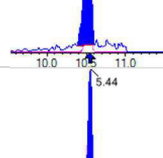
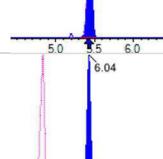
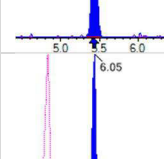
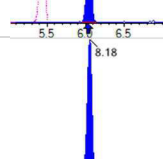
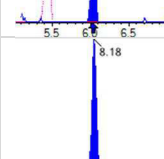
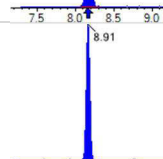
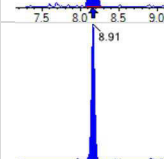
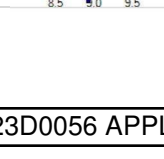
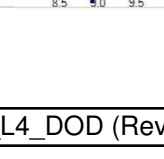
	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9799	1.2814e8	0.6414	0.0181
2	411.2590	411.2677	7.7810e5	0.6076	-8.6898e-3
3	585.3850	585.3784	3.9438e6	0.6511	6.5868e-3
4	933.6360	933.6279	8.7759e6	0.6302	8.0526e-3
5	1223.8450	1223.8609	2.0397e6	0.6225	-0.0159
6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

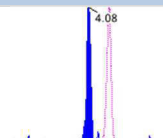
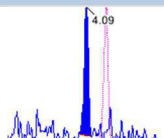
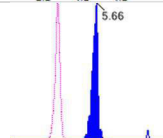
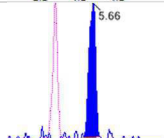
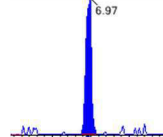
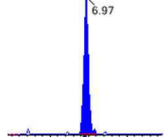
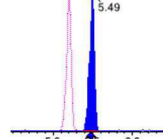
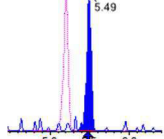
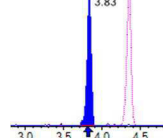
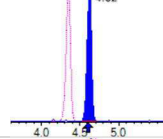
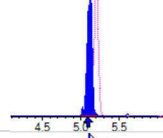
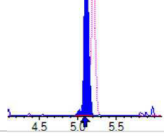
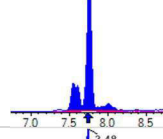
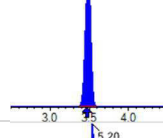
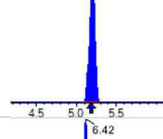
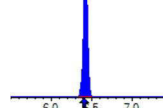
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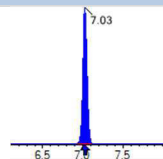
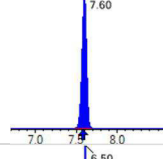
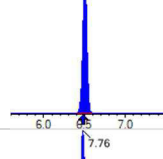
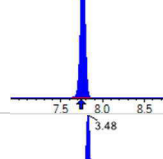
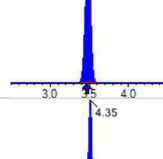
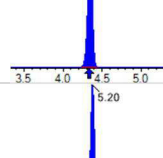
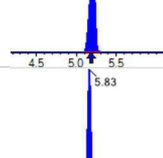
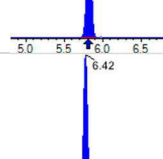
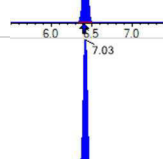
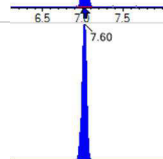
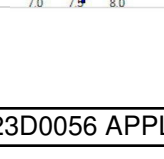
Initial Calibration: SC01442

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CVmin, Δ RT ion[s])	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	(213.0 / 169.0) 51001	(3.48, 1.00) (0.00, N/A, 0.0)	65.9	N/A 0.0 0.0	0.4175	N/A			
PFPeA	(263.0 / 219.0) 52561 (263.0 / 69.0) 586	(4.35, 1.00) (0.00, N/A, 0.6)	179.1 29.5	0.0111 84.9 84.9	0.2409	N/A			
PFHxA	(313.0 / 269.0) 30080 (313.0 / 119.0) 3796	(5.20, 1.00) (0.00, N/A, 0.0)	44.1 30.9	0.1262 115.6 115.6	0.1072	N/A			
PFHpA	(363.0 / 319.0) 20072 (363.0 / 169.0) 6725	(5.82, 1.00) (-0.01, N/A, 0.2)	963.9 151553.4	0.3351 109.8 109.8	0.0949	N/A			
PFOA	(413.0 / 369.0) 30753 (413.0 / 169.0) 7072	(6.42, 1.00) (0.00, N/A, -0.3)	84.9 14374.0	0.2300 73.5 73.5	0.1043	N/A			
PFNA	(463.0 / 419.0) 28672 (463.0 / 169.0) 7654	(7.03, 1.00) (0.00, N/A, -0.4)	10368.7 417426.4	0.2670 125.0 125.0	0.1129	N/A			
PFDA	(513.0 / 469.0) 33191 (513.0 / 169.0) 5472	(7.60, 1.00) (0.00, N/A, -0.1)	133.6 67.4	0.1649 143.8 143.8	0.1021	N/A			
PFUnA	(563.0 / 519.0) 34830 (563.0 / 169.0) 4800	(8.12, 1.00) (-0.01, N/A, -0.6)	144.6 16497.8	0.1378 116.6 116.6	0.1158	N/A			
PFDoA	(613.0 / 569.0) 31112 (613.0 / 169.0) 2979	(8.60, 1.00) (0.00, N/A, -0.1)	154.2 1013.2	0.0958 55.9 55.9	0.1252	N/A			
PFTTrDA	(663.0 / 619.0) 28598 (663.0 / 169.0) 5175	(8.86, 1.03) (N/A, 0.00, -0.3)	296.2 318.4	0.1809 73.0 73.0	0.1263	N/A			
PFTeDA	(713.0 / 669.0) 27989 (713.0 / 169.0) 5596	(9.05, 1.00) (0.00, N/A, 0.4)	145.4 106.7	0.1999 99.2 99.2	0.1117	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CVmin, Δ RT ion[s])	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	(299.0 / 80.0) 49366 (299.0 / 99.0) 26991	(5.15, 1.00) (0.00, N/A, -0.3)	4699.0 459.6	0.5467 85.0 85.0	0.0963	N/A			
PFPeS	(349.0 / 80.0) 77022 (349.0 / 99.0) 31099	(5.85, 0.90) (N/A, 0.02, 0.1)	942.9 950.0	0.4038 119.1 119.1	0.0982	N/A			
PFHxS	(399.0 / 80.0) 63405 (399.0 / 99.0) 20674	(6.51, 1.00) (0.01, N/A, 0.3)	82149.7 1228.7	0.3261 94.1 94.1	0.0949	N/A			
PFHpS	(449.0 / 80.0) 64615 (449.0 / 99.0) 20246	(7.16, 0.92) (N/A, 0.02, 0.1)	3368.0 432.9	0.3133 112.9 112.9	0.0938	N/A			
PFOS	(499.0 / 80.0) 96931 (499.0 / 99.0) 26309	(7.76, 1.00) (0.00, N/A, -0.4)	147.8 143.7	0.2714 121.3 121.3	0.1002	N/A			MI2 DG 2023-04-12
PFNS	(549.0 / 80.0) 82249 (549.0 / 99.0) 19991	(8.31, 1.07) (N/A, 0.01, -0.3)	1889.0 59142.4	0.2431 100.4 100.4	0.0910	N/A			
PFDS	(599.0 / 80.0) 105015 (599.0 / 99.0) 26277	(8.73, 1.12) (N/A, 0.01, 0.0)	1257.8 1562.6	0.2502 111.7 111.7	0.1028	N/A			
PFDoS	(699.0 / 80.0) 84382 (699.0 / 99.0) 15119	(9.13, 1.18) (N/A, 0.00, -0.1)	456.7 92.1	0.1792 74.9 74.9	0.1074	N/A			
4:2FTS	(327.0 / 307.0) 72986 (327.0 / 81.0) 43585	(4.97, 1.00) (0.00, N/A, 0.3)	546.7 134.3	0.5972 87.8 87.8	0.3572	N/A			
6:2FTS	(427.0 / 407.0) 54126 (427.0 / 81.0) 32930	(6.20, 1.00) (0.00, N/A, 0.3)	1803.8 203.8	0.6084 86.4 86.4	0.4133	N/A			
8:2FTS	(527.0 / 507.0) 59925 (527.0 / 81.0) 42062	(7.35, 1.00) (0.00, N/A, 0.1)	12059.6 376.4	0.7019 103.9 103.9	0.4299	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CVmin, Δ RT ion[s])	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) 131881 (498.0 / 478.0) 3462	(9.75, 1.00) (0.00, N/A, -0.5)	702.2 42.5	0.0262 106.0 106.0	0.1116	N/A			
NMeFOSA	(512.0 / 219.0) 93392 (512.0 / 169.0) 75839	(10.41, 1.00) (0.00, N/A, 1.1)	778.9 530.4	0.8120 93.6 93.6	0.4507	N/A			
NEIFOSA	(526.0 / 219.0) 99939 (526.0 / 169.0) 117151	(10.58, 1.00) (-0.01, N/A, 0.5)	758.8 639.4	1.1722 93.8 93.8	0.4146	N/A			
NMeFOSAA	(570.0 / 419.0) 14664 (570.0 / 483.0) 7645	(7.73, 1.00) (0.00, N/A, 0.4)	52.4 2885.4	0.5213 112.5 112.5	0.0968	N/A			
NEIFOSAA	(584.0 / 419.0) 12358 (584.0 / 526.0) 8768	(7.98, 1.00) (0.00, N/A, -0.2)	382.1 589.2	0.7095 116.2 116.2	0.0935	N/A			
NMeFOSE	(616.0 / 59.0) 35761	(10.35, 1.00) (0.01, N/A, 0.0)	103.8	N/A 0.0 0.0	0.3936	N/A			
NEtFOSE	(630.0 / 59.0) 43668	(10.54, 1.00) (0.01, N/A, 0.0)	117.8	N/A 0.0 0.0	0.3874	N/A			
HFPO-DA	(285.0 / 169.0) 29718 (285.0 / 185.0) 74815	(5.44, 1.00) (0.00, N/A, 0.2)	196.1 467.7	2.5175 96.8 96.8	0.2057	N/A			
ADONA	(377.0 / 85.0) 101012 (377.0 / 251.0) 13309	(6.04, 1.11) (N/A, 0.02, -0.2)	783.0 1346.4	0.1318 132.7 132.7	0.1957	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 296927 (533.0 / 353.0) 80758	(8.18, 1.50) (N/A, 0.02, 0.3)	764.4 350.3	0.2720 93.7 93.7	0.1911	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 178084 (633.0 / 453.0) 57186	(8.91, 1.64) (N/A, 0.00, 0.0)	1014.0 498.9	0.3211 95.8 95.8	0.1939	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	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) 3409 (241.0 / 117.0) 4986	(4.08, 0.94) (N/A, 0.02, -0.6)	23.9 11.0	1.4625 88.6 88.6	0.4263	N/A			
5:3FTCA	(341.0 / 236.7) 15735 (341.0 / 217.0) 29058	(5.66, 1.09) (N/A, 0.03, 0.3)	936610.1 91.4	1.8468 117.7 117.7	0.3568	N/A			
7:3FTCA	(441.0 / 317.0) 31485 (441.0 / 337.0) 29537	(6.97, 1.34) (N/A, 0.01, 0.2)	123.9 1462.5	0.9381 108.9 108.9	0.4077	N/A			
PFEESA	(315.0 / 135.0) 76309 (315.0 / 83.0) 22009	(5.49, 1.06) (N/A, 0.03, 0.1)	3255.2 93.0	0.2884 118.2 118.2	0.2162	N/A			
PFMPA	(229.0 / 85.0) 9287	(3.83, 0.88) (N/A, 0.02, 0.0)	1128.6	N/A 0.0 0.0	0.1998	N/A			
PFMBA	(279.0 / 85.0) 36216	(4.62, 1.06) (N/A, 0.02, 0.0)	2750.3	N/A 0.0 0.0	0.2128	N/A			
NFDHA	(295.0 / 201.0) 25289 (295.0 / 85.0) 35586	(5.12, 0.98) (N/A, 0.03, 0.5)	794423.1 279.0	1.4072 143.7 143.7	0.1763	N/A			
TDCA	(499.0 / 80.0) 102465	(7.76, 1.00) (N/A, 0.02, 0.0)	1395.1	N/A 0.0 0.0	0.1231	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 129330	(3.48, N/A) (N/A, 0.02, N/A)	1392.9	N/A	1.0609 [1.0000]	106.1% { 108.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 197891	(5.20, N/A) (N/A, 0.03, N/A)	3507501.1	N/A	0.9757 [1.0000]	97.6% { 100.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 327921	(6.42, N/A) (N/A, 0.02, N/A)	3658858.2	N/A	1.0319 [1.0000]	103.2% { 101.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 304417	(7.03, N/A) (N/A, 0.01, N/A)	443217.1	N/A	1.0030 [1.0000]	100.3% {99.2%}			
13C2_PFDA_IIS	(515.0 / 470.1) 308435	(7.60, N/A) (N/A, 0.02, N/A)	1799.9	N/A	0.9506 [1.0000]	95.1% {100.7%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 442358	(6.50, N/A) (N/A, 0.02, N/A)	11474.6	N/A	0.9877 [1.0000]	98.8% {107.1%}			
13C4_PFOS_IIS	(503.0 / 79.9) 686288	(7.76, N/A) (N/A, 0.02, N/A)	2001.3	N/A	1.0091 [1.0000]	100.9% {106.1%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1118397	(3.48, N/A) (N/A, 0.02, N/A)	6711.6	N/A	8.1562 [8.0000]	102.0% {107.0%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 908353	(4.35, N/A) (N/A, 0.02, N/A)	3941.0	N/A	4.0979 [4.0000]	102.4% {101.3%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 581690	(5.20, N/A) (N/A, 0.03, N/A)	1492.6	N/A	2.0738 [2.0000]	103.7% {99.5%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 490950	(5.83, N/A) (N/A, 0.02, N/A)	3025.7	N/A	2.0039 [2.0000]	100.2% {100.2%}			
13C8_PFOA_EIS	(421.0 / 376.0) 625228	(6.42, N/A) (N/A, 0.02, N/A)	2840.0	N/A	1.9317 [2.0000]	96.6% {101.8%}			
13C9_PFNA_EIS	(472.0 / 427.0) 275397	(7.03, N/A) (N/A, 0.02, N/A)	1328.5	N/A	0.9629 [1.0000]	96.3% {92.0%}			
13C6_PFDA_EIS	(519.0 / 474.0) 345755	(7.60, N/A) (N/A, 0.02, N/A)	1898.1	N/A	0.9992 [1.0000]	99.9% {96.1%}			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (1)
 Acquired: 2023/04/12 - 10:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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
13C7_PFUa_EIS	(570.0 / 525.0) 341819	(8.13, N/A) (N/A, 0.01, N/A)	5128.5	N/A	1.0642 [1.0000]	106.4% {94.7%}			
13C2_PFDa_EIS	(615.0 / 570.0) 274024	(8.60, N/A) (N/A, 0.01, N/A)	328597.6	N/A	0.9964 [1.0000]	99.6% {95.4%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 273452	(9.05, N/A) (N/A, 0.00, N/A)	1228.0	N/A	1.0545 [1.0000]	105.4% {90.7%}			
13C3_PFBs_EIS	(302.0 / 80.0) 1438119	(5.15, N/A) (N/A, 0.03, N/A)	2048.4	N/A	2.0707 [2.0000]	103.5% {103.1%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 849949	(6.50, N/A) (N/A, 0.02, N/A)	5378.6	N/A	2.0845 [2.0000]	104.2% {105.5%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1709096	(7.76, N/A) (N/A, 0.02, N/A)	3395.8	N/A	2.0556 [2.0000]	102.8% {102.6%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 275260	(4.97, N/A) (N/A, 0.02, N/A)	1161.3	N/A	4.4006 [4.0000]	110.0% {110.4%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 306075	(6.20, N/A) (N/A, 0.02, N/A)	2718.4	N/A	4.2873 [4.0000]	107.2% {104.6%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 395209	(7.36, N/A) (N/A, 0.02, N/A)	7602.6	N/A	4.1815 [4.0000]	104.5% {110.1%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 2696653	(9.75, N/A) (N/A, 0.00, N/A)	5446.6	N/A	1.9979 [2.0000]	99.9% {103.8%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 499488	(10.41, N/A) (N/A, 0.00, N/A)	2490.4	N/A	1.7342 [2.0000]	86.7% {96.1%}			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (1)
 Acquired: 2023/04/12 - 10:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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
D5_NEiFOSA_EIS	(531.0 / 169.0) 458853	(10.59 , N/A) (N/A , 0.00 , N/A)	2753.0	N/A	1.9309 [2.0000]	96.5% { 99.7% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 712577	(7.73 , N/A) (N/A , 0.02 , N/A)	2907.9	N/A	3.9987 [4.0000]	100.0% { 105.9% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 597748	(7.98 , N/A) (N/A , 0.02 , N/A)	12388.6	N/A	4.0895 [4.0000]	102.2% { 111.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1664196	(10.34 , N/A) (N/A , 0.00 , N/A)	1639.0	N/A	17.4042 [20.0000]	87.0% { 87.1% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2288971	(10.53 , N/A) (N/A , 0.00 , N/A)	1350.5	N/A	18.1116 [20.0000]	90.6% { 90.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1368414	(5.44 , N/A) (N/A , 0.03 , N/A)	2578.2	N/A	8.6479 [8.0000]	108.1% { 106.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 238991	(3.46, 1.00) (0.00, N/A, 0.0)	113.6	N/A 0.0 0.0	1.9860	N/A			
PFPeA	(263.0 / 219.0) 228762 (263.0 / 69.0) 3637	(4.35, 1.00) (0.00, N/A, 0.0)	679.2 84.6	0.0159 121.1 121.1	1.0164	N/A			
PFHxA	(313.0 / 269.0) 160476 (313.0 / 119.0) 15087	(5.20, 1.00) (0.00, N/A, 0.1)	240.7 503.6	0.0940 86.1 86.1	0.6008	N/A			
PFHpA	(363.0 / 319.0) 109523 (363.0 / 169.0) 33202	(5.83, 1.00) (0.00, N/A, -0.2)	577.5 1401.1	0.3032 99.3 99.3	0.5089	N/A			
PFOA	(413.0 / 369.0) 145930 (413.0 / 169.0) 44177	(6.43, 1.00) (0.00, N/A, 0.0)	350.2 1408.0	0.3027 96.7 96.7	0.5146	N/A			
PFNA	(463.0 / 419.0) 131614 (463.0 / 169.0) 30834	(7.04, 1.00) (0.00, N/A, -0.2)	34935.3 453625.9	0.2343 109.7 109.7	0.4870	N/A			
PFDA	(513.0 / 469.0) 170874 (513.0 / 169.0) 22910	(7.60, 1.00) (0.00, N/A, -0.1)	446.0 581.8	0.1341 117.0 117.0	0.5308	N/A			
PFUnA	(563.0 / 519.0) 151356 (563.0 / 169.0) 18312	(8.14, 1.00) (0.00, N/A, -0.1)	773.0 5411.9	0.1210 102.4 102.4	0.5206	N/A			
PFDoA	(613.0 / 569.0) 128856 (613.0 / 169.0) 24489	(8.60, 1.00) (0.00, N/A, 0.2)	913.1 8704.2	0.1901 110.9 110.9	0.5048	N/A			
PFTrDA	(663.0 / 619.0) 125766 (663.0 / 169.0) 35979	(8.87, 1.03) (N/A, 0.01, 0.0)	801.5 356.9	0.2861 115.4 115.4	0.5408	N/A			
PFTeDA	(713.0 / 669.0) 127757 (713.0 / 169.0) 29595	(9.06, 1.00) (0.00, N/A, -0.1)	718.2 229.2	0.2317 115.0 115.0	0.5175	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 234502 (299.0 / 99.0) 141545	(5.15, 1.00) (0.00, N/A, 0.0)	618944.4 6243.0	0.6036 93.9 93.9	0.4490	N/A			
PFPeS	(349.0 / 80.0) 367490 (349.0 / 99.0) 116090	(5.85, 0.90) (N/A, 0.02, -0.6)	15031.2 258698.7	0.3159 93.2 93.2	0.4971	N/A			
PFHxS	(399.0 / 80.0) 291776 (399.0 / 99.0) 105662	(6.51, 1.00) (0.00, N/A, 0.1)	6335647.6 1804.2	0.3621 104.6 104.6	0.4631	N/A			
PFHpS	(449.0 / 80.0) 327457 (449.0 / 99.0) 102856	(7.16, 0.92) (N/A, 0.02, -0.1)	9606.6 4560.9	0.3141 113.2 113.2	0.5010	N/A			
PFOS	(499.0 / 80.0) 440225 (499.0 / 99.0) 96380	(7.77, 1.00) (0.00, N/A, 0.0)	328.9 488.2	0.2189 97.8 97.8	0.4800	N/A			MI2 DG 2023-04-12
PFNS	(549.0 / 80.0) 411080 (549.0 / 99.0) 116527	(8.32, 1.07) (N/A, 0.02, -0.1)	377930.1 3882.5	0.2835 117.1 117.1	0.4796	N/A			
PFDS	(599.0 / 80.0) 495896 (599.0 / 99.0) 110181	(8.73, 1.12) (N/A, 0.01, 0.0)	644466.7 4068.7	0.2222 99.2 99.2	0.5118	N/A			
PFDoS	(699.0 / 80.0) 366330 (699.0 / 99.0) 84289	(9.14, 1.18) (N/A, 0.01, 0.1)	1586.1 683.1	0.2301 96.1 96.1	0.4915	N/A			
4:2FTS	(327.0 / 307.0) 336203 (327.0 / 81.0) 207246	(4.97, 1.00) (0.00, N/A, -0.1)	2731.6 498.2	0.6164 90.7 90.7	1.8669	N/A			
6:2FTS	(427.0 / 407.0) 225058 (427.0 / 81.0) 160604	(6.19, 1.00) (0.00, N/A, 0.1)	148926.7 1011.3	0.7136 101.3 101.3	2.0702	N/A			
8:2FTS	(527.0 / 507.0) 238649 (527.0 / 81.0) 144104	(7.36, 1.00) (0.00, N/A, 0.0)	2684.0 769.3	0.6038 89.4 89.4	2.2448	N/A			

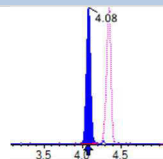
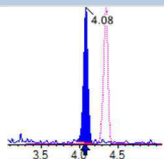
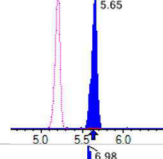
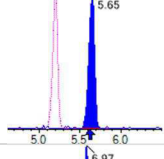
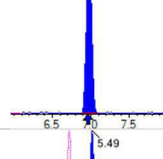
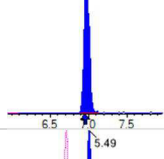
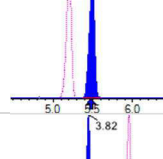
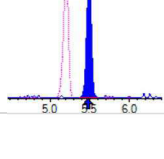
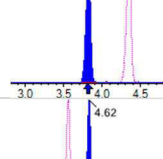
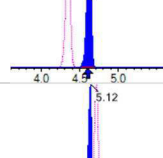
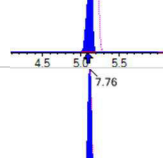
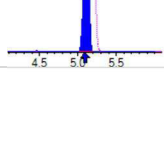
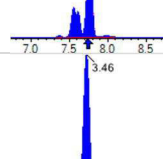
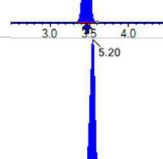
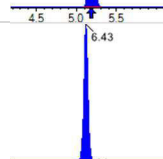
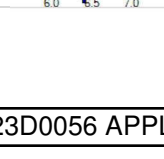


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

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
PFOSA	(498.0 / 78.0) 612187 (498.0 / 478.0) 14029	(9.76, 1.00) (0.00, N/A, 0.0)	2203.4 148.1	0.0229 92.6 92.6	0.5124	N/A			
NMeFOSA	(512.0 / 219.0) 474305 (512.0 / 169.0) 408504	(10.42, 1.00) (0.00, N/A, 1.5)	2362.8 1694.6	0.8613 99.3 99.3	2.0875	N/A			
NEtFOSA	(526.0 / 219.0) 490398 (526.0 / 169.0) 602367	(10.60, 1.00) (0.00, N/A, 1.1)	2743.3 2214.7	1.2283 98.3 98.3	2.0518	N/A			
NMeFOSAA	(570.0 / 419.0) 81488 (570.0 / 483.0) 27500	(7.74, 1.00) (0.00, N/A, -0.5)	116213.1 196.8	0.3375 72.8 72.8	0.5926	N/A			
NEtFOSAA	(584.0 / 419.0) 62099 (584.0 / 526.0) 34414	(7.99, 1.00) (0.00, N/A, -0.4)	338.0 440.2	0.5542 90.8 90.8	0.5060	N/A			
NMeFOSE	(616.0 / 59.0) 221629	(10.35, 1.00) (0.01, N/A, 0.0)	506.4	N/A 0.0 0.0	2.1130	N/A			
NEtFOSE	(630.0 / 59.0) 247386	(10.55, 1.00) (0.01, N/A, 0.0)	422.1	N/A 0.0 0.0	2.0533	N/A			
HFPO-DA	(285.0 / 169.0) 134549 (285.0 / 185.0) 377284	(5.44, 1.00) (0.00, N/A, 0.1)	948.5 1729.6	2.8041 107.8 107.8	0.9803	N/A			
ADONA	(377.0 / 85.0) 487582 (377.0 / 251.0) 43518	(6.05, 1.11) (N/A, 0.02, 0.4)	1886.3 882.2	0.0893 89.9 89.9	0.9942	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 1433365 (533.0 / 353.0) 429490	(8.19, 1.51) (N/A, 0.02, -0.1)	1678.0 1013.1	0.2996 103.2 103.2	0.9708	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 812812 (633.0 / 453.0) 316868	(8.92, 1.64) (N/A, 0.01, 0.2)	3296.6 1696.3	0.3898 116.3 116.3	0.9313	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 14940 (241.0 / 117.0) 28773	(4.08, 0.94) (N/A, 0.01, -0.2)	37.5 25.0	1.9259 116.6 116.6	1.8115	N/A			
5:3FTCA	(341.0 / 236.7) 72567 (341.0 / 217.0) 156422	(5.65, 1.09) (N/A, 0.02, 0.1)	3146.5 343.6	2.1556 137.4 137.4	1.7285	N/A			
7:3FTCA	(441.0 / 317.0) 151337 (441.0 / 337.0) 130877	(6.98, 1.34) (N/A, 0.02, 0.2)	539.9 899.0	0.8648 100.4 100.4	2.0585	N/A			
PFEESA	(315.0 / 135.0) 315371 (315.0 / 83.0) 77936	(5.49, 1.06) (N/A, 0.02, 0.0)	32253.3 340.1	0.2471 101.3 101.3	0.9386	N/A			
PFMPA	(229.0 / 85.0) 50789	(3.82, 0.88) (N/A, 0.01, 0.0)	1598.5	N/A 0.0 0.0	1.0597	N/A			
PFMBA	(279.0 / 85.0) 173936	(4.62, 1.06) (N/A, 0.02, 0.0)	2264.5	N/A 0.0 0.0	0.9911	N/A			
NFDHA	(295.0 / 201.0) 168592 (295.0 / 85.0) 145805	(5.12, 0.98) (N/A, 0.03, 0.1)	4849.2 2246.7	0.8648 88.3 88.3	1.2348	N/A			
TDCA	(499.0 / 80.0) 415353	(7.76, 1.00) (N/A, 0.02, 0.0)	5139.1	N/A 0.0 0.0	0.5261	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 124269	(3.46, N/A) (N/A, 0.00, N/A)	1425.8	N/A	1.0194 [1.0000]	101.9% { 103.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 194247	(5.20, N/A) (N/A, 0.03, N/A)	2390.4	N/A	0.9577 [1.0000]	95.8% { 98.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 279927	(6.43, N/A) (N/A, 0.02, N/A)	3419.1	N/A	0.8809 [1.0000]	88.1% { 86.8% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

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
13C5_PFNA_IIS	(468.0 / 423.0) 283905	(7.03, N/A) (N/A, 0.02, N/A)	2521.6	N/A	0.9354 [1.0000]	93.5% { 92.5% }			
13C2_PFDA_IIS	(515.0 / 470.1) 317674	(7.60, N/A) (N/A, 0.02, N/A)	2580.6	N/A	0.9791 [1.0000]	97.9% { 103.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 423531	(6.51, N/A) (N/A, 0.02, N/A)	2100.3	N/A	0.9457 [1.0000]	94.6% { 102.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 657497	(7.77, N/A) (N/A, 0.03, N/A)	2702.0	N/A	0.9668 [1.0000]	96.7% { 101.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1101719	(3.46, N/A) (N/A, 0.00, N/A)	5080.2	N/A	8.3618 [8.0000]	104.5% { 105.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 936811	(4.35, N/A) (N/A, 0.01, N/A)	2920.1	N/A	4.3056 [4.0000]	107.6% { 104.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 553795	(5.20, N/A) (N/A, 0.03, N/A)	1586.5	N/A	2.0114 [2.0000]	100.6% { 94.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 499353	(5.83, N/A) (N/A, 0.02, N/A)	1449.0	N/A	2.0764 [2.0000]	103.8% { 101.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 601529	(6.43, N/A) (N/A, 0.02, N/A)	10428.4	N/A	2.1772 [2.0000]	108.9% { 97.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 292999	(7.03, N/A) (N/A, 0.02, N/A)	449.8	N/A	1.0985 [1.0000]	109.8% { 97.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 342508	(7.60, N/A) (N/A, 0.02, N/A)	49351.4	N/A	0.9611 [1.0000]	96.1% { 95.2% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

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
13C7_PFUa_EIS	(570.0 / 525.0) 330428	(8.13, N/A) (N/A, 0.02, N/A)	8072.6	N/A	0.9988 [1.0000]	99.9% { 91.6% }			
13C2_PFDa_EIS	(615.0 / 570.0) 281445	(8.60, N/A) (N/A, 0.01, N/A)	1502.5	N/A	0.9936 [1.0000]	99.4% { 98.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 269350	(9.06, N/A) (N/A, 0.01, N/A)	1231.3	N/A	1.0084 [1.0000]	100.8% { 89.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1464510	(5.15, N/A) (N/A, 0.03, N/A)	3563.1	N/A	2.2025 [2.0000]	110.1% { 105.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 801395	(6.51, N/A) (N/A, 0.02, N/A)	2077.4	N/A	2.0528 [2.0000]	102.6% { 99.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1621026	(7.77, N/A) (N/A, 0.02, N/A)	2035.0	N/A	2.0350 [2.0000]	101.8% { 97.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 242584	(4.97, N/A) (N/A, 0.02, N/A)	1175.1	N/A	4.0506 [4.0000]	101.3% { 97.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 254104	(6.20, N/A) (N/A, 0.02, N/A)	2880.8	N/A	3.7175 [4.0000]	92.9% { 86.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 301405	(7.36, N/A) (N/A, 0.03, N/A)	2307.0	N/A	3.3307 [4.0000]	83.3% { 84.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2726947	(9.76, N/A) (N/A, 0.01, N/A)	5323.7	N/A	2.1088 [2.0000]	105.4% { 104.9% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 547663	(10.42, N/A) (N/A, 0.01, N/A)	2261.3	N/A	1.9847 [2.0000]	99.2% { 105.3% }			

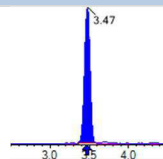
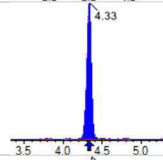
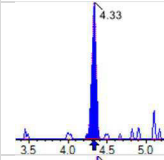
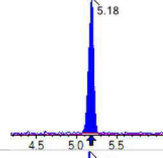
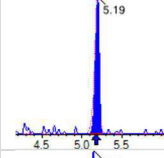
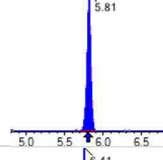
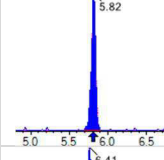
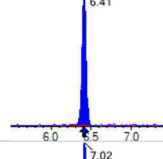
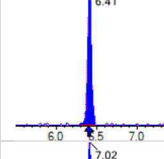
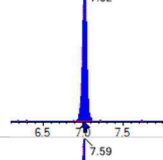
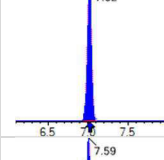
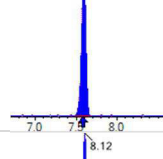
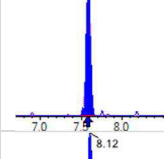
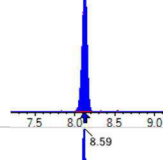
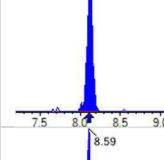
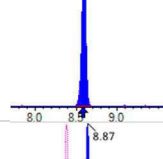
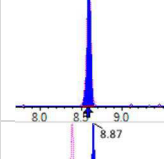
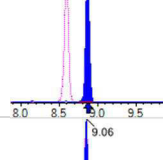
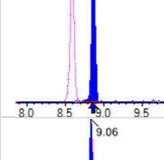
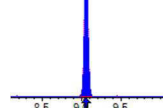
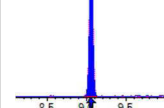


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (2)
 Acquired: 2023/04/12 - 10:25

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 455024	(10.60 , N/A) (N/A , 0.01 , N/A)	2794.9	N/A	1.9986 [2.0000]	99.9% { 98.9% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 647108	(7.74 , N/A) (N/A , 0.02 , N/A)	2306.1	N/A	3.7903 [4.0000]	94.8% { 96.2% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 554990	(7.99 , N/A) (N/A , 0.02 , N/A)	8459.8	N/A	3.9632 [4.0000]	99.1% { 103.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1921402	(10.35 , N/A) (N/A , 0.01 , N/A)	1739.3	N/A	20.9739 [20.0000]	104.9% { 100.6% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2446736	(10.54 , N/A) (N/A , 0.01 , N/A)	1430.3	N/A	20.2077 [20.0000]	101.0% { 97.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1300215	(5.44 , N/A) (N/A , 0.03 , N/A)	1768.8	N/A	8.3710 [8.0000]	104.6% { 100.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 480319	(3.47, 1.00) (0.00, N/A, 0.0)	176.1	N/A 0.0 0.0	3.8219	N/A			
PFPeA	(263.0 / 219.0) 450291 (263.0 / 69.0) 3790	(4.33, 1.00) (0.00, N/A, 0.1)	1051.6 113.0	0.0084 64.1 64.1	1.9506	N/A			
PFHxA	(313.0 / 269.0) 294011 (313.0 / 119.0) 22148	(5.18, 1.00) (0.00, N/A, -0.7)	392.7 667.8	0.0753 69.0 69.0	1.0103	N/A			
PFHpA	(363.0 / 319.0) 236373 (363.0 / 169.0) 74851	(5.81, 1.00) (0.00, N/A, -0.2)	6343.1 112973.7	0.3167 103.7 103.7	1.0407	N/A			
PFOA	(413.0 / 369.0) 310116 (413.0 / 169.0) 98577	(6.41, 1.00) (0.00, N/A, -0.1)	652.4 1285.3	0.3179 101.5 101.5	0.9928	N/A			
PFNA	(463.0 / 419.0) 254158 (463.0 / 169.0) 56250	(7.02, 1.00) (0.00, N/A, 0.1)	8571.6 6851.4	0.2213 103.6 103.6	0.9427	N/A			
PFDA	(513.0 / 469.0) 335920 (513.0 / 169.0) 40459	(7.59, 1.00) (0.00, N/A, 0.5)	626.4 766.2	0.1204 105.1 105.1	0.9522	N/A			
PFUnA	(563.0 / 519.0) 291004 (563.0 / 169.0) 37661	(8.12, 1.00) (0.00, N/A, 0.1)	1093.3 620.3	0.1294 109.5 109.5	0.9676	N/A			
PFDoA	(613.0 / 569.0) 273984 (613.0 / 169.0) 43856	(8.59, 1.00) (0.00, N/A, -0.1)	986.9 2317.6	0.1601 93.4 93.4	1.0244	N/A			
PFTTrDA	(663.0 / 619.0) 241450 (663.0 / 169.0) 58668	(8.87, 1.03) (N/A, 0.00, -0.1)	1129.4 517.9	0.2430 98.1 98.1	0.9908	N/A			
PFTeDA	(713.0 / 669.0) 250832 (713.0 / 169.0) 47487	(9.06, 1.00) (0.00, N/A, 0.1)	1082.7 547.5	0.1893 93.9 93.9	0.9446	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (3)
 Acquired: 2023/04/12 - 10:38

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	(299.0 / 80.0) 448553 (299.0 / 99.0) 301574	(5.14, 1.00) (0.00, N/A, 0.1)	81067.6 3034.3	0.6723 104.6 104.6	0.8700	N/A			
PFPeS	(349.0 / 80.0) 679523 (349.0 / 99.0) 256783	(5.83, 0.90) (N/A, 0.01, -0.3)	3511.6 32600.6	0.3779 111.4 111.4	0.9073	N/A			
PFHxS	(399.0 / 80.0) 588625 (399.0 / 99.0) 193946	(6.49, 1.00) (0.00, N/A, 0.1)	72352.0 2041.9	0.3295 95.1 95.1	0.9223	N/A			
PFHpS	(449.0 / 80.0) 643471 (449.0 / 99.0) 183274	(7.15, 0.92) (N/A, 0.01, 0.0)	17266.4 8542.7	0.2848 102.7 102.7	0.9473	N/A			
PFOS	(499.0 / 80.0) 912790 (499.0 / 99.0) 199995	(7.75, 1.00) (0.00, N/A, 0.0)	1440.4 568.8	0.2191 97.9 97.9	0.9575	N/A			MI2 DG 2023-04-12
PFNS	(549.0 / 80.0) 856560 (549.0 / 99.0) 205485	(8.31, 1.07) (N/A, 0.01, -0.1)	22165434.3 4188.0	0.2399 99.1 99.1	0.9615	N/A			
PFDS	(599.0 / 80.0) 964845 (599.0 / 99.0) 219520	(8.73, 1.13) (N/A, 0.01, 0.0)	4084.8 11730.4	0.2275 101.5 101.5	0.9580	N/A			
PFDoS	(699.0 / 80.0) 787486 (699.0 / 99.0) 168891	(9.13, 1.18) (N/A, 0.00, 0.0)	2648.9 855.8	0.2145 89.6 89.6	1.0165	N/A			
4:2FTS	(327.0 / 307.0) 758892 (327.0 / 81.0) 473280	(4.95, 1.00) (0.00, N/A, 0.0)	2392.2 686.1	0.6236 91.7 91.7	3.8695	N/A			
6:2FTS	(427.0 / 407.0) 480993 (427.0 / 81.0) 306371	(6.18, 1.00) (0.00, N/A, 0.1)	3380.9 2047.6	0.6370 90.4 90.4	3.7860	N/A			
8:2FTS	(527.0 / 507.0) 489400 (527.0 / 81.0) 362132	(7.35, 1.00) (0.00, N/A, 0.1)	2121.3 1510.8	0.7400 109.5 109.5	3.9537	N/A			

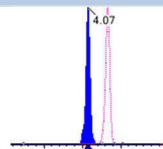
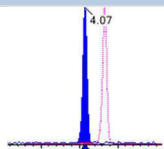
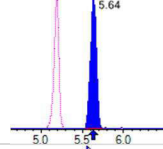
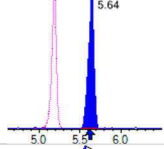
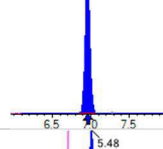
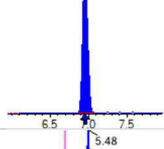
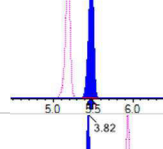
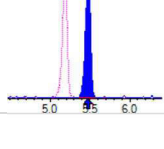
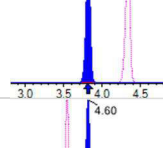
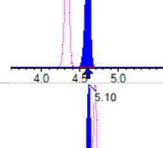
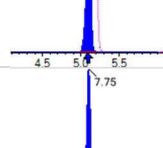
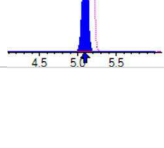
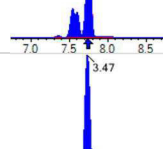
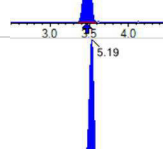
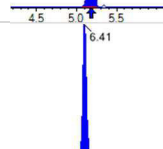
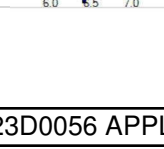


Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL3
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
Path: S2023-04-12A (3)
Acquired: 2023/04/12 - 10:38

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
PFOSA	(498.0 / 78.0) 1251068 (498.0 / 478.0) 30835	(9.75, 1.00) (0.00, N/A, -0.2)	3041.5 315.2	0.0246 99.5 99.5	0.9986	N/A			
NMeFOSA	(512.0 / 219.0) 969905 (512.0 / 169.0) 871766	(10.41, 1.00) (0.00, N/A, 1.2)	2833.5 2939.0	0.8988 103.6 103.6	3.9788	N/A			
NEIFOSA	(526.0 / 219.0) 1037211 (526.0 / 169.0) 1281698	(10.58, 1.00) (-0.01, N/A, 0.8)	3576.3 2426.1	1.2357 98.8 98.8	3.9057	N/A			
NMeFOSAA	(570.0 / 419.0) 157034 (570.0 / 483.0) 74675	(7.73, 1.00) (0.00, N/A, 0.2)	6623.1 275.0	0.4755 102.7 102.7	0.9200	N/A			
NEIFOSAA	(584.0 / 419.0) 129346 (584.0 / 526.0) 87052	(7.98, 1.00) (0.01, N/A, 0.0)	222.5 2988.3	0.6730 110.2 110.2	0.9776	N/A			
NMeFOSE	(616.0 / 59.0) 434620	(10.35, 1.00) (0.01, N/A, 0.0)	831.6	N/A 0.0 0.0	3.7266	N/A			
NEtFOSE	(630.0 / 59.0) 528485	(10.54, 1.00) (0.01, N/A, 0.0)	566.1	N/A 0.0 0.0	3.8516	N/A			
HFPO-DA	(285.0 / 169.0) 271190 (285.0 / 185.0) 750974	(5.43, 1.00) (0.00, N/A, 0.1)	1918.3 2061.5	2.7692 106.4 106.4	1.9169	N/A			
ADONA	(377.0 / 85.0) 980338 (377.0 / 251.0) 94489	(6.04, 1.11) (N/A, 0.01, 0.0)	2956.3 690.5	0.0964 97.1 97.1	1.9395	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 2901257 (533.0 / 353.0) 849857	(8.18, 1.51) (N/A, 0.01, -0.1)	4146.8 1496.2	0.2929 100.9 100.9	1.9064	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 1788639 (633.0 / 453.0) 605395	(8.92, 1.64) (N/A, 0.00, 0.0)	4105.3 1986.2	0.3385 101.0 101.0	1.9884	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 31923 (241.0 / 117.0) 57777	(4.07, 0.94) (N/A, 0.01, 0.1)	45.4 33.9	1.8099 109.6 109.6	3.7739	N/A			
5:3FTCA	(341.0 / 236.7) 168805 (341.0 / 217.0) 314305	(5.64, 1.09) (N/A, 0.01, -0.4)	876.2 627.2	1.8619 118.7 118.7	3.6906	N/A			
7:3FTCA	(441.0 / 317.0) 301119 (441.0 / 337.0) 237525	(6.96, 1.34) (N/A, 0.00, 0.2)	1111.9 1271.2	0.7888 91.6 91.6	3.7594	N/A			
PFEESA	(315.0 / 135.0) 622221 (315.0 / 83.0) 159758	(5.48, 1.06) (N/A, 0.01, 0.1)	2099.5 574.9	0.2568 105.2 105.2	1.6997	N/A			
PFMPA	(229.0 / 85.0) 95939	(3.82, 0.88) (N/A, 0.01, 0.0)	2123.3	N/A 0.0 0.0	1.9516	N/A			
PFMBA	(279.0 / 85.0) 342790	(4.60, 1.06) (N/A, 0.00, 0.0)	1773.2	N/A 0.0 0.0	1.9044	N/A			
NFDHA	(295.0 / 201.0) 295082 (295.0 / 85.0) 299968	(5.10, 0.98) (N/A, 0.01, 0.1)	28101.8 2129.4	1.0166 103.8 103.8	1.9837	N/A			
TDCA	(499.0 / 80.0) 826892	(7.75, 1.00) (N/A, 0.01, 0.0)	9118.0	N/A 0.0 0.0	1.0078	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 130016	(3.47, N/A) (N/A, 0.01, N/A)	1580.3	N/A	1.0665 [1.0000]	106.7% { 108.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 198753	(5.19, N/A) (N/A, 0.01, N/A)	2613.8	N/A	0.9799 [1.0000]	98.0% { 101.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 327717	(6.41, N/A) (N/A, 0.01, N/A)	2974.1	N/A	1.0312 [1.0000]	103.1% { 101.7% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (3)
 Acquired: 2023/04/12 - 10:38

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
13C5_PFNA_IIS	(468.0 / 423.0) 306882	(7.02, N/A) (N/A, 0.00, N/A)	1860.1	N/A	1.0111 [1.0000]	101.1% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 318091	(7.59, N/A) (N/A, 0.01, N/A)	3767083.7	N/A	0.9803 [1.0000]	98.0% { 103.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 480849	(6.49, N/A) (N/A, 0.01, N/A)	9017932.0	N/A	1.0737 [1.0000]	107.4% { 116.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 697914	(7.75, N/A) (N/A, 0.01, N/A)	1917.1	N/A	1.0262 [1.0000]	102.6% { 107.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1150572	(3.47, N/A) (N/A, 0.02, N/A)	5792.9	N/A	8.3466 [8.0000]	104.3% { 110.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 960849	(4.33, N/A) (N/A, 0.00, N/A)	3282.8	N/A	4.3160 [4.0000]	107.9% { 107.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 603352	(5.19, N/A) (N/A, 0.01, N/A)	2581.2	N/A	2.1417 [2.0000]	107.1% { 103.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 526960	(5.82, N/A) (N/A, 0.01, N/A)	4838.0	N/A	2.1415 [2.0000]	107.1% { 107.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 662589	(6.41, N/A) (N/A, 0.01, N/A)	3543.7	N/A	2.0484 [2.0000]	102.4% { 107.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 292291	(7.02, N/A) (N/A, 0.00, N/A)	448.0	N/A	1.0138 [1.0000]	101.4% { 97.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 375309	(7.59, N/A) (N/A, 0.01, N/A)	24044.0	N/A	1.0517 [1.0000]	105.2% { 104.3% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (3)
 Acquired: 2023/04/12 - 10:38

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
13C7_PFUa_EIS	(570.0 / 525.0) 341831	(8.12, N/A) (N/A, 0.01, N/A)	2432.3	N/A	1.0319 [1.0000]	103.2% { 94.8% }			
13C2_PFDa_EIS	(615.0 / 570.0) 294904	(8.59, N/A) (N/A, 0.01, N/A)	3153.6	N/A	1.0398 [1.0000]	104.0% { 102.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 289735	(9.06, N/A) (N/A, 0.00, N/A)	1394.5	N/A	1.0833 [1.0000]	108.3% { 96.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1445679	(5.13, N/A) (N/A, 0.01, N/A)	2767.0	N/A	1.9150 [2.0000]	95.8% { 103.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 811860	(6.49, N/A) (N/A, 0.01, N/A)	2345.4	N/A	1.8317 [2.0000]	91.6% { 100.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1684833	(7.75, N/A) (N/A, 0.01, N/A)	2311.1	N/A	1.9926 [2.0000]	99.6% { 101.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 264182	(4.95, N/A) (N/A, 0.01, N/A)	855.3	N/A	3.8854 [4.0000]	97.1% { 106.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 296953	(6.18, N/A) (N/A, 0.01, N/A)	3922.9	N/A	3.8265 [4.0000]	95.7% { 101.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 350936	(7.35, N/A) (N/A, 0.01, N/A)	1589.0	N/A	3.4158 [4.0000]	85.4% { 97.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2859807	(9.75, N/A) (N/A, 0.00, N/A)	3532.2	N/A	2.0835 [2.0000]	104.2% { 110.1% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 587586	(10.41, N/A) (N/A, 0.00, N/A)	2104.6	N/A	2.0061 [2.0000]	100.3% { 113.0% }			

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 505573	(10.59 , N/A) (N/A , 0.00 , N/A)	2773.0	N/A	2.0920 [2.0000]	104.6% { 109.9% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 803262	(7.72 , N/A) (N/A , 0.01 , N/A)	1746.8	N/A	4.4325 [4.0000]	110.8% { 119.4% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 598291	(7.97 , N/A) (N/A , 0.01 , N/A)	3868.6	N/A	4.0250 [4.0000]	100.6% { 111.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2136456	(10.34 , N/A) (N/A , 0.00 , N/A)	1870.1	N/A	21.9709 [20.0000]	109.9% { 111.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2786559	(10.53 , N/A) (N/A , 0.00 , N/A)	2233.7	N/A	21.6815 [20.0000]	108.4% { 110.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1340152	(5.43 , N/A) (N/A , 0.01 , N/A)	3091.9	N/A	8.4325 [8.0000]	105.4% { 103.9% }			

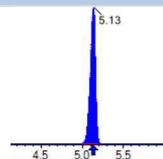
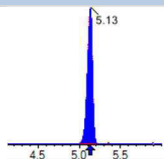
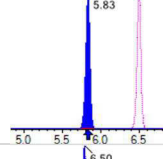
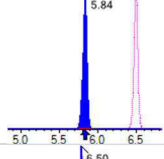
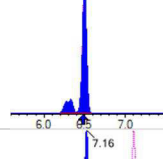
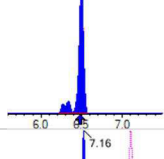
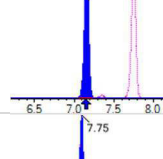
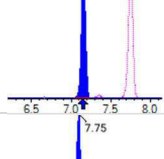
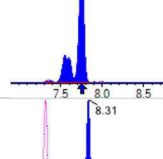
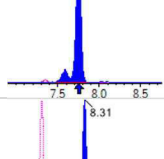
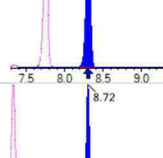
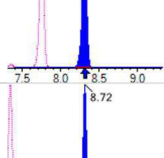
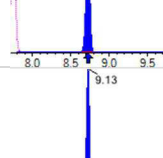
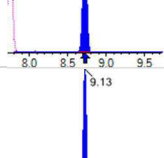
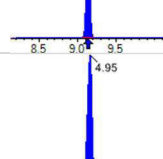
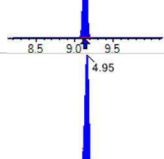
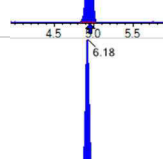
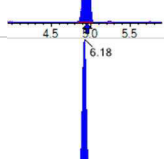
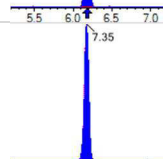
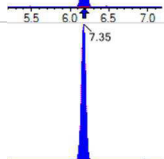
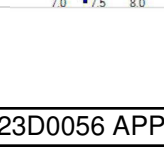
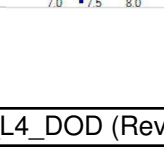


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (4)
 Acquired: 2023/04/12 - 10:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 997877	(3.46, 1.00) (0.00, N/A, 0.0)	182.7	N/A 0.0 0.0	8.1524	N/A			
PFPeA	(263.0 / 219.0) 864013 (263.0 / 69.0) 9910	(4.32, 1.00) (0.00, N/A, -0.2)	1868.4 146.8	0.0115 87.4 87.4	3.8766	N/A			
PFHxA	(313.0 / 269.0) 567697 (313.0 / 119.0) 61210	(5.19, 1.00) (0.00, N/A, 0.2)	578.3 879.4	0.1078 98.8 98.8	1.9924	N/A			
PFHpA	(363.0 / 319.0) 472790 (363.0 / 169.0) 148024	(5.81, 1.00) (0.00, N/A, -0.1)	4074.7 412835.6	0.3131 102.6 102.6	1.9964	N/A			
PFOA	(413.0 / 369.0) 602693 (413.0 / 169.0) 197268	(6.42, 1.00) (0.00, N/A, 0.0)	1085.8 1964.9	0.3273 104.6 104.6	1.9825	N/A			
PFNA	(463.0 / 419.0) 527908 (463.0 / 169.0) 124350	(7.03, 1.00) (0.00, N/A, 0.0)	60837.2 23365.6	0.2356 110.3 110.3	1.8404	N/A			
PFDA	(513.0 / 469.0) 700250 (513.0 / 169.0) 80392	(7.59, 1.00) (0.00, N/A, 0.1)	1970.5 16966.8	0.1148 100.1 100.1	2.0229	N/A			
PFUnA	(563.0 / 519.0) 592418 (563.0 / 169.0) 79922	(8.12, 1.00) (0.00, N/A, 0.0)	1635.0 5129.1	0.1349 114.2 114.2	1.8896	N/A			
PFDoA	(613.0 / 569.0) 505208 (613.0 / 169.0) 85032	(8.59, 1.00) (0.00, N/A, 0.0)	1964.1 1478.9	0.1683 98.2 98.2	2.0049	N/A			
PFTrDA	(663.0 / 619.0) 482184 (663.0 / 169.0) 119611	(8.87, 1.03) (N/A, 0.00, -0.1)	1491.0 1365.0	0.2481 100.1 100.1	2.1002	N/A			
PFTeDA	(713.0 / 669.0) 499584 (713.0 / 169.0) 111294	(9.06, 1.00) (0.00, N/A, 0.0)	2100.8 795.1	0.2228 110.5 110.5	2.1909	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 932707 (299.0 / 99.0) 562051	(5.13, 1.00) (0.00, N/A, 0.0)	71749.2 4807.5	0.6026 93.7 93.7	1.8264	N/A			
PFPeS	(349.0 / 80.0) 1558755 (349.0 / 99.0) 554754	(5.83, 0.90) (N/A, 0.01, -0.2)	11930.6 13158.4	0.3559 105.0 105.0	2.0087	N/A			
PFHxS	(399.0 / 80.0) 1171123 (399.0 / 99.0) 431115	(6.50, 1.00) (0.00, N/A, 0.1)	14545.1 2753.5	0.3681 106.3 106.3	1.7711	N/A			
PFHpS	(449.0 / 80.0) 1346095 (449.0 / 99.0) 394836	(7.16, 0.92) (N/A, 0.02, 0.0)	6876.0 12509643.2	0.2933 105.7 105.7	2.0015	N/A			
PFOS	(499.0 / 80.0) 1681429 (499.0 / 99.0) 393530	(7.75, 1.00) (0.00, N/A, 0.1)	789.7 947.5	0.2340 104.6 104.6	1.7814	N/A			
PFNS	(549.0 / 80.0) 1778208 (549.0 / 99.0) 409370	(8.31, 1.07) (N/A, 0.00, 0.0)	40208.8 3515.8	0.2302 95.1 95.1	2.0160	N/A			
PFDS	(599.0 / 80.0) 1986445 (599.0 / 99.0) 449452	(8.72, 1.13) (N/A, 0.00, 0.1)	9052.7 4035.4	0.2263 101.0 101.0	1.9922	N/A			
PFDoS	(699.0 / 80.0) 1447002 (699.0 / 99.0) 345295	(9.13, 1.18) (N/A, 0.01, 0.1)	2911.3 1732.6	0.2386 99.7 99.7	1.8865	N/A			
4:2FTS	(327.0 / 307.0) 1324214 (327.0 / 81.0) 866351	(4.95, 1.00) (0.00, N/A, -0.1)	3650.7 1270.7	0.6542 96.2 96.2	7.9132	N/A			
6:2FTS	(427.0 / 407.0) 868898 (427.0 / 81.0) 587639	(6.18, 1.00) (0.00, N/A, 0.0)	3108.9 1828.9	0.6763 96.0 96.0	7.7788	N/A			
8:2FTS	(527.0 / 507.0) 991356 (527.0 / 81.0) 745638	(7.35, 1.00) (0.00, N/A, 0.0)	4740.7 2261.1	0.7521 111.3 111.3	7.3586	N/A			

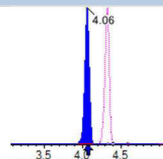
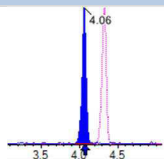
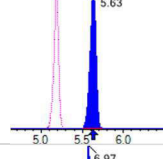
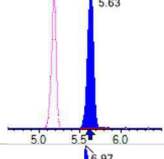
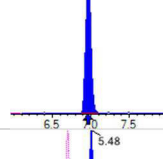
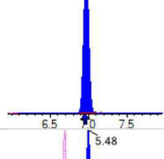
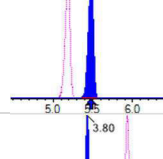
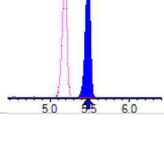
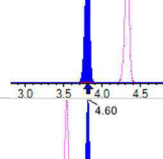
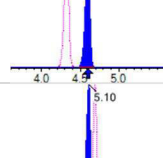
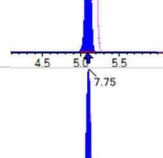
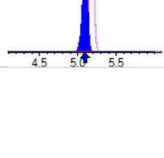
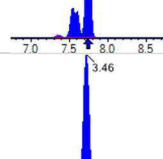
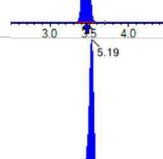
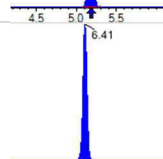
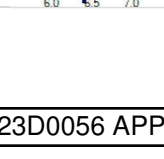


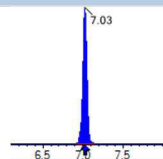
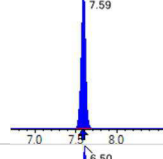
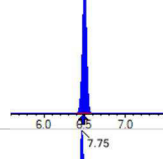
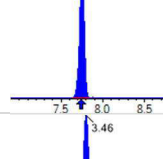
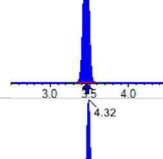
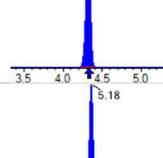
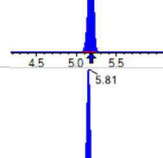
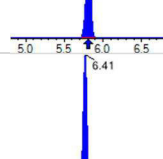
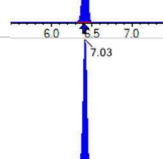
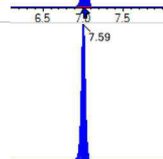
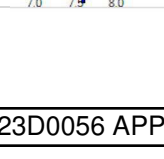
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 Instrument: Saphira
 Type: Sciex Q3 5500

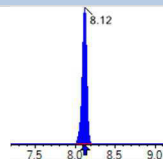
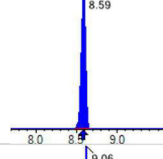
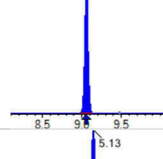
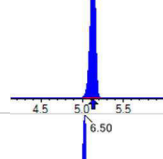
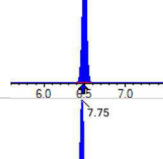
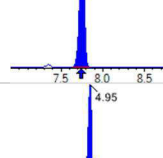
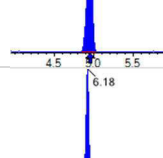
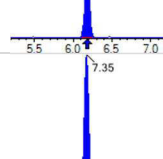
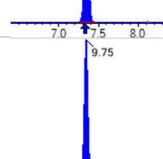
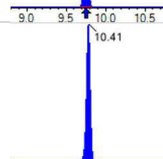
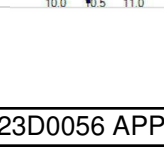
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 Acquisition Method: 1633 2023-03-28.dam

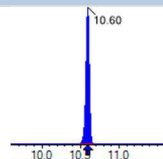
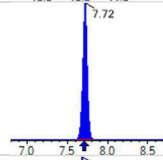
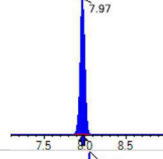
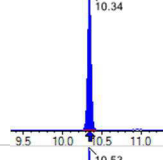
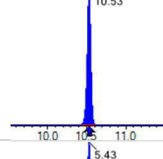
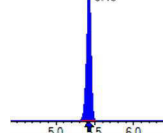
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 Path: S2023-04-12A (4)
 Acquired: 2023/04/12 - 10:51

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
PFOSA	(498.0 / 78.0) 2419995 (498.0 / 478.0) 62805	(9.75 , 1.00) (0.00 , N/A , 0.0)	4359.0 812.9	0.0260 104.8 104.8	1.9995	N/A			
NMeFOSA	(512.0 / 219.0) 1939180 (512.0 / 169.0) 1690729	(10.41 , 1.00) (0.00 , N/A , 1.1)	4091.1 4167.1	0.8719 100.5 100.5	8.5818	N/A			
NEtFOSA	(526.0 / 219.0) 1974250 (526.0 / 169.0) 2500436	(10.59 , 1.00) (-0.01 , N/A , 0.9)	5200.8 4706.8	1.2665 101.3 101.3	8.0650	N/A			
NMeFOSAA	(570.0 / 419.0) 308771 (570.0 / 483.0) 132012	(7.72 , 1.00) (0.00 , N/A , -0.2)	206894.3 297.4	0.4275 92.3 92.3	2.1469	N/A			
NEtFOSAA	(584.0 / 419.0) 279848 (584.0 / 526.0) 147534	(7.98 , 1.00) (0.01 , N/A , 0.0)	538.1 1514.4	0.5272 86.4 86.4	2.3076	N/A			
NMeFOSE	(616.0 / 59.0) 838535	(10.35 , 1.00) (0.01 , N/A , 0.0)	1186.7	N/A 0.0 0.0	8.1396	N/A			
NEtFOSE	(630.0 / 59.0) 995393	(10.54 , 1.00) (0.01 , N/A , 0.0)	905.2	N/A 0.0 0.0	8.0774	N/A			
HFPO-DA	(285.0 / 169.0) 576750 (285.0 / 185.0) 1577533	(5.43 , 1.00) (0.00 , N/A , -0.1)	1690.3 3687.8	2.7352 105.1 105.1	4.2785	N/A			
ADONA	(377.0 / 85.0) 2009979 (377.0 / 251.0) 187204	(6.04 , 1.11) (N/A , 0.01 , -0.3)	3802.7 1205.0	0.0931 93.8 93.8	4.1732	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) 5889069 (533.0 / 353.0) 1728749	(8.17 , 1.51) (N/A , 0.00 , -0.1)	4302.9 2749.5	0.2936 101.1 101.1	4.0611	N/A			
11Cl-PF3OUDS	(631.0 / 451.0) 3410068 (633.0 / 453.0) 1157721	(8.91 , 1.64) (N/A , 0.00 , 0.1)	3846.8 4302.7	0.3395 101.3 101.3	3.9784	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 63574 (241.0 / 117.0) 115435	(4.06, 0.94) (N/A, 0.00, -0.1)	56.3 44.2	1.8157 110.0 110.0	7.7844	N/A			
5:3FTCA	(341.0 / 236.7) 356128 (341.0 / 217.0) 609235	(5.63, 1.09) (N/A, 0.01, 0.0)	1065.4 736.4	1.7107 109.1 109.1	7.9522	N/A			
7:3FTCA	(441.0 / 317.0) 596696 (441.0 / 337.0) 512310	(6.97, 1.34) (N/A, 0.01, -0.1)	994.9 1308.6	0.8586 99.7 99.7	7.6086	N/A			
PFEESA	(315.0 / 135.0) 1302128 (315.0 / 83.0) 339684	(5.48, 1.06) (N/A, 0.01, 0.0)	6510.6 1244.1	0.2609 106.9 106.9	3.6330	N/A			
PFMPA	(229.0 / 85.0) 199588	(3.80, 0.88) (N/A, 0.00, 0.0)	2648.6	N/A 0.0 0.0	4.2052	N/A			
PFMBA	(279.0 / 85.0) 729476	(4.60, 1.06) (N/A, 0.00, 0.0)	2706.0	N/A 0.0 0.0	4.1976	N/A			
NFDHA	(295.0 / 201.0) 591876 (295.0 / 85.0) 618558	(5.10, 0.98) (N/A, 0.01, 0.0)	2964.8 2543.0	1.0451 106.7 106.7	4.0639	N/A			
TDCA	(499.0 / 80.0) 1608638	(7.75, 1.00) (N/A, 0.01, 0.0)	15244.9	N/A 0.0 0.0	1.9802	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 139297	(3.46, N/A) (N/A, 0.00, N/A)	1548.9	N/A	1.1426 [1.0000]	114.3% { 116.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 216976	(5.19, N/A) (N/A, 0.01, N/A)	2067.6	N/A	1.0698 [1.0000]	107.0% { 110.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 338606	(6.41, N/A) (N/A, 0.01, N/A)	7036.5	N/A	1.0655 [1.0000]	106.5% { 105.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 307299	(7.03, N/A) (N/A, 0.01, N/A)	1805.4	N/A	1.0125 [1.0000]	101.3% {100.1%}			
13C2_PFDA_IIS	(515.0 / 470.1) 334848	(7.59, N/A) (N/A, 0.01, N/A)	337.3	N/A	1.0320 [1.0000]	103.2% {109.3%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 459265	(6.50, N/A) (N/A, 0.01, N/A)	7549.7	N/A	1.0255 [1.0000]	102.5% {111.2%}			
13C4_PFOS_IIS	(503.0 / 79.9) 734233	(7.75, N/A) (N/A, 0.01, N/A)	2189.7	N/A	1.0796 [1.0000]	108.0% {113.5%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1120613	(3.46, N/A) (N/A, 0.00, N/A)	5048.0	N/A	7.5876 [8.0000]	94.8% {107.2%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 927683	(4.32, N/A) (N/A, -0.01, N/A)	2985.8	N/A	3.8170 [4.0000]	95.4% {103.4%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 590745	(5.18, N/A) (N/A, 0.01, N/A)	3064.0	N/A	1.9208 [2.0000]	96.0% {101.0%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 549482	(5.81, N/A) (N/A, 0.01, N/A)	2570.7	N/A	2.0455 [2.0000]	102.3% {112.1%}			
13C8_PFOA_EIS	(421.0 / 376.0) 644833	(6.41, N/A) (N/A, 0.01, N/A)	4848.1	N/A	1.9294 [2.0000]	96.5% {104.9%}			
13C9_PFNA_EIS	(472.0 / 427.0) 310988	(7.03, N/A) (N/A, 0.01, N/A)	2212.1	N/A	1.0772 [1.0000]	107.7% {103.9%}			
13C6_PFDA_EIS	(519.0 / 474.0) 368275	(7.59, N/A) (N/A, 0.01, N/A)	1932.8	N/A	0.9804 [1.0000]	98.0% {102.4%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 356326	(8.12, N/A) (N/A, 0.00, N/A)	2830.0	N/A	1.0219 [1.0000]	102.2% { 98.8% }			
13C2_PFDa_EIS	(615.0 / 570.0) 277837	(8.59, N/A) (N/A, 0.00, N/A)	3029.2	N/A	0.9306 [1.0000]	93.1% { 96.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 248806	(9.06, N/A) (N/A, 0.00, N/A)	1060.9	N/A	0.8837 [1.0000]	88.4% { 82.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1431933	(5.13, N/A) (N/A, 0.01, N/A)	3380.6	N/A	1.9859 [2.0000]	99.3% { 102.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 841145	(6.50, N/A) (N/A, 0.01, N/A)	2307.4	N/A	1.9870 [2.0000]	99.3% { 104.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1668117	(7.75, N/A) (N/A, 0.01, N/A)	1790.3	N/A	1.8753 [2.0000]	93.8% { 100.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 225417	(4.95, N/A) (N/A, 0.00, N/A)	886.8	N/A	3.4711 [4.0000]	86.8% { 90.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 261090	(6.18, N/A) (N/A, 0.01, N/A)	1413.6	N/A	3.5225 [4.0000]	88.1% { 89.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 381946	(7.35, N/A) (N/A, 0.02, N/A)	3695.7	N/A	3.8924 [4.0000]	97.3% { 106.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2762714	(9.75, N/A) (N/A, 0.00, N/A)	4685.1	N/A	1.9132 [2.0000]	95.7% { 106.3% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 544667	(10.41, N/A) (N/A, 0.00, N/A)	3146.4	N/A	1.7676 [2.0000]	88.4% { 104.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT- CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D5_NEiFOSA_EIS	(531.0 / 169.0) 466030	(10.60, N/A) (N/A, 0.00, N/A)	3096.8	N/A	1.8330 [2.0000]	91.7% { 101.3% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 676813	(7.72, N/A) (N/A, 0.01, N/A)	13098.3	N/A	3.5500 [4.0000]	88.7% { 100.6% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 548388	(7.97, N/A) (N/A, 0.00, N/A)	5360.2	N/A	3.5068 [4.0000]	87.7% { 102.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1887213	(10.34, N/A) (N/A, 0.00, N/A)	1264.5	N/A	18.4477 [20.0000]	92.2% { 98.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2502644	(10.53, N/A) (N/A, 0.00, N/A)	1968.5	N/A	18.5092 [20.0000]	92.5% { 99.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1276999	(5.43, N/A) (N/A, 0.01, N/A)	2391.3	N/A	7.3603 [8.0000]	92.0% { 99.0% }			

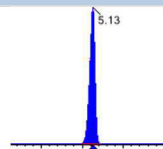
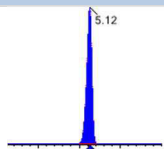
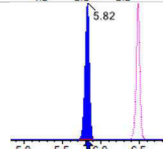
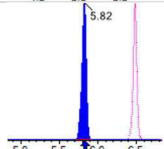
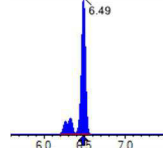
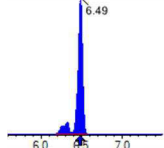
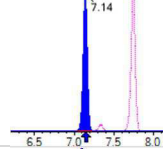
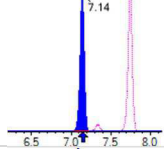
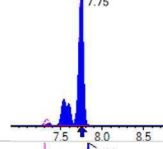
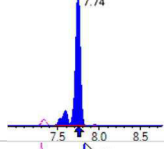
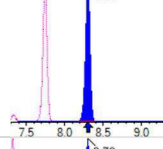
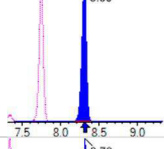
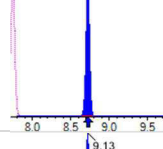
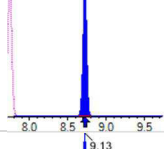
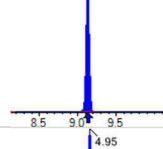
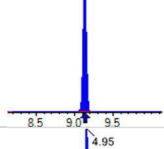
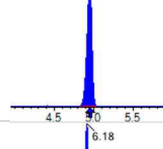
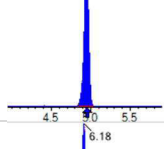
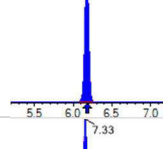
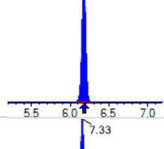
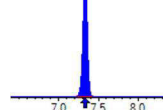
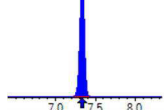


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (5)
 Acquired: 2023/04/12 - 11:04

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	(213.0 / 169.0) 2320449	(3.46, 1.00) (0.00, N/A, 0.0)	190.5	N/A 0.0 0.0	20.3252	N/A			
PFPeA	(263.0 / 219.0) 2105536 (263.0 / 69.0) 27645	(4.33, 1.00) (0.00, N/A, -0.1)	2719.6 363.2	0.0131 100.0 100.0	9.7693	N/A			
PFHxA	(313.0 / 269.0) 1320877 (313.0 / 119.0) 144147	(5.17, 1.00) (0.00, N/A, 0.2)	1292.3 4465.8	0.1091 100.0 100.0	4.6840	N/A			
PFHpA	(363.0 / 319.0) 1093207 (363.0 / 169.0) 333754	(5.80, 1.00) (0.00, N/A, -0.1)	4829.6 46532.1	0.3053 100.0 100.0	5.1762	N/A			
PFOA	(413.0 / 369.0) 1459488 (413.0 / 169.0) 456884	(6.40, 1.00) (0.00, N/A, 0.0)	2025.7 87664.8	0.3130 100.0 100.0	5.0383	N/A			
PFNA	(463.0 / 419.0) 1312668 (463.0 / 169.0) 280290	(7.01, 1.00) (0.00, N/A, 0.0)	171692.5 29003.0	0.2135 100.0 100.0	4.7543	N/A			
PFDA	(513.0 / 469.0) 1742779 (513.0 / 169.0) 199783	(7.58, 1.00) (0.00, N/A, 0.1)	2127.9 3714634.4	0.1146 100.0 100.0	5.1535	N/A			
PFUnA	(563.0 / 519.0) 1487506 (563.0 / 169.0) 175790	(8.12, 1.00) (0.00, N/A, 0.5)	3170.0 203146.9	0.1182 100.0 100.0	4.6861	N/A			
PFDoA	(613.0 / 569.0) 1236883 (613.0 / 169.0) 211978	(8.59, 1.00) (0.00, N/A, 0.0)	3122.0 1830.7	0.1714 100.0 100.0	4.7494	N/A			
PFTTrDA	(663.0 / 619.0) 1175635 (663.0 / 169.0) 291337	(8.86, 1.03) (N/A, 0.00, 0.0)	3857.6 2427.2	0.2478 100.0 100.0	4.9546	N/A			
PFTTeDA	(713.0 / 669.0) 1226134 (713.0 / 169.0) 247092	(9.05, 1.00) (0.00, N/A, -0.2)	2739.3 1112.9	0.2015 100.0 100.0	4.4380	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 2197574 (299.0 / 99.0) 1412848	(5.13, 1.00) (0.00, N/A, 0.0)	9266.6 6185.0	0.6429 100.0 100.0	4.4173	N/A			
PFPeS	(349.0 / 80.0) 3715977 (349.0 / 99.0) 1259977	(5.82, 0.90) (N/A, 0.00, 0.0)	191890.6 81660.5	0.3391 100.0 100.0	4.9976	N/A			
PFHxS	(399.0 / 80.0) 2943855 (399.0 / 99.0) 1019531	(6.49, 1.00) (0.00, N/A, 0.0)	23202.8 3676.0	0.3463 100.0 100.0	4.6463	N/A			
PFHpS	(449.0 / 80.0) 3197307 (449.0 / 99.0) 886968	(7.14, 0.92) (N/A, 0.00, 0.0)	378884.0 5326.6	0.2774 100.0 100.0	4.7589	N/A			
PFOS	(499.0 / 80.0) 4263526 (499.0 / 99.0) 954029	(7.75, 1.00) (0.00, N/A, 0.1)	1679.0 1691.4	0.2238 100.0 100.0	4.5217	N/A			
PFNS	(549.0 / 80.0) 4329476 (549.0 / 99.0) 1047787	(8.30, 1.07) (N/A, 0.00, -0.1)	60400.1 5929.8	0.2420 100.0 100.0	4.9135	N/A			
PFDS	(599.0 / 80.0) 4840203 (599.0 / 99.0) 1084511	(8.72, 1.13) (N/A, 0.00, -0.1)	7178.7 37340.2	0.2241 100.0 100.0	4.8591	N/A			
PFDoS	(699.0 / 80.0) 3581980 (699.0 / 99.0) 857308	(9.13, 1.18) (N/A, 0.00, 0.0)	4056.3 2638.7	0.2393 100.0 100.0	4.6747	N/A			
4:2FTS	(327.0 / 307.0) 3580637 (327.0 / 81.0) 2434434	(4.95, 1.00) (0.00, N/A, 0.1)	4107.0 2104.8	0.6799 100.0 100.0	19.3489	N/A			
6:2FTS	(427.0 / 407.0) 2381613 (427.0 / 81.0) 1677336	(6.18, 1.00) (0.00, N/A, 0.0)	3914.2 2876.3	0.7043 100.0 100.0	19.0155	N/A			
8:2FTS	(527.0 / 507.0) 2568872 (527.0 / 81.0) 1735890	(7.33, 1.00) (0.00, N/A, 0.0)	4608.1 3530.1	0.6757 100.0 100.0	20.2902	N/A			

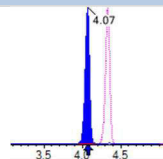
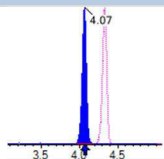
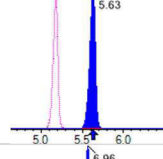
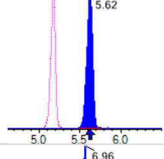
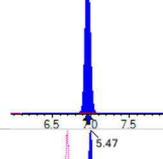
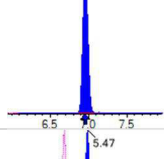
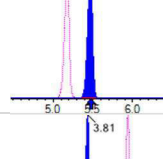
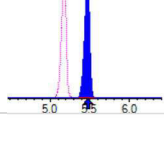
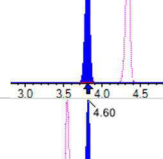
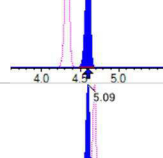
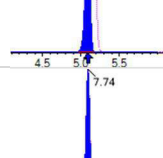
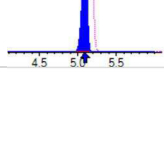
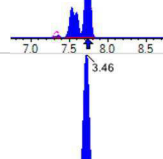
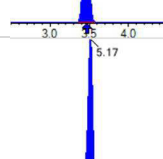
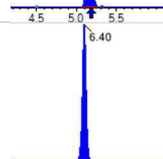
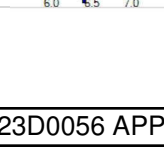


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (5)
 Acquired: 2023/04/12 - 11:04

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) 5956235 (498.0 / 478.0) 147480	(9.75, 1.00) (0.00, N/A, -0.1)	6488.3 971.7	0.0248 100.0 100.0	5.2324	N/A			
NMeFOSA	(512.0 / 219.0) 4723945 (512.0 / 169.0) 4098097	(10.41, 1.00) (0.00, N/A, 1.4)	6007.4 6227.7	0.8675 100.0 100.0	21.8992	N/A			
NEtFOSA	(526.0 / 219.0) 5044008 (526.0 / 169.0) 6305914	(10.59, 1.00) (-0.01, N/A, 1.0)	7194.5 6220.8	1.2502 100.0 100.0	20.8655	N/A			
NMeFOSAA	(570.0 / 419.0) 744811 (570.0 / 483.0) 345027	(7.72, 1.00) (0.01, N/A, 0.2)	2713.9 343.0	0.4632 100.0 100.0	5.2097	N/A			
NEtFOSAA	(584.0 / 419.0) 598808 (584.0 / 526.0) 365558	(7.97, 1.00) (0.01, N/A, 0.0)	9177.6 1227.1	0.6105 100.0 100.0	5.0437	N/A			
NMeFOSE	(616.0 / 59.0) 2095449	(10.35, 1.00) (0.01, N/A, 0.0)	2102.7	N/A 0.0 0.0	20.0939	N/A			
NEtFOSE	(630.0 / 59.0) 2549217	(10.54, 1.00) (0.01, N/A, 0.0)	1031.8	N/A 0.0 0.0	20.5185	N/A			
HFPO-DA	(285.0 / 169.0) 1461385 (285.0 / 185.0) 3801924	(5.42, 1.00) (0.00, N/A, 0.0)	2986.8 4098.0	2.6016 100.0 100.0	10.7279	N/A			
ADONA	(377.0 / 85.0) 4619119 (377.0 / 251.0) 458478	(6.03, 1.11) (N/A, 0.00, -0.1)	3418.0 4047.5	0.0993 100.0 100.0	9.4904	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 13838069 (533.0 / 353.0) 4018484	(8.17, 1.51) (N/A, 0.00, 0.1)	4746.1 3832.0	0.2904 100.0 100.0	9.4434	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 8662384 (633.0 / 453.0) 2903433	(8.91, 1.65) (N/A, 0.00, 0.0)	5334.0 3741.5	0.3352 100.0 100.0	10.0007	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 156445 (241.0 / 117.0) 258318	(4.07, 0.94) (N/A, 0.00, 0.1)	71.8 56.4	1.6512 100.0 100.0	19.8096	N/A			
5:3FTCA	(341.0 / 236.7) 931064 (341.0 / 217.0) 1460507	(5.63, 1.09) (N/A, 0.00, 0.2)	1287.4 1384.4	1.5686 100.0 100.0	21.0067	N/A			
7:3FTCA	(441.0 / 317.0) 1453989 (441.0 / 337.0) 1252365	(6.96, 1.34) (N/A, 0.00, 0.1)	1835.6 1657.8	0.8613 100.0 100.0	18.7331	N/A			
PFEESA	(315.0 / 135.0) 3120890 (315.0 / 83.0) 761522	(5.47, 1.06) (N/A, 0.00, -0.1)	2732.9 1380.5	0.2440 100.0 100.0	8.7979	N/A			
PFMPA	(229.0 / 85.0) 490395	(3.81, 0.88) (N/A, 0.00, 0.0)	6106.9	N/A 0.0 0.0	10.6847	N/A			
PFMBA	(279.0 / 85.0) 1749289	(4.60, 1.06) (N/A, 0.00, 0.0)	4208.5	N/A 0.0 0.0	10.4093	N/A			
NFDHA	(295.0 / 201.0) 1519489 (295.0 / 85.0) 1488260	(5.09, 0.98) (N/A, 0.00, 0.0)	2632.9 1925.7	0.9794 100.0 100.0	10.5417	N/A			
TDCA	(499.0 / 80.0) 3846263	(7.74, 1.00) (N/A, 0.00, 0.0)	23403.9	N/A 0.0 0.0	4.7394	N/A			
13C3_PFBa_IIS	(216.0 / 172.0) 119683	(3.46, N/A) (N/A, 0.00, N/A)	1300.3	N/A	0.9817 [1.0000]	98.2% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 196726	(5.17, N/A) (N/A, 0.00, N/A)	4098.7	N/A	0.9699 [1.0000]	97.0% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 322339	(6.40, N/A) (N/A, 0.00, N/A)	10107.1	N/A	1.0143 [1.0000]	101.4% { 100.0% }			

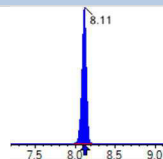
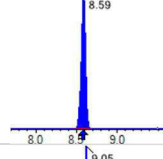
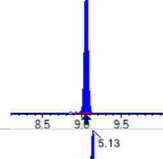
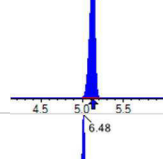
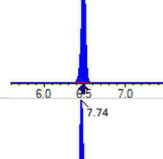
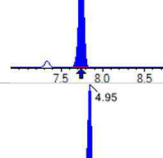
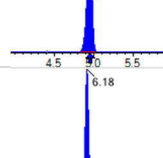
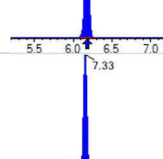
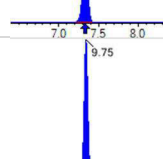
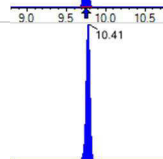
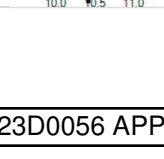


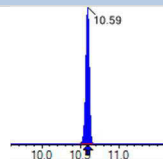
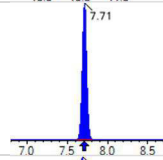
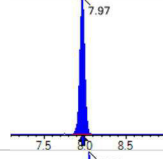
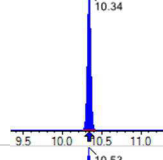
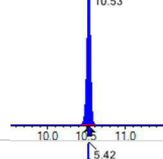
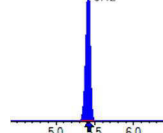
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (5)
 Acquired: 2023/04/12 - 11:04

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
13C5_PFNA_IIS	(468.0 / 423.0) 306977	(7.01, N/A) (N/A, 0.00, N/A)	48619.7	N/A	1.0115 [1.0000]	101.1% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 306227	(7.58, N/A) (N/A, 0.00, N/A)	2832.4	N/A	0.9438 [1.0000]	94.4% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 412970	(6.49, N/A) (N/A, 0.00, N/A)	1710.1	N/A	0.9221 [1.0000]	92.2% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 646927	(7.74, N/A) (N/A, 0.00, N/A)	2157.4	N/A	0.9513 [1.0000]	95.1% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1045207	(3.46, N/A) (N/A, 0.00, N/A)	5775.3	N/A	8.2368 [8.0000]	103.0% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 897081	(4.33, N/A) (N/A, 0.00, N/A)	3048.5	N/A	4.0711 [4.0000]	101.8% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 584661	(5.18, N/A) (N/A, 0.00, N/A)	3089.4	N/A	2.0967 [2.0000]	104.8% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 490028	(5.81, N/A) (N/A, 0.00, N/A)	1960.1	N/A	2.0119 [2.0000]	100.6% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 614459	(6.40, N/A) (N/A, 0.00, N/A)	2892.1	N/A	1.9313 [2.0000]	96.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 299336	(7.01, N/A) (N/A, 0.00, N/A)	5442.1	N/A	1.0379 [1.0000]	103.8% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 359785	(7.58, N/A) (N/A, 0.00, N/A)	2401.6	N/A	1.0473 [1.0000]	104.7% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 360770	(8.11, N/A) (N/A, 0.00, N/A)	2079.6	N/A	1.1313 [1.0000]	113.1% { 100.0% }			
13C2_PFDa_EIS	(615.0 / 570.0) 287142	(8.59, N/A) (N/A, 0.00, N/A)	2311.7	N/A	1.0516 [1.0000]	105.2% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 301454	(9.05, N/A) (N/A, 0.00, N/A)	1075.2	N/A	1.1708 [1.0000]	117.1% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1394957	(5.13, N/A) (N/A, 0.00, N/A)	2652.9	N/A	2.1515 [2.0000]	107.6% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 805972	(6.48, N/A) (N/A, 0.00, N/A)	3712.7	N/A	2.1173 [2.0000]	105.9% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1666405	(7.74, N/A) (N/A, 0.00, N/A)	1620.0	N/A	2.1262 [2.0000]	106.3% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 249277	(4.95, N/A) (N/A, 0.00, N/A)	1092.6	N/A	4.2688 [4.0000]	106.7% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 292750	(6.18, N/A) (N/A, 0.00, N/A)	1884.4	N/A	4.3924 [4.0000]	109.8% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 358942	(7.33, N/A) (N/A, 0.00, N/A)	3215.9	N/A	4.0680 [4.0000]	101.7% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2598438	(9.75, N/A) (N/A, 0.00, N/A)	2895.9	N/A	2.0423 [2.0000]	102.1% { 100.0% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 519955	(10.41, N/A) (N/A, 0.00, N/A)	2377.4	N/A	1.9151 [2.0000]	95.8% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT- CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D5_NEiFOSA_EIS	(531.0 / 169.0) 460217	(10.59, N/A) (N/A, 0.00, N/A)	2334.3	N/A	2.0544 [2.0000]	102.7% { 100.0% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 672785	(7.71, N/A) (N/A, 0.00, N/A)	1519.0	N/A	4.0051 [4.0000]	100.1% { 100.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 536849	(7.97, N/A) (N/A, 0.00, N/A)	3127.1	N/A	3.8963 [4.0000]	97.4% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1910355	(10.34, N/A) (N/A, 0.00, N/A)	1515.0	N/A	21.1941 [20.0000]	106.0% { 100.0% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2523117	(10.53, N/A) (N/A, 0.00, N/A)	2447.9	N/A	21.1790 [20.0000]	105.9% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1290446	(5.42, N/A) (N/A, 0.00, N/A)	3323.1	N/A	8.2034 [8.0000]	102.5% { 100.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (6)
 Acquired: 2023/04/12 - 11:16

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	(213.0 / 169.0) 4413238	(3.44, 1.00) (0.00, N/A, 0.0)	198.0	N/A 0.0 0.0	39.3595	N/A			
PFPeA	(263.0 / 219.0) 4213467 (263.0 / 69.0) 49283	(4.31, 1.00) (0.00, N/A, 0.0)	4110.6 694.8	0.0117 89.1 89.1	19.1101	N/A			
PFHxA	(313.0 / 269.0) 2653609 (313.0 / 119.0) 270477	(5.17, 1.00) (0.00, N/A, 0.0)	1929.8 1913.8	0.1019 93.4 93.4	9.3786	N/A			
PFHpA	(363.0 / 319.0) 2221271 (363.0 / 169.0) 700793	(5.80, 1.00) (0.00, N/A, 0.0)	5173.5 98980.5	0.3155 103.3 103.3	9.8949	N/A			
PFOA	(413.0 / 369.0) 2977033 (413.0 / 169.0) 956817	(6.40, 1.00) (0.00, N/A, 0.0)	3000.3 15136.2	0.3214 102.7 102.7	9.6693	N/A			
PFNA	(463.0 / 419.0) 2684895 (463.0 / 169.0) 597078	(7.01, 1.00) (0.00, N/A, -0.2)	7300.9 9700322.7	0.2224 104.1 104.1	10.6110	N/A			
PFDA	(513.0 / 469.0) 3542397 (513.0 / 169.0) 389129	(7.58, 1.00) (0.00, N/A, 0.1)	3116.4 14991.6	0.1098 95.8 95.8	9.2304	N/A			
PFUnA	(563.0 / 519.0) 3010650 (563.0 / 169.0) 336319	(8.11, 1.00) (0.00, N/A, 0.0)	3207.5 8133.1	0.1117 94.5 94.5	9.9525	N/A			
PFDoA	(613.0 / 569.0) 2571423 (613.0 / 169.0) 415561	(8.58, 1.00) (0.00, N/A, 0.0)	2976.4 3880.1	0.1616 94.3 94.3	8.8859	N/A			
PFTrDA	(663.0 / 619.0) 2380621 (663.0 / 169.0) 549850	(8.86, 1.03) (N/A, 0.00, -0.1)	4345.0 4671.5	0.2310 93.2 93.2	9.0292	N/A			
PFTeDA	(713.0 / 669.0) 2541738 (713.0 / 169.0) 492248	(9.05, 1.00) (0.00, N/A, 0.0)	3229.0 1444.7	0.1937 96.1 96.1	9.6890	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (6)
 Acquired: 2023/04/12 - 11:16

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 4485638 (299.0 / 99.0) 2753650	(5.11, 1.00) (0.00, N/A, 0.0)	6833.8 6723.5	0.6139 95.5 95.5	8.5831	N/A			
PFPeS	(349.0 / 80.0) 7157621 (349.0 / 99.0) 2594810	(5.82, 0.90) (N/A, -0.01, 0.1)	65311.8 271652.5	0.3625 106.9 106.9	9.0781	N/A			
PFHxS	(399.0 / 80.0) 5977955 (399.0 / 99.0) 2071673	(6.48, 1.00) (0.00, N/A, 0.1)	7034.8 1901409.3	0.3466 100.1 100.1	8.8979	N/A			
PFHpS	(449.0 / 80.0) 6519526 (449.0 / 99.0) 1840537	(7.15, 0.92) (N/A, 0.01, 0.0)	403632.2 9814.5	0.2823 101.8 101.8	9.5942	N/A			
PFOS	(499.0 / 80.0) 8566440 (499.0 / 99.0) 1922105	(7.75, 1.00) (0.00, N/A, 0.1)	1781.4 2488.2	0.2244 100.3 100.3	8.9828	N/A			
PFNS	(549.0 / 80.0) 8818321 (549.0 / 99.0) 2127916	(8.30, 1.07) (N/A, 0.00, 0.0)	15240.9 2196097.0	0.2413 99.7 99.7	9.8949	N/A			
PFDS	(599.0 / 80.0) 9668662 (599.0 / 99.0) 2174592	(8.72, 1.13) (N/A, 0.00, 0.0)	10242.9 9999.7	0.2249 100.4 100.4	9.5970	N/A			
PFDoS	(699.0 / 80.0) 7636022 (699.0 / 99.0) 1719647	(9.13, 1.18) (N/A, 0.00, 0.1)	5376.2 3307.7	0.2252 94.1 94.1	9.8531	N/A			
4:2FTS	(327.0 / 307.0) 7197888 (327.0 / 81.0) 4496331	(4.93, 1.00) (0.00, N/A, 0.0)	3792.9 2906.5	0.6247 91.9 91.9	39.5056	N/A			
6:2FTS	(427.0 / 407.0) 4671416 (427.0 / 81.0) 3114289	(6.17, 1.00) (0.00, N/A, 0.0)	3812.3 4241.6	0.6667 94.7 94.7	35.9116	N/A			
8:2FTS	(527.0 / 507.0) 5170482 (527.0 / 81.0) 3737679	(7.34, 1.00) (0.00, N/A, 0.2)	4176.7 5169.5	0.7229 107.0 107.0	36.6329	N/A			

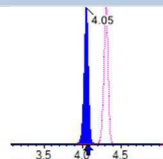
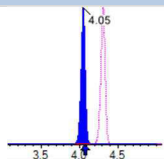
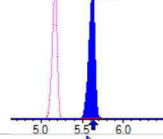
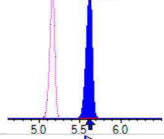
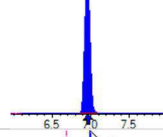
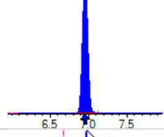
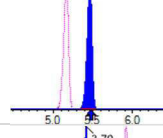
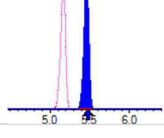
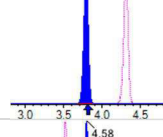
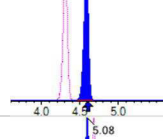
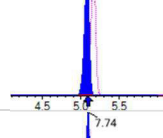
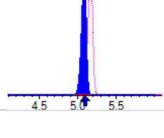
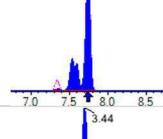
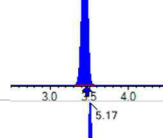
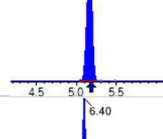
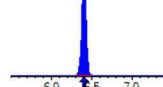


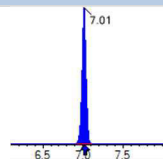
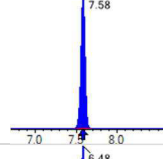
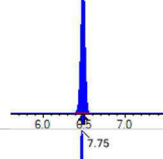
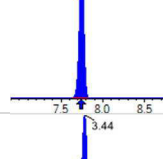
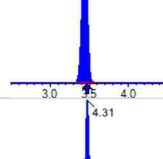
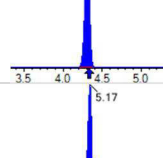
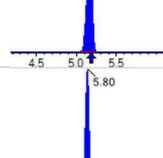
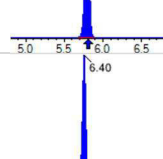
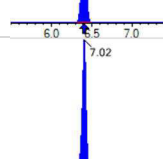
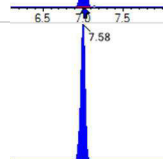
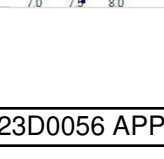
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (6)
 Acquired: 2023/04/12 - 11:16

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) 12332842 (498.0 / 478.0) 279225	(9.75, 1.00) (0.00, N/A, 0.0)	6964.3 1940.9	0.0226 91.4 91.4	9.9797	N/A			
NMeFOSA	(512.0 / 219.0) 9910834 (512.0 / 169.0) 8699182	(10.41, 1.00) (0.00, N/A, 1.3)	5445.8 4992.7	0.8777 101.2 101.2	39.0399	N/A			
NEtFOSA	(526.0 / 219.0) 10346391 (526.0 / 169.0) 13203304	(10.58, 1.00) (-0.01, N/A, 0.8)	6956.8 8453.9	1.2761 102.1 102.1	40.4083	N/A			
NMeFOSAA	(570.0 / 419.0) 1460799 (570.0 / 483.0) 689583	(7.72, 1.00) (0.00, N/A, 0.1)	3428.8 608.8	0.4721 101.9 101.9	8.8635	N/A			
NEtFOSAA	(584.0 / 419.0) 1253982 (584.0 / 526.0) 737571	(7.97, 1.00) (0.00, N/A, 0.0)	2970.1 8347229.9	0.5882 96.3 96.3	9.6822	N/A			
NMeFOSE	(616.0 / 59.0) 4539926	(10.35, 1.00) (0.01, N/A, 0.0)	3319.7	N/A 0.0 0.0	39.2817	N/A			
NEtFOSE	(630.0 / 59.0) 5452766	(10.54, 1.00) (0.01, N/A, 0.0)	1302.6	N/A 0.0 0.0	40.0180	N/A			
HFPO-DA	(285.0 / 169.0) 2733358 (285.0 / 185.0) 7614922	(5.41, 1.00) (0.00, N/A, 0.1)	2063.5 5026.5	2.7859 107.1 107.1	19.4488	N/A			
ADONA	(377.0 / 85.0) 9229894 (377.0 / 251.0) 941044	(6.02, 1.11) (N/A, -0.01, -0.1)	5464.0 1895.4	0.1020 102.7 102.7	18.3809	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 27143500 (533.0 / 353.0) 8426739	(8.16, 1.51) (N/A, 0.00, 0.1)	5847.2 3794.0	0.3105 106.9 106.9	17.9541	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 16115108 (633.0 / 453.0) 5601397	(8.91, 1.65) (N/A, 0.00, 0.0)	6662.3 6634.6	0.3476 103.7 103.7	18.0332	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 318165 (241.0 / 117.0) 527361	(4.05, 0.94) (N/A, -0.01, 0.1)	79.6 74.1	1.6575 100.4 100.4	39.3808	N/A			
5:3FTCA	(341.0 / 236.7) 1806840 (341.0 / 217.0) 3076799	(5.62, 1.09) (N/A, -0.01, 0.0)	1861.2 1733.3	1.7029 108.6 108.6	40.6300	N/A			
7:3FTCA	(441.0 / 317.0) 2971733 (441.0 / 337.0) 2473862	(6.95, 1.35) (N/A, 0.00, 0.0)	1829.8 1956.0	0.8325 96.6 96.6	38.1600	N/A			
PFEESA	(315.0 / 135.0) 6258811 (315.0 / 83.0) 1514180	(5.46, 1.06) (N/A, -0.01, 0.2)	2788.9 2189.8	0.2419 99.1 99.1	17.5851	N/A			
PFMPA	(229.0 / 85.0) 892434	(3.79, 0.88) (N/A, -0.02, 0.0)	5958.5	N/A 0.0 0.0	19.0070	N/A			
PFMBA	(279.0 / 85.0) 3321752	(4.58, 1.06) (N/A, -0.02, 0.0)	4141.2	N/A 0.0 0.0	19.3217	N/A			
NFDHA	(295.0 / 201.0) 2811382 (295.0 / 85.0) 2883550	(5.08, 0.98) (N/A, -0.01, 0.0)	3490.4 2855.3	1.0257 104.7 104.7	19.4393	N/A			
TDCA	(499.0 / 80.0) 7527672	(7.74, 1.00) (N/A, 0.00, 0.0)	34769.6	N/A 0.0 0.0	9.1711	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 122377	(3.44, N/A) (N/A, -0.02, N/A)	1442.5	N/A	1.0038 [1.0000]	100.4% { 102.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 200114	(5.17, N/A) (N/A, -0.01, N/A)	1785.3	N/A	0.9866 [1.0000]	98.7% { 101.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 330519	(6.40, N/A) (N/A, 0.00, N/A)	21186.9	N/A	1.0400 [1.0000]	104.0% { 102.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 295167	(7.01, N/A) (N/A, 0.00, N/A)	6556.7	N/A	0.9725 [1.0000]	97.3% { 96.2% }			
13C2_PFDA_IIS	(515.0 / 470.1) 326906	(7.58, N/A) (N/A, 0.01, N/A)	16207.3	N/A	1.0075 [1.0000]	100.8% { 106.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 443471	(6.48, N/A) (N/A, 0.00, N/A)	2103.1	N/A	0.9902 [1.0000]	99.0% { 107.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 721906	(7.75, N/A) (N/A, 0.00, N/A)	1849.4	N/A	1.0615 [1.0000]	106.2% { 111.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1026535	(3.44, N/A) (N/A, -0.02, N/A)	5338.0	N/A	7.9116 [8.0000]	98.9% { 98.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 917723	(4.31, N/A) (N/A, -0.02, N/A)	3088.2	N/A	4.0942 [4.0000]	102.4% { 102.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 586617	(5.17, N/A) (N/A, -0.01, N/A)	1800.6	N/A	2.0681 [2.0000]	103.4% { 100.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 520851	(5.80, N/A) (N/A, -0.01, N/A)	2986.1	N/A	2.1023 [2.0000]	105.1% { 106.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 653078	(6.40, N/A) (N/A, 0.00, N/A)	2992.4	N/A	2.0019 [2.0000]	100.1% { 106.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 274321	(7.02, N/A) (N/A, 0.00, N/A)	5250.5	N/A	0.9892 [1.0000]	98.9% { 91.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 408297	(7.58, N/A) (N/A, 0.00, N/A)	7474.0	N/A	1.1133 [1.0000]	111.3% { 113.5% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (6)
 Acquired: 2023/04/12 - 11:16

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
13C7_PFUa_EIS	(570.0 / 525.0) 343809	(8.11, N/A) (N/A, 0.00, N/A)	3663.5	N/A	1.0099 [1.0000]	101.0% { 95.3% }			
13C2_PFDa_EIS	(615.0 / 570.0) 319063	(8.58, N/A) (N/A, -0.01, N/A)	2764.7	N/A	1.0946 [1.0000]	109.5% { 111.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 286236	(9.05, N/A) (N/A, 0.00, N/A)	1716.5	N/A	1.0414 [1.0000]	104.1% { 95.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1465385	(5.11, N/A) (N/A, -0.01, N/A)	6409.9	N/A	2.1047 [2.0000]	105.2% { 105.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 854632	(6.48, N/A) (N/A, 0.00, N/A)	1982.4	N/A	2.0907 [2.0000]	104.5% { 106.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1685420	(7.75, N/A) (N/A, 0.00, N/A)	1465.5	N/A	1.9271 [2.0000]	96.4% { 101.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 245429	(4.93, N/A) (N/A, -0.01, N/A)	1112.0	N/A	3.9138 [4.0000]	97.8% { 98.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 304052	(6.17, N/A) (N/A, -0.01, N/A)	2364.4	N/A	4.2482 [4.0000]	106.2% { 103.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 400153	(7.34, N/A) (N/A, 0.01, N/A)	2209.2	N/A	4.2231 [4.0000]	105.6% { 111.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2820892	(9.75, N/A) (N/A, 0.00, N/A)	4514.4	N/A	1.9868 [2.0000]	99.3% { 108.6% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 611915	(10.41, N/A) (N/A, 0.00, N/A)	2137.6	N/A	2.0197 [2.0000]	101.0% { 117.7% }			

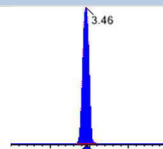
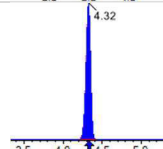
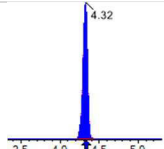
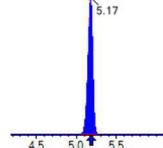
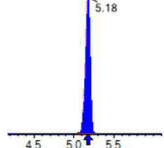
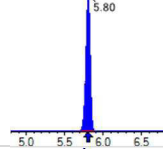
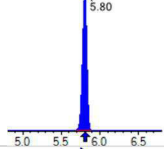
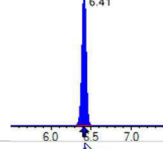
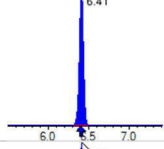
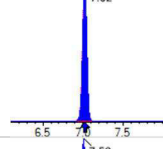
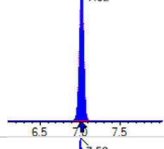
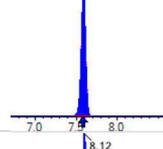
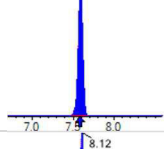
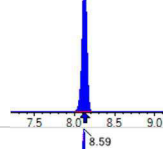
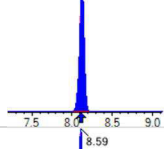
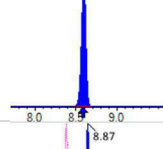
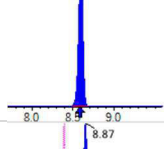
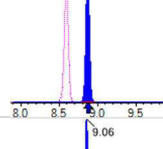
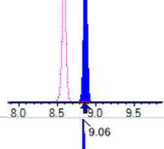
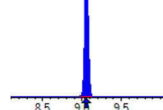
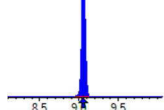


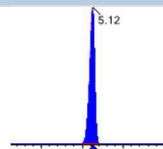
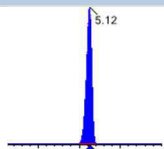
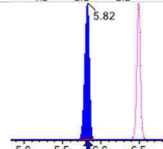
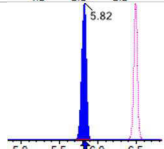
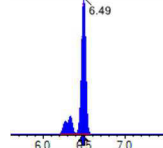
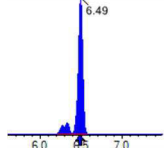
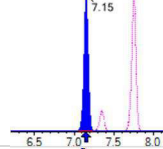
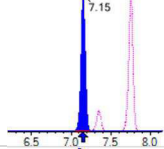
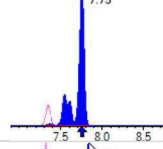
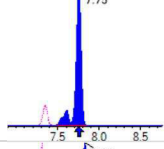
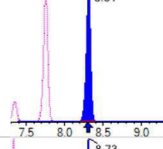
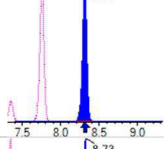
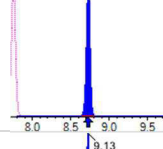
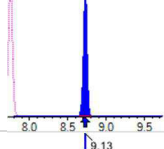
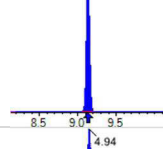
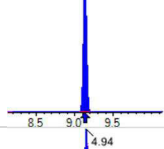
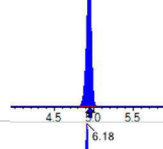
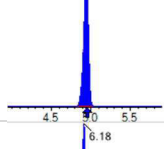
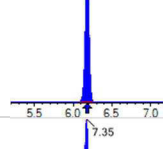
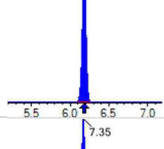
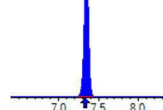
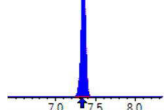
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (6)
 Acquired: 2023/04/12 - 11:16

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 487453	(10.59 , N/A) (N/A , 0.00 , N/A)	2630.2	N/A	1.9500 [2.0000]	97.5% { 105.9% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 775584	(7.71 , N/A) (N/A , 0.00 , N/A)	1762.9	N/A	4.1375 [4.0000]	103.4% { 115.3% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 585646	(7.97 , N/A) (N/A , 0.00 , N/A)	4295.3	N/A	3.8090 [4.0000]	95.2% { 109.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2117188	(10.34 , N/A) (N/A , 0.00 , N/A)	1788.0	N/A	21.0492 [20.0000]	105.2% { 110.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2767175	(10.53 , N/A) (N/A , 0.00 , N/A)	1685.9	N/A	20.8152 [20.0000]	104.1% { 109.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1331354	(5.41 , N/A) (N/A , -0.01 , N/A)	2139.4	N/A	8.3202 [8.0000]	104.0% { 103.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 8336477	(3.46, 1.00) (0.00, N/A, 0.0)	185.2	N/A 0.0 0.0	77.5081	N/A			
PFPeA	(263.0 / 219.0) 8260323 (263.0 / 69.0) 94784	(4.32, 1.00) (0.00, N/A, 0.0)	5456.2 1120.3	0.0115 87.4 87.4	36.6681	N/A			
PFHxA	(313.0 / 269.0) 5064878 (313.0 / 119.0) 502226	(5.17, 1.00) (0.00, N/A, -0.2)	3580.5 4900.8	0.0992 90.9 90.9	17.8719	N/A			
PFHpA	(363.0 / 319.0) 4273805 (363.0 / 169.0) 1275791	(5.80, 1.00) (0.00, N/A, 0.0)	13756.7 13930805.7	0.2985 97.8 97.8	19.4796	N/A			
PFOA	(413.0 / 369.0) 5838903 (413.0 / 169.0) 1756290	(6.41, 1.00) (0.00, N/A, 0.0)	3880.2 7917.2	0.3008 96.1 96.1	20.3857	N/A			
PFNA	(463.0 / 419.0) 5161951 (463.0 / 169.0) 1080800	(7.02, 1.00) (0.00, N/A, 0.0)	21109.8 962533.4	0.2094 98.1 98.1	19.3841	N/A			
PFDA	(513.0 / 469.0) 6845341 (513.0 / 169.0) 733876	(7.59, 1.00) (0.00, N/A, 0.0)	3589.3 2024.7	0.1072 93.5 93.5	19.8928	N/A			
PFUnA	(563.0 / 519.0) 5643650 (563.0 / 169.0) 627147	(8.12, 1.00) (0.00, N/A, -0.1)	3997.1 1946.7	0.1111 94.0 94.0	19.5265	N/A			
PFDoA	(613.0 / 569.0) 5198209 (613.0 / 169.0) 775799	(8.59, 1.00) (0.00, N/A, 0.0)	5115.3 4254.9	0.1492 87.1 87.1	19.5027	N/A			
PFTrDA	(663.0 / 619.0) 4238811 (663.0 / 169.0) 1021680	(8.87, 1.03) (N/A, 0.00, 0.0)	4659.7 3295.6	0.2410 97.3 97.3	17.4548	N/A			
PFTeDA	(713.0 / 669.0) 4874708 (713.0 / 169.0) 932034	(9.06, 1.00) (0.00, N/A, 0.0)	3583.2 2098.6	0.1912 94.9 94.9	20.0109	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 8283412 (299.0 / 99.0) 5071726	(5.12, 1.00) (0.00, N/A, 0.0)	9218.1 6552.7	0.6123 95.2 95.2	16.8445	N/A			
PFPeS	(349.0 / 80.0) 13816887 (349.0 / 99.0) 5092743	(5.82, 0.90) (N/A, 0.00, 0.1)	15484.1 48665.6	0.3686 108.7 108.7	16.8822	N/A			
PFHxS	(399.0 / 80.0) 11758110 (399.0 / 99.0) 4009199	(6.49, 1.00) (0.00, N/A, 0.1)	5493.3 43003.0	0.3410 98.5 98.5	16.8602	N/A			
PFHpS	(449.0 / 80.0) 12198707 (449.0 / 99.0) 3387381	(7.15, 0.92) (N/A, 0.01, 0.0)	31409.0 2917268.1	0.2777 100.1 100.1	18.0043	N/A			
PFOS	(499.0 / 80.0) 16844839 (499.0 / 99.0) 3684906	(7.75, 1.00) (0.00, N/A, 0.1)	1632.8 2793.5	0.2188 97.8 97.8	17.7151	N/A			
PFNS	(549.0 / 80.0) 16638860 (549.0 / 99.0) 4066362	(8.31, 1.07) (N/A, 0.01, 0.1)	15910.3 24324.2	0.2444 101.0 101.0	18.7248	N/A			
PFDS	(599.0 / 80.0) 17839167 (599.0 / 99.0) 4184357	(8.73, 1.13) (N/A, 0.01, -0.1)	9920.8 8265.6	0.2346 104.7 104.7	17.7586	N/A			
PFDoS	(699.0 / 80.0) 14294903 (699.0 / 99.0) 3136142	(9.13, 1.18) (N/A, 0.00, 0.0)	5988.7 5189.4	0.2194 91.7 91.7	18.4992	N/A			
4:2FTS	(327.0 / 307.0) 14326445 (327.0 / 81.0) 9176167	(4.94, 1.00) (0.00, N/A, -0.1)	2929.1 2812.5	0.6405 94.2 94.2	74.7736	N/A			
6:2FTS	(427.0 / 407.0) 9247507 (427.0 / 81.0) 6271965	(6.18, 1.00) (0.00, N/A, 0.0)	4369.6 4954.7	0.6782 96.3 96.3	75.6210	N/A			
8:2FTS	(527.0 / 507.0) 9903315 (527.0 / 81.0) 7095052	(7.35, 1.00) (0.00, N/A, 0.0)	4849.8 5230.5	0.7164 106.0 106.0	67.3664	N/A			

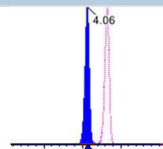
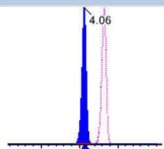
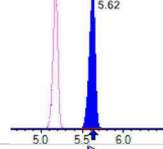
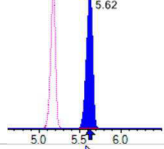
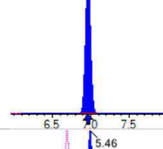
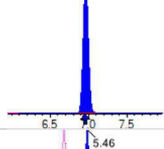
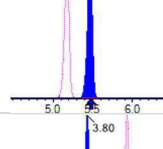
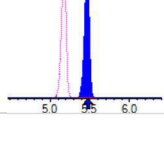
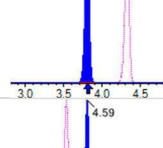
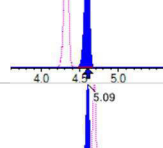
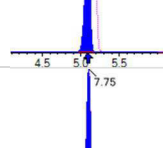
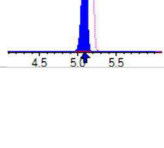
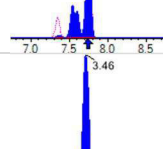
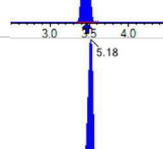
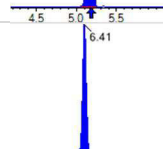
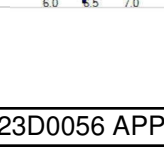


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (7)
 Acquired: 2023/04/12 - 11:29

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) 22092534 (498.0 / 478.0) 551602	(9.75, 1.00) (0.00, N/A, 0.0)	5662.6 2649.6	0.0250 100.8 100.8	18.9609	N/A			
NMeFOSA	(512.0 / 219.0) 18248564 (512.0 / 169.0) 15924945	(10.41, 1.00) (0.00, N/A, 1.2)	6349.8 6110.6	0.8727 100.6 100.6	73.3781	N/A			
NEIFOSA	(526.0 / 219.0) 19086443 (526.0 / 169.0) 24056062	(10.58, 1.00) (-0.01, N/A, 0.8)	16689.6 12474.3	1.2604 100.8 100.8	78.0966	N/A			
NMeFOSAA	(570.0 / 419.0) 2841134 (570.0 / 483.0) 1296379	(7.73, 1.00) (0.01, N/A, 0.0)	2989.9 532.9	0.4563 98.5 98.5	19.2477	N/A			
NEIFOSAA	(584.0 / 419.0) 2532777 (584.0 / 526.0) 1488262	(7.98, 1.00) (0.01, N/A, 0.1)	1055542.4 2064.7	0.5876 96.3 96.3	19.6504	N/A			
NMeFOSE	(616.0 / 59.0) 8237073	(10.35, 1.00) (0.01, N/A, 0.0)	4020.5	N/A 0.0 0.0	79.1740	N/A			
NEIFOSE	(630.0 / 59.0) 9822114	(10.54, 1.00) (0.01, N/A, 0.0)	1797.2	N/A 0.0 0.0	77.7479	N/A			
HFPO-DA	(285.0 / 169.0) 5311000 (285.0 / 185.0) 14102856	(5.41, 1.00) (0.00, N/A, 0.1)	2367.6 5852.9	2.6554 102.1 102.1	39.3901	N/A			
ADONA	(377.0 / 85.0) 16923004 (377.0 / 251.0) 1678674	(6.03, 1.11) (N/A, 0.00, 0.0)	4741.7 3339.3	0.0992 99.9 99.9	35.1286	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 46181194 (533.0 / 353.0) 15802731	(8.17, 1.51) (N/A, 0.01, 0.1)	4520.4 4474.6	0.3422 117.8 117.8	31.8403	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 27817968 (633.0 / 453.0) 10177466	(8.92, 1.65) (N/A, 0.01, 0.0)	5331.1 3419.7	0.3659 109.2 109.2	32.4473	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 649808 (241.0 / 117.0) 1026401	(4.06, 0.94) (N/A, 0.00, 0.0)	71.6 72.5	1.5795 95.7 95.7	78.7203	N/A			
5:3FTCA	(341.0 / 236.7) 3655455 (341.0 / 217.0) 6109198	(5.62, 1.09) (N/A, 0.00, 0.0)	1563.8 2458.7	1.6713 106.5 106.5	82.0668	N/A			
7:3FTCA	(441.0 / 317.0) 6145522 (441.0 / 337.0) 5192551	(6.96, 1.35) (N/A, 0.00, 0.0)	2327.4 2537.3	0.8449 98.1 98.1	78.7873	N/A			
PFEESA	(315.0 / 135.0) 11387603 (315.0 / 83.0) 2784269	(5.46, 1.06) (N/A, 0.00, -0.1)	3682.2 3132.5	0.2445 100.2 100.2	31.9435	N/A			
PFMPA	(229.0 / 85.0) 1799448	(3.80, 0.88) (N/A, 0.00, 0.0)	4811.3	N/A 0.0 0.0	37.5100	N/A			
PFMBA	(279.0 / 85.0) 6639306	(4.59, 1.06) (N/A, -0.01, 0.0)	4214.6	N/A 0.0 0.0	37.7981	N/A			
NFDHA	(295.0 / 201.0) 5446018 (295.0 / 85.0) 5515819	(5.09, 0.98) (N/A, 0.00, -0.1)	3780.8 3759.8	1.0128 103.4 103.4	37.5958	N/A			
TDCA	(499.0 / 80.0) 14309027	(7.75, 1.00) (N/A, 0.01, 0.0)	43131.7	N/A 0.0 0.0	17.4838	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 120305	(3.46, N/A) (N/A, 0.00, N/A)	1389.9	N/A	0.9868 [1.0000]	98.7% { 100.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 230376	(5.18, N/A) (N/A, 0.00, N/A)	1030.0	N/A	1.1358 [1.0000]	113.6% { 117.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 331042	(6.41, N/A) (N/A, 0.01, N/A)	2168.6	N/A	1.0417 [1.0000]	104.2% { 102.7% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (7)
 Acquired: 2023/04/12 - 11:29

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
13C5_PFNA_IIS	(468.0 / 423.0) 325196	(7.02, N/A) (N/A, 0.01, N/A)	1975.4	N/A	1.0715 [1.0000]	107.1% { 105.9% }			
13C2_PFDA_IIS	(515.0 / 470.1) 380308	(7.59, N/A) (N/A, 0.01, N/A)	6855.5	N/A	1.1721 [1.0000]	117.2% { 124.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 479774	(6.49, N/A) (N/A, 0.01, N/A)	4038.7	N/A	1.0713 [1.0000]	107.1% { 116.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 684640	(7.76, N/A) (N/A, 0.01, N/A)	1924.4	N/A	1.0067 [1.0000]	100.7% { 105.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 984695	(3.45, N/A) (N/A, 0.00, N/A)	4342.9	N/A	7.7198 [8.0000]	96.5% { 94.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 937654	(4.32, N/A) (N/A, -0.01, N/A)	2893.3	N/A	3.6336 [4.0000]	90.8% { 104.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 587565	(5.17, N/A) (N/A, 0.00, N/A)	2579.2	N/A	1.7994 [2.0000]	90.0% { 100.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 509049	(5.80, N/A) (N/A, 0.00, N/A)	1974.5	N/A	1.7848 [2.0000]	89.2% { 103.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 607547	(6.41, N/A) (N/A, 0.01, N/A)	2511.5	N/A	1.8594 [2.0000]	93.0% { 98.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 288707	(7.02, N/A) (N/A, 0.01, N/A)	6859.1	N/A	0.9449 [1.0000]	94.5% { 96.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 366102	(7.59, N/A) (N/A, 0.01, N/A)	5013.4	N/A	0.8581 [1.0000]	85.8% { 101.8% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (7)
 Acquired: 2023/04/12 - 11:29

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
13C7_PFUa_EIS	(570.0 / 525.0) 328492	(8.12, N/A) (N/A, 0.01, N/A)	3350.4	N/A	0.8294 [1.0000]	82.9% { 91.1% }			
13C2_PFDa_EIS	(615.0 / 570.0) 293877	(8.59, N/A) (N/A, 0.00, N/A)	1371.9	N/A	0.8666 [1.0000]	86.7% { 102.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 265800	(9.06, N/A) (N/A, 0.00, N/A)	1468.3	N/A	0.8312 [1.0000]	83.1% { 88.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1378865	(5.12, N/A) (N/A, 0.00, N/A)	2284.4	N/A	1.8306 [2.0000]	91.5% { 98.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 887134	(6.49, N/A) (N/A, 0.01, N/A)	2664.4	N/A	2.0060 [2.0000]	100.3% { 110.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1680510	(7.75, N/A) (N/A, 0.01, N/A)	1000.0	N/A	2.0261 [2.0000]	101.3% { 100.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 258089	(4.94, N/A) (N/A, 0.00, N/A)	1329.6	N/A	3.8043 [4.0000]	95.1% { 103.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 285835	(6.18, N/A) (N/A, 0.00, N/A)	2171.4	N/A	3.6915 [4.0000]	92.3% { 97.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 416777	(7.35, N/A) (N/A, 0.02, N/A)	1617.3	N/A	4.0658 [4.0000]	101.6% { 116.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2659657	(9.75, N/A) (N/A, 0.00, N/A)	3807.8	N/A	1.9752 [2.0000]	98.8% { 102.4% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 599448	(10.41, N/A) (N/A, 0.00, N/A)	2321.2	N/A	2.0863 [2.0000]	104.3% { 115.3% }			

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 465273	(10.59 , N/A) (N/A , 0.00 , N/A)	2873.0	N/A	1.9626 [2.0000]	98.1% { 101.1% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 694633	(7.72 , N/A) (N/A , 0.01 , N/A)	1651.1	N/A	3.9074 [4.0000]	97.7% { 103.2% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 582831	(7.97 , N/A) (N/A , 0.01 , N/A)	11176.0	N/A	3.9970 [4.0000]	99.9% { 108.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1905861	(10.34 , N/A) (N/A , 0.00 , N/A)	1562.5	N/A	19.9795 [20.0000]	99.9% { 99.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2565618	(10.53 , N/A) (N/A , 0.00 , N/A)	1500.6	N/A	20.3495 [20.0000]	101.7% { 101.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1277261	(5.41 , N/A) (N/A , 0.00 , N/A)	2463.5	N/A	6.9336 [8.0000]	86.7% { 99.0% }			

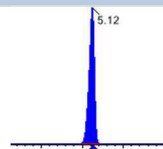
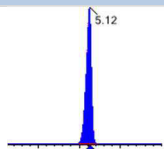
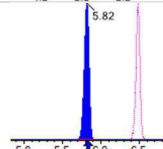
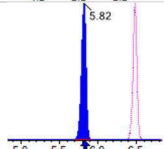
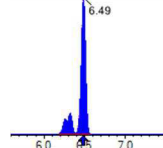
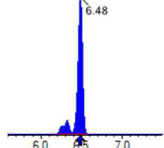
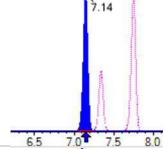
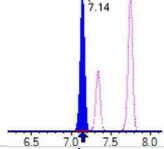
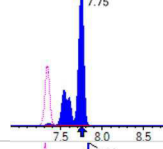
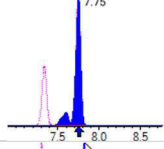
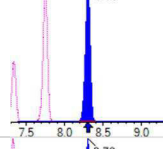
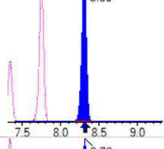
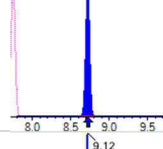
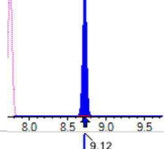
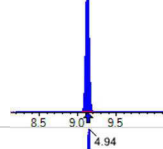
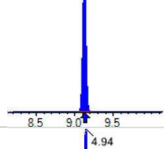
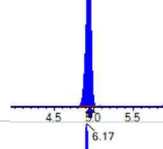
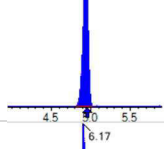
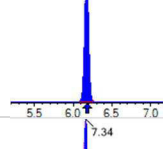
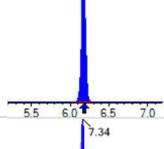
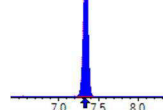
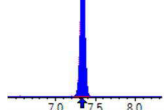


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (8)
 Acquired: 2023/04/12 - 11:42

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
PFBA	(213.0 / 169.0) 16321173	(3.45, 1.00) (0.00, N/A, 0.0)	191.6	N/A 0.0 0.0	203.9263	N/A			
PFPeA	(263.0 / 219.0) 18226887 (263.0 / 69.0) 197084	(4.32, 1.00) (0.00, N/A, 0.0)	7548.9 1435.2	0.0108 82.4 82.4	98.5734	N/A			
PFHxA	(313.0 / 269.0) 11515186 (313.0 / 119.0) 1190537	(5.17, 1.00) (0.00, N/A, 0.0)	4155.4 6168.8	0.1034 94.7 94.7	47.5796	N/A			
PFHpA	(363.0 / 319.0) 9136652 (363.0 / 169.0) 2962501	(5.80, 1.00) (0.00, N/A, 0.0)	9015.7 36945.3	0.3242 106.2 106.2	49.7999	N/A			
PFOA	(413.0 / 369.0) 13317452 (413.0 / 169.0) 4336194	(6.41, 1.00) (0.00, N/A, -0.1)	6275.8 14471.8	0.3256 104.0 104.0	47.4783	N/A			
PFNA	(463.0 / 419.0) 11914344 (463.0 / 169.0) 2665706	(7.01, 1.00) (0.00, N/A, 0.0)	14124.1 300150.1	0.2237 104.8 104.8	52.6607	N/A			
PFDA	(513.0 / 469.0) 15891316 (513.0 / 169.0) 1735783	(7.58, 1.00) (0.00, N/A, 0.0)	4064.0 4229.6	0.1092 95.3 95.3	50.2531	N/A			
PFUnA	(563.0 / 519.0) 12418738 (563.0 / 169.0) 1510010	(8.11, 1.00) (0.00, N/A, 0.0)	4990.8 3197.0	0.1216 102.9 102.9	48.9769	N/A			
PFDoA	(613.0 / 569.0) 11309048 (613.0 / 169.0) 1800808	(8.59, 1.00) (0.00, N/A, 0.1)	4094.1 2977.5	0.1592 92.9 92.9	44.9087	N/A			
PFTrDA	(663.0 / 619.0) 9728934 (663.0 / 169.0) 2364044	(8.86, 1.03) (N/A, 0.00, 0.1)	5136.0 3419.5	0.2430 98.1 98.1	42.4032	N/A			
PFTeDA	(713.0 / 669.0) 10296548 (713.0 / 169.0) 2084991	(9.05, 1.00) (0.00, N/A, 0.0)	3951.8 2641.5	0.2025 100.5 100.5	47.5509	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 18239399 (299.0 / 99.0) 11465337	(5.12, 1.00) (0.00, N/A, 0.0)	5763.2 6628.5	0.6286 97.8 97.8	42.5124	N/A			
PFPeS	(349.0 / 80.0) 29745667 (349.0 / 99.0) 10956005	(5.82, 0.90) (N/A, -0.01, -0.1)	16147.3 359335.2	0.3683 108.6 108.6	43.3808	N/A			
PFHxS	(399.0 / 80.0) 27539282 (399.0 / 99.0) 9799521	(6.49, 1.00) (0.00, N/A, 0.1)	6881.9 20069.1	0.3558 102.7 102.7	47.1340	N/A			
PFHpS	(449.0 / 80.0) 26711444 (449.0 / 99.0) 8223764	(7.14, 0.92) (N/A, 0.00, 0.1)	19905.0 491917.4	0.3079 111.0 111.0	45.6020	N/A			
PFOS	(499.0 / 80.0) 37859811 (499.0 / 99.0) 8657663	(7.75, 1.00) (0.00, N/A, 0.0)	2124.4 3666.0	0.2287 102.2 102.2	46.0554	N/A			
PFNS	(549.0 / 80.0) 35795495 (549.0 / 99.0) 9560953	(8.30, 1.07) (N/A, 0.00, 0.0)	15663.1 49923.1	0.2671 110.4 110.4	46.5957	N/A			
PFDS	(599.0 / 80.0) 38204070 (599.0 / 99.0) 9447079	(8.72, 1.13) (N/A, 0.00, 0.0)	9927.8 12158.0	0.2473 110.4 110.4	43.9915	N/A			
PFDoS	(699.0 / 80.0) 29891551 (699.0 / 99.0) 7401855	(9.12, 1.18) (N/A, 0.00, 0.0)	5015.0 5112.7	0.2476 103.5 103.5	44.7450	N/A			
4:2FTS	(327.0 / 307.0) 31263132 (327.0 / 81.0) 20030483	(4.94, 1.00) (0.00, N/A, 0.0)	4338.1 4256.3	0.6407 94.2 94.2	160.7142	N/A			
6:2FTS	(427.0 / 407.0) 21293366 (427.0 / 81.0) 14924778	(6.17, 1.00) (0.00, N/A, 0.1)	4611.8 5756.9	0.7009 99.5 99.5	162.2370	N/A			
8:2FTS	(527.0 / 507.0) 25257031 (527.0 / 81.0) 17293685	(7.34, 1.00) (0.00, N/A, 0.1)	4058.1 5579.9	0.6847 101.3 101.3	157.7088	N/A			

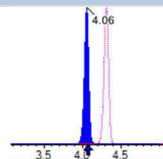
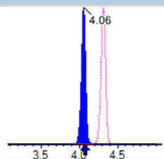
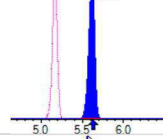
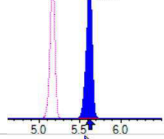
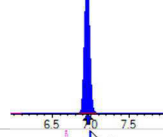
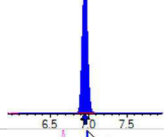
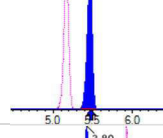
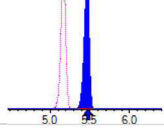
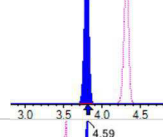
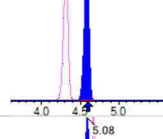
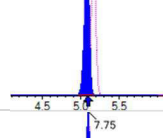
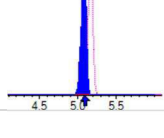
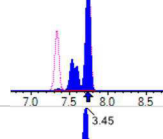
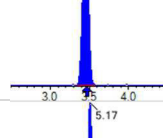
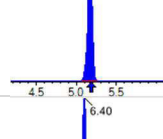
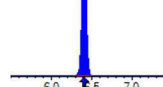


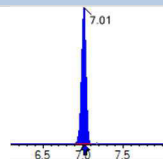
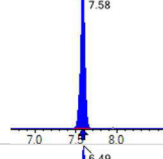
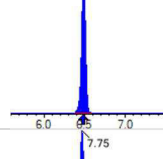
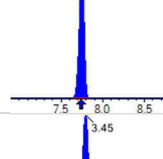
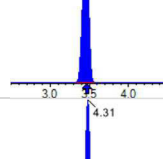
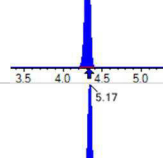
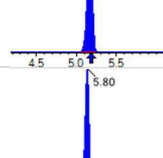
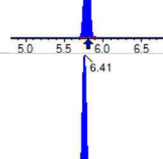
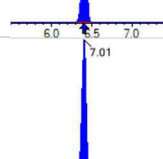
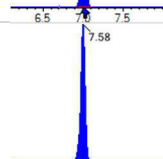
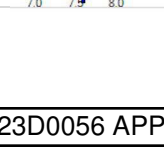
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

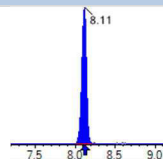
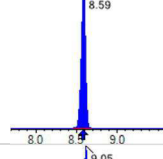
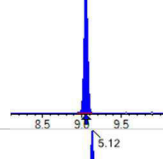
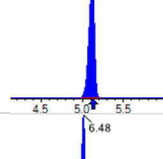
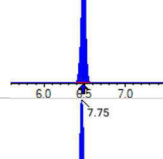
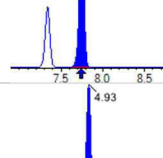
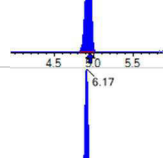
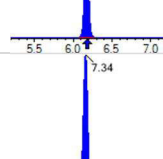
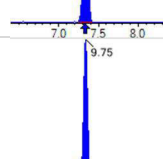
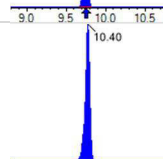
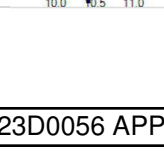
Sample I.D.: SC01442-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (8)
 Acquired: 2023/04/12 - 11:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	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) 43243955 (498.0 / 478.0) 1221795	(9.74, 1.00) (0.00, N/A, 0.0)	8017.8 4022.6	0.0283 114.1 114.1	43.3981	N/A			
NMeFOSA	(512.0 / 219.0) 40951608 (512.0 / 169.0) 35450093	(10.40, 1.00) (0.00, N/A, 1.1)	5047.6 4261.8	0.8657 99.8 99.8	154.7837	N/A			
NEIFOSA	(526.0 / 219.0) 44714517 (526.0 / 169.0) 53189920	(10.57, 1.00) (-0.01, N/A, 0.5)	13606.5 15635.1	1.1895 95.1 95.1	184.6525	N/A			
NMeFOSAA	(570.0 / 419.0) 6779930 (570.0 / 483.0) 3161782	(7.72, 1.00) (0.00, N/A, 0.1)	3644.8 716.1	0.4663 100.7 100.7	48.1148	N/A			
NEIFOSAA	(584.0 / 419.0) 6528275 (584.0 / 526.0) 3831329	(7.98, 1.00) (0.01, N/A, 0.1)	311331.5 11072.7	0.5869 96.1 96.1	48.1177	N/A			
NMeFOSE	(616.0 / 59.0) 18243246	(10.34, 1.00) (0.01, N/A, 0.0)	4114.9	N/A 0.0 0.0	206.7715	N/A			
NEtFOSE	(630.0 / 59.0) 21941729	(10.54, 1.00) (0.01, N/A, 0.0)	1658.6	N/A 0.0 0.0	206.7886	N/A			
HFPO-DA	(285.0 / 169.0) 11416105 (285.0 / 185.0) 29884988	(5.41, 1.00) (0.00, N/A, 0.0)	3084.4 4366.0	2.6178 100.6 100.6	93.3000	N/A			
ADONA	(377.0 / 85.0) 35388242 (377.0 / 251.0) 3935726	(6.02, 1.11) (N/A, 0.00, 0.1)	4655.9 4958.3	0.1112 112.0 112.0	80.9461	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.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 1562319 (241.0 / 117.0) 2743207	(4.06, 0.94) (N/A, -0.01, 0.0)	80.3 72.9	1.7559 106.3 106.3	230.5826	N/A			
5:3FTCA	(341.0 / 236.7) 9396313 (341.0 / 217.0) 15783180	(5.62, 1.09) (N/A, -0.01, -0.2)	2295.2 2368.7	1.6797 107.1 107.1	247.0201	N/A			
7:3FTCA	(441.0 / 317.0) 15787387 (441.0 / 337.0) 12934620	(6.95, 1.35) (N/A, -0.01, 0.0)	2636.8 3094.1	0.8193 95.1 95.1	237.0046	N/A			
PFEESA	(315.0 / 135.0) 24484793 (315.0 / 83.0) 6363930	(5.46, 1.06) (N/A, 0.00, 0.0)	2433.8 3522.2	0.2599 106.5 106.5	80.4258	N/A			
PFMPA	(229.0 / 85.0) 3770161	(3.80, 0.88) (N/A, -0.01, 0.0)	6262.1	N/A 0.0 0.0	95.7464	N/A			
PFMBA	(279.0 / 85.0) 14289945	(4.59, 1.06) (N/A, -0.02, 0.0)	5400.3	N/A 0.0 0.0	99.1137	N/A			
NFDHA	(295.0 / 201.0) 11252031 (295.0 / 85.0) 11921655	(5.08, 0.98) (N/A, -0.01, 0.0)	3556.5 4719.0	1.0595 108.2 108.2	90.9577	N/A			
TDCA	(499.0 / 80.0) 34657578	(7.75, 1.00) (N/A, 0.00, 0.0)	63027.6	N/A 0.0 0.0	48.9834	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 89991	(3.45, N/A) (N/A, -0.01, N/A)	1043.6	N/A	0.7382 [1.0000]	73.8% { 75.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 187502	(5.17, N/A) (N/A, 0.00, N/A)	7610.8	N/A	0.9245 [1.0000]	92.4% { 95.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 284262	(6.40, N/A) (N/A, 0.00, N/A)	3062.5	N/A	0.8945 [1.0000]	89.4% { 88.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 298152	(7.01, N/A) (N/A, 0.00, N/A)	5700.3	N/A	0.9824 [1.0000]	98.2% { 97.1% }			
13C2_PFDA_IIS	(515.0 / 470.1) 303266	(7.58, N/A) (N/A, 0.00, N/A)	1727.4	N/A	0.9347 [1.0000]	93.5% { 99.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 440633	(6.49, N/A) (N/A, 0.00, N/A)	1828.6	N/A	0.9839 [1.0000]	98.4% { 106.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 611168	(7.75, N/A) (N/A, 0.01, N/A)	1457.8	N/A	0.8987 [1.0000]	89.9% { 94.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 732731	(3.45, N/A) (N/A, -0.01, N/A)	3635.0	N/A	7.6796 [8.0000]	96.0% { 70.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 769639	(4.31, N/A) (N/A, -0.02, N/A)	3990.1	N/A	3.6645 [4.0000]	91.6% { 85.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 501773	(5.17, N/A) (N/A, -0.01, N/A)	1752.1	N/A	1.8880 [2.0000]	94.4% { 85.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 425681	(5.80, N/A) (N/A, -0.01, N/A)	2541.8	N/A	1.8337 [2.0000]	91.7% { 86.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 594978	(6.41, N/A) (N/A, 0.00, N/A)	3583.0	N/A	2.1206 [2.0000]	106.0% { 96.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 245286	(7.01, N/A) (N/A, 0.00, N/A)	5690.2	N/A	0.8757 [1.0000]	87.6% { 81.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 336433	(7.58, N/A) (N/A, 0.00, N/A)	9233.6	N/A	0.9889 [1.0000]	98.9% { 93.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 288187	(8.11, N/A) (N/A, 0.00, N/A)	1054.5	N/A	0.9125 [1.0000]	91.3% { 79.9% }			
13C2_PFDa_EIS	(615.0 / 570.0) 277653	(8.59, N/A) (N/A, 0.00, N/A)	2426.3	N/A	1.0268 [1.0000]	102.7% { 96.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 236268	(9.05, N/A) (N/A, 0.00, N/A)	1369.7	N/A	0.9266 [1.0000]	92.7% { 78.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1202997	(5.12, N/A) (N/A, -0.01, N/A)	2531.8	N/A	1.7390 [2.0000]	86.9% { 86.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 743248	(6.48, N/A) (N/A, 0.00, N/A)	2303.6	N/A	1.8300 [2.0000]	91.5% { 92.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1452835	(7.75, N/A) (N/A, 0.00, N/A)	721.5	N/A	1.9621 [2.0000]	98.1% { 87.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 262034	(4.93, N/A) (N/A, -0.01, N/A)	1063.2	N/A	4.2055 [4.0000]	105.1% { 105.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 306781	(6.17, N/A) (N/A, -0.01, N/A)	1739.2	N/A	4.3140 [4.0000]	107.8% { 104.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 454039	(7.34, N/A) (N/A, 0.00, N/A)	1520.3	N/A	4.8227 [4.0000]	120.6% { 126.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2274543	(9.75, N/A) (N/A, -0.01, N/A)	3450.8	N/A	1.8923 [2.0000]	94.6% { 87.5% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 637727	(10.40, N/A) (N/A, 0.00, N/A)	2157.5	N/A	2.4863 [2.0000]	124.3% { 122.7% }			

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 461008	(10.59 , N/A) (N/A , 0.00 , N/A)	2337.9	N/A	2.1784 [2.0000]	108.9% { 100.2% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 663116	(7.72 , N/A) (N/A , 0.00 , N/A)	1135.0	N/A	4.1785 [4.0000]	104.5% { 98.6% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 613495	(7.97 , N/A) (N/A , 0.00 , N/A)	15031.5	N/A	4.7131 [4.0000]	117.8% { 114.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1616264	(10.33 , N/A) (N/A , -0.01 , N/A)	1147.0	N/A	18.9805 [20.0000]	94.9% { 84.6% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2154865	(10.52 , N/A) (N/A , 0.00 , N/A)	1496.1	N/A	19.1462 [20.0000]	95.7% { 85.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1159115	(5.41 , N/A) (N/A , -0.01 , N/A)	1895.6	N/A	7.7310 [8.0000]	96.6% { 89.8% }			

EPA 1633

Initial Calibration: SC01530



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (1)
 Acquired: 2023/04/18 - 16:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 81044	(3.22, 1.00) (0.00, N/A, 0.0)	310.1	N/A 0.0 0.0	0.3806	N/A			
PFPeA	(263.0 / 219.0) 61478 (263.0 / 69.0) 573	(4.47, 1.00) (0.00, N/A, 0.6)	270.0 21.8	0.0093 79.4 79.4	0.2096	N/A			
PFHxA	(313.0 / 269.0) 37268 (313.0 / 119.0) 3346	(5.42, 1.00) (0.00, N/A, -0.1)	58.4 44.9	0.0898 107.6 107.6	0.1046	N/A			
PFHpA	(363.0 / 319.0) 32409 (363.0 / 169.0) 7526	(6.21, 1.00) (0.00, N/A, 0.2)	74.7 38.3	0.2322 83.8 83.8	0.1107	N/A			
PFOA	(413.0 / 369.0) 40195 (413.0 / 169.0) 10777	(6.91, 1.00) (0.00, N/A, -0.1)	74.1 26.8	0.2681 89.8 89.8	0.1085	N/A			
PFNA	(463.0 / 419.0) 29597 (463.0 / 169.0) 5537	(7.55, 1.00) (0.00, N/A, 0.8)	84.5 115.4	0.1871 92.4 92.4	0.1083	N/A			
PFDA	(513.0 / 469.0) 28112 (513.0 / 169.0) 2752	(8.17, 1.00) (0.00, N/A, 0.9)	126.2 50.3	0.0979 99.8 99.8	0.0911	N/A			
PFUnA	(563.0 / 519.0) 24332 (563.0 / 169.0) 3215	(8.74, 1.00) (0.00, N/A, 0.0)	127.7 60.8	0.1321 130.9 130.9	0.0941	N/A			
PFDoA	(613.0 / 569.0) 23195 (613.0 / 169.0) 3886	(9.19, 1.00) (0.00, N/A, 0.3)	318.2 41.6	0.1676 117.6 117.6	0.0989	N/A			
PFTTrDA	(663.0 / 619.0) 26230 (663.0 / 169.0) 7268	(9.56, 1.04) (N/A, 0.06, 0.3)	168.1 71.4	0.2771 134.4 134.4	0.1049	N/A			
PFTeDA	(713.0 / 669.0) 29523 (713.0 / 169.0) 6182	(9.90, 1.00) (0.00, N/A, 0.0)	216.5 74.6	0.2094 106.2 106.2	0.1010	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (1)
 Acquired: 2023/04/18 - 16:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 237122 (813.0 / 169.0) 35166	(10.59, 1.94) (N/A, 0.14, -0.1)	788.3 328.5	0.1483 99.3 99.3	0.4633	N/A			
PFODA	(913.0 / 869.0) 126932 (913.0 / 169.0) 32666	(11.34, 2.08) (N/A, 0.24, 0.1)	291.0 178.3	0.2574 97.7 97.7	0.3869	N/A			
PFBS	(299.0 / 80.0) 40206 (299.0 / 99.0) 30717	(5.45, 1.00) (0.00, N/A, -0.1)	227.5 218.7	0.7640 111.1 111.1	0.0819	N/A			
PFPeS	(349.0 / 80.0) 62298 (349.0 / 99.0) 19658	(6.35, 0.89) (N/A, 0.05, 0.0)	350.2 147.4	0.3156 89.2 89.2	0.0862	N/A			
PFHxS	(399.0 / 80.0) 60017 (399.0 / 99.0) 20739	(7.12, 1.00) (0.00, N/A, 0.3)	163773.7 1182404.4	0.3455 97.7 97.7	0.0999	N/A			
PFHpS	(449.0 / 80.0) 48075 (449.0 / 99.0) 14013	(7.80, 0.93) (N/A, 0.07, 0.5)	282.2 121.1	0.2915 104.3 104.3	0.0672	N/A			
PFOS	(499.0 / 80.0) 89156 (499.0 / 99.0) 16422	(8.43, 1.00) (0.00, N/A, 0.0)	14050.9 9029.7	0.1842 80.0 80.0	0.0868	N/A			M14 ABK 4/19/23
PFNS	(549.0 / 80.0) 65532 (549.0 / 99.0) 14968	(8.96, 1.06) (N/A, 0.07, 0.0)	311.7 98.3	0.2284 92.6 92.6	0.0810	N/A			
PFDS	(599.0 / 80.0) 70127 (599.0 / 99.0) 21991	(9.38, 1.11) (N/A, 0.06, 0.3)	354.8 133.9	0.3136 136.9 136.9	0.0753	N/A			
PFDoS	(699.0 / 80.0) 83038 (699.0 / 99.0) 16924	(10.05, 1.19) (N/A, 0.08, 0.2)	452.9 170.3	0.2038 89.3 89.3	0.0790	N/A			
4:2FTS	(327.0 / 307.0) 45910 (327.0 / 81.0) 30431	(5.10, 1.00) (0.00, N/A, -0.1)	423.1 116.8	0.6628 101.9 101.9	0.3930	N/A			

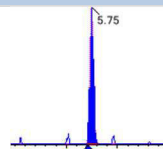
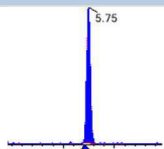
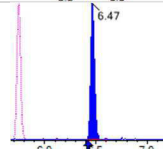
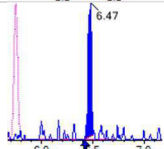
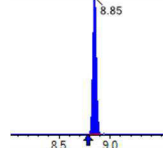
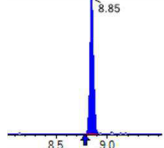
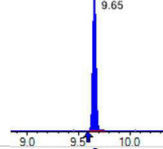
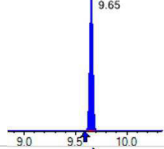
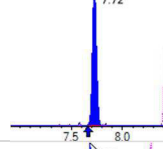
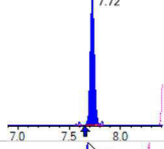
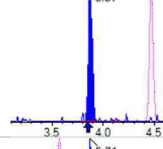
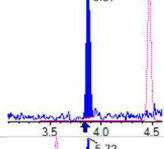
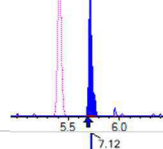
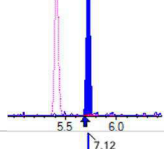
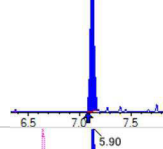
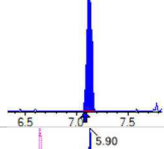
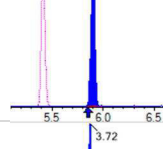
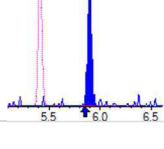
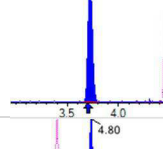
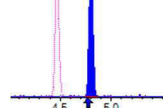


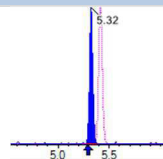
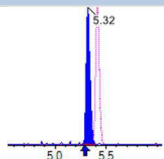
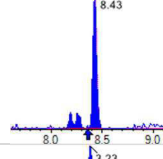
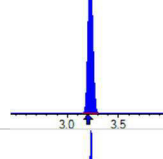
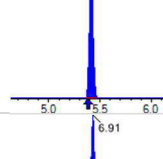
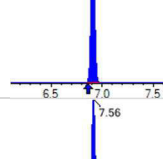
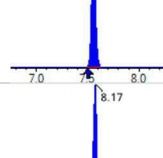
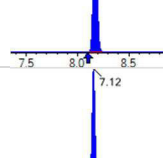
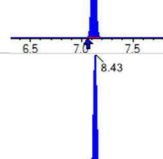
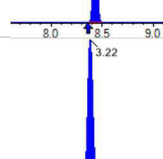
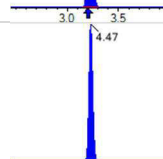
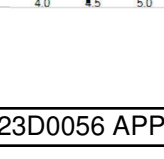
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (1)
 Acquired: 2023/04/18 - 16:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 22034 (427.0 / 81.0) 22509	(6.59, 1.00) (0.00, N/A, -0.1)	183.1 122.5	1.0215 138.4 138.4	0.3284	N/A			
8:2FTS	(527.0 / 507.0) 26943 (527.0 / 81.0) 17519	(7.86, 1.00) (0.00, N/A, 0.1)	174.2 158.6	0.6502 96.1 96.1	0.4202	N/A			
PFSBA	(297.9 / 78.0) 330192 (297.9 / 278.0) 429	(5.70, 0.64) (N/A, 0.03, 0.3)	324.7 26.7	0.0013 81.3 81.3	0.4100	N/A			
PFHxSA	(397.9 / 78.0) 250946 (397.9 / 378.0) 1026	(7.57, 0.85) (N/A, 0.03, 1.0)	238.4 35.4	0.0041 96.6 96.6	0.4251	N/A			
PFOSA	(498.0 / 78.0) 54200 (498.0 / 478.0) 832	(8.93, 1.00) (0.00, N/A, -0.5)	253.2 28.0	0.0153 61.8 61.8	0.0939	N/A			
NMeFOSA	(512.0 / 219.0) 80309 (512.0 / 169.0) 69922	(9.87, 1.00) (0.00, N/A, 0.4)	3715.2 2894.3	0.8707 116.3 116.3	0.3723	N/A			
NEtFOSA	(526.0 / 219.0) 96583 (526.0 / 169.0) 110650	(10.08, 1.00) (0.00, N/A, 1.1)	440407.6 46568.9	1.1456 98.0 98.0	0.4083	N/A			
NMeFOSAA	(570.0 / 419.0) 17808 (570.0 / 483.0) 6572	(8.12, 1.00) (0.00, N/A, -0.5)	326.9 2395.0	0.3691 77.6 77.6	0.0944	N/A			MI5 DG 2023-04-19
NEtFOSAA	(584.0 / 419.0) 7796 (584.0 / 526.0) 5951	(8.38, 1.00) (0.00, N/A, -0.6)	2538.3 145.8	0.7634 128.3 128.3	0.0871	N/A			
NMeFOSE	(616.0 / 59.0) 34917	(9.79, 1.00) (0.01, N/A, 0.0)	489.9	N/A 0.0 0.0	0.4157	N/A			
NEtFOSE	(630.0 / 59.0) 35087	(10.01, 1.00) (0.01, N/A, 0.0)	2455.1	N/A 0.0 0.0	0.3847	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CVmin, Δ RT ion(s))	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 19611 (285.0 / 185.0) 81365	(5.75, 1.00) (0.01, N/A, 0.3)	130.5 348.4	4.1489 88.0 88.0	0.2163	N/A			
ADONA	(377.0 / 85.0) 100950 (377.0 / 251.0) 8709	(6.47, 1.13) (N/A, 0.04, -0.2)	213.9 41.0	0.0863 79.6 79.6	0.1890	N/A			
9CI-PF3ONS	(531.0 / 351.0) 193797 (533.0 / 353.0) 61428	(8.85, 1.54) (N/A, 0.07, 0.0)	495.9 162.1	0.3170 97.1 97.1	0.1856	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 189250 (633.0 / 453.0) 70730	(9.65, 1.68) (N/A, 0.07, 0.1)	682.9 358.4	0.3737 101.7 101.7	0.2056	N/A			
PFECHS	(461.0 / 98.9) 220451 (461.0 / 381.2) 75243	(7.72, 0.92) (N/A, 0.07, 0.1)	302.7 171.2	0.3413 89.5 89.5	0.3000	N/A			
3:3FTCA	(241.0 / 177.0) 3961 (241.0 / 117.0) 6465	(3.87, 0.87) (N/A, 0.03, 0.1)	145.9 75.3	1.6319 98.1 98.1	0.3674	N/A			
5:3FTCA	(341.0 / 236.7) 13783 (341.0 / 217.0) 36821	(5.71, 1.06) (N/A, 0.03, -0.7)	136.2 172.3	2.6714 148.3 148.3	0.3014	N/A			
7:3FTCA	(441.0 / 317.0) 19380 (441.0 / 337.0) 26704	(7.12, 1.32) (N/A, 0.04, -0.1)	126.7 148.9	1.3779 115.0 115.0	0.3567	N/A			
PFEESA	(315.0 / 135.0) 65622 (315.0 / 83.0) 19813	(5.90, 1.09) (N/A, 0.05, 0.2)	312.9 79.1	0.3019 106.2 106.2	0.1926	N/A			
PFMPA	(229.0 / 85.0) 15805	(3.72, 0.83) (N/A, 0.03, 0.0)	301.6	N/A 0.0 0.0	0.2106	N/A			
PFMBA	(279.0 / 85.0) 41528	(4.80, 1.07) (N/A, 0.04, 0.0)	268.5	N/A 0.0 0.0	0.1965	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT- CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 40383 (295.0 / 85.0) 41087	(5.32, 0.98) (N/A, 0.04, 0.1)	316.2 252.8	1.0174 104.6 104.6	0.2125	N/A			
TDCA	(499.0 / 80.0) 87165	(8.43, 1.00) (N/A, 0.07, 0.0)	14958.5	N/A 0.0 0.0	0.0907	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 235804	(3.23, N/A) (N/A, 0.02, N/A)	572.1	N/A	1.1443 [1.0000]	114.4% {114.8%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 163206	(5.41, N/A) (N/A, 0.04, N/A)	410.6	N/A	1.1257 [1.0000]	112.6% {108.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 323269	(6.91, N/A) (N/A, 0.05, N/A)	395.0	N/A	1.1855 [1.0000]	118.6% {116.5%}			
13C5_PFNA_IIS	(468.0 / 423.0) 278039	(7.56, N/A) (N/A, 0.06, N/A)	350.8	N/A	1.1107 [1.0000]	111.1% {110.5%}			
13C2_PFDA_IIS	(515.0 / 470.1) 281705	(8.17, N/A) (N/A, 0.07, N/A)	290.9	N/A	1.1865 [1.0000]	118.6% {107.2%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 394354	(7.12, N/A) (N/A, 0.06, N/A)	263.4	N/A	1.0326 [1.0000]	103.3% {98.9%}			
13C4_PFOS_IIS	(503.0 / 79.9) 630715	(8.43, N/A) (N/A, 0.07, N/A)	698.4	N/A	1.3228 [1.0000]	132.3% {138.9%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1974637	(3.22, N/A) (N/A, 0.02, N/A)	1148.3	N/A	7.8171 [8.0000]	97.7% {112.8%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 1264933	(4.47, N/A) (N/A, 0.03, N/A)	998.1	N/A	3.9198 [4.0000]	98.0% {108.2%}			

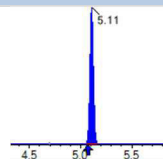
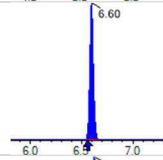
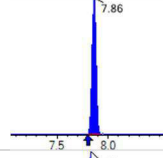
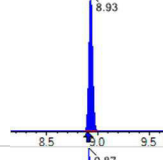
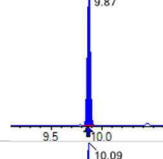
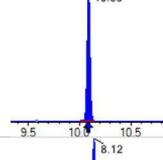
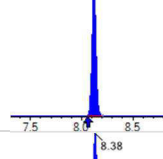
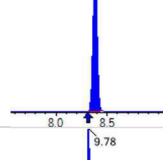
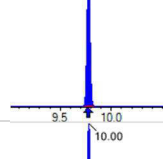
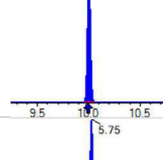
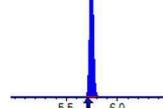


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (1)
 Acquired: 2023/04/18 - 16:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 678270	(5.41, N/A) (N/A, 0.04, N/A)	716.1	N/A	1.8561 [2.0000]	92.8% {101.3%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 551947	(6.21, N/A) (N/A, 0.04, N/A)	775.7	N/A	1.9137 [2.0000]	95.7% {103.6%}			
13C8_PFOA_EIS	(421.0 / 376.0) 742079	(6.91, N/A) (N/A, 0.05, N/A)	544.4	N/A	1.9291 [2.0000]	96.5% {115.8%}			
13C9_PFNA_EIS	(472.0 / 427.0) 289534	(7.56, N/A) (N/A, 0.06, N/A)	389.6	N/A	1.0032 [1.0000]	100.3% {108.0%}			
13C6_PFDA_EIS	(519.0 / 474.0) 319179	(8.17, N/A) (N/A, 0.07, N/A)	312.0	N/A	0.9550 [1.0000]	95.5% {114.4%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 285095	(8.74, N/A) (N/A, 0.07, N/A)	351.8	N/A	0.8866 [1.0000]	88.7% {105.0%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 252369	(9.19, N/A) (N/A, 0.06, N/A)	908.3	N/A	0.9254 [1.0000]	92.5% {110.9%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 316687	(9.90, N/A) (N/A, 0.07, N/A)	462.9	N/A	0.9415 [1.0000]	94.1% {111.9%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1609089	(5.45, N/A) (N/A, 0.04, N/A)	529.5	N/A	2.1446 [2.0000]	107.2% {111.0%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 628889	(7.12, N/A) (N/A, 0.06, N/A)	412.6	N/A	1.9879 [2.0000]	99.4% {108.4%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1624993	(8.43, N/A) (N/A, 0.07, N/A)	892.5	N/A	2.0627 [2.0000]	103.1% {146.2%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 145984	(5.11, N/A) (N/A, 0.03, N/A)	540.3	N/A	4.0369 [4.0000]	100.9% {103.0%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 180660	(6.60, N/A) (N/A, 0.04, N/A)	548.3	N/A	4.0273 [4.0000]	100.7% {108.1%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 185759	(7.86, N/A) (N/A, 0.06, N/A)	311.6	N/A	3.6658 [4.0000]	91.6% {103.4%}			
13C8_PFOSA_EIS	(506.0 / 78.0) 1382104	(8.93, N/A) (N/A, 0.02, N/A)	992.1	N/A	1.5632 [2.0000]	78.2% {102.1%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 442185	(9.87, N/A) (N/A, 0.01, N/A)	557.7	N/A	1.6154 [2.0000]	80.8% {105.4%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 439564	(10.09, N/A) (N/A, 0.01, N/A)	1039.2	N/A	1.6347 [2.0000]	81.7% {107.2%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 481003	(8.12, N/A) (N/A, 0.06, N/A)	528.4	N/A	2.9241 [4.0000]	73.1% {90.5%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 450261	(8.38, N/A) (N/A, 0.07, N/A)	289.2	N/A	3.4274 [4.0000]	85.7% {114.0%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1473314	(9.78, N/A) (N/A, 0.01, N/A)	1370.4	N/A	16.9886 [20.0000]	84.9% {108.8%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1798026	(10.00, N/A) (N/A, 0.01, N/A)	1529.0	N/A	16.7261 [20.0000]	83.6% {111.8%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1440060	(5.75, N/A) (N/A, 0.04, N/A)	1057.4	N/A	7.6569 [8.0000]	95.7% {105.9%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (2)
 Acquired: 2023/04/18 - 17:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 409227	(3.22, 1.00) (0.00, N/A, 0.0)	645.5	N/A 0.0 0.0	1.9746	N/A			
PFPeA	(263.0 / 219.0) 288186 (263.0 / 69.0) 2929	(4.46, 1.00) (0.00, N/A, -0.4)	600.2 55.3	0.0102 86.6 86.6	0.9714	N/A			
PFHxA	(313.0 / 269.0) 182651 (313.0 / 119.0) 17807	(5.40, 1.00) (0.00, N/A, 0.0)	307.2 93.6	0.0975 116.8 116.8	0.4986	N/A			
PFHpA	(363.0 / 319.0) 134596 (363.0 / 169.0) 28138	(6.19, 1.00) (0.00, N/A, 0.1)	281.7 137.2	0.2091 75.4 75.4	0.4625	N/A			
PFOA	(413.0 / 369.0) 173486 (413.0 / 169.0) 44510	(6.89, 1.00) (0.00, N/A, 0.1)	177.0 104.1	0.2566 85.9 85.9	0.5178	N/A			
PFNA	(463.0 / 419.0) 113619 (463.0 / 169.0) 23398	(7.53, 1.00) (0.00, N/A, -0.1)	316.1 155.6	0.2059 101.7 101.7	0.4552	N/A			
PFDA	(513.0 / 469.0) 138604 (513.0 / 169.0) 13500	(8.14, 1.00) (0.00, N/A, 0.2)	287.4 119.3	0.0974 99.3 99.3	0.4786	N/A			
PFUnA	(563.0 / 519.0) 125963 (563.0 / 169.0) 14615	(8.71, 1.00) (0.00, N/A, 0.1)	352.0 169.3	0.1160 115.0 115.0	0.5163	N/A			
PFDoA	(613.0 / 569.0) 105240 (613.0 / 169.0) 12879	(9.16, 1.00) (0.00, N/A, 0.2)	523.1 143.5	0.1224 85.9 85.9	0.4814	N/A			
PFTrDA	(663.0 / 619.0) 109957 (663.0 / 169.0) 24537	(9.54, 1.04) (N/A, 0.03, 0.1)	661.3 287.5	0.2231 108.3 108.3	0.4716	N/A			
PFTeDA	(713.0 / 669.0) 135815 (713.0 / 169.0) 27981	(9.87, 1.00) (0.00, N/A, 0.0)	398.5 178.7	0.2060 104.5 104.5	0.5195	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (2)
 Acquired: 2023/04/18 - 17:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 1031409 (813.0 / 169.0) 158353	(10.51 , 1.94) (N/A , 0.07 , 0.0)	1549.5 1342.5	0.1535 102.8 102.8	2.0809	N/A			
PFODA	(913.0 / 869.0) 651567 (913.0 / 169.0) 162483	(11.22 , 2.07) (N/A , 0.11 , 0.1)	681.0 392.6	0.2494 94.7 94.7	2.0508	N/A			
PFBS	(299.0 / 80.0) 206369 (299.0 / 99.0) 154372	(5.43 , 1.00) (0.00 , N/A , 0.1)	393.2 320.1	0.7480 108.8 108.8	0.4341	N/A			
PFPeS	(349.0 / 80.0) 340465 (349.0 / 99.0) 111203	(6.33 , 0.89) (N/A , 0.03 , 0.2)	437.2 234.5	0.3266 92.3 92.3	0.4528	N/A			
PFHxS	(399.0 / 80.0) 274554 (399.0 / 99.0) 88679	(7.09 , 1.00) (0.00 , N/A , 0.0)	10310186.0 289633.1	0.3230 91.3 91.3	0.4393	N/A			
PFHpS	(449.0 / 80.0) 248657 (449.0 / 99.0) 75644	(7.77 , 0.92) (N/A , 0.04 , 0.1)	648.0 421.8	0.3042 108.9 108.9	0.3860	N/A			
PFOS	(499.0 / 80.0) 422407 (499.0 / 99.0) 102995	(8.40 , 1.00) (0.00 , N/A , -0.1)	2198.7 4371.0	0.2438 105.9 105.9	0.4568	N/A			M14 ABK 4/19/23
PFNS	(549.0 / 80.0) 282713 (549.0 / 99.0) 65800	(8.93 , 1.06) (N/A , 0.04 , -0.1)	936.5 285.8	0.2327 94.4 94.4	0.3878	N/A			
PFDS	(599.0 / 80.0) 327975 (599.0 / 99.0) 83370	(9.35 , 1.11) (N/A , 0.03 , 0.0)	593.5 374.9	0.2542 110.9 110.9	0.3911	N/A			
PFDoS	(699.0 / 80.0) 384076 (699.0 / 99.0) 99251	(10.01 , 1.19) (N/A , 0.04 , 0.0)	882.8 486.2	0.2584 113.3 113.3	0.4055	N/A			
4:2FTS	(327.0 / 307.0) 212324 (327.0 / 81.0) 138622	(5.09 , 1.00) (0.00 , N/A , 0.1)	622.3 332.9	0.6529 100.4 100.4	2.0091	N/A			

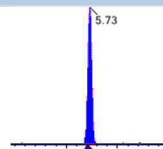
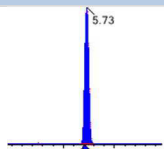
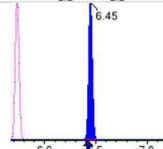
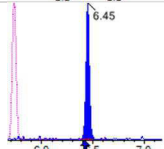
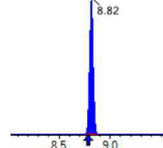
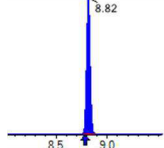
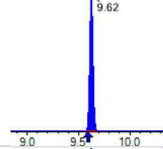
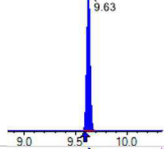
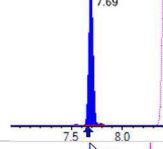
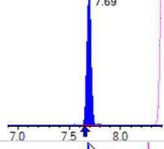
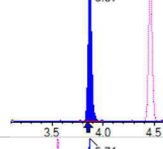
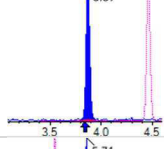
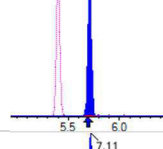
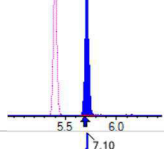
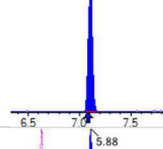
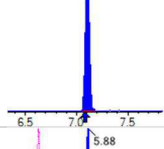
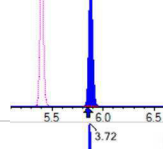
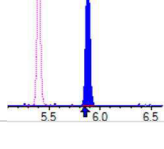
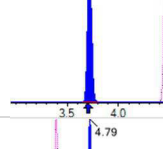
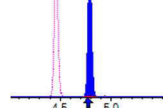


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (2)
 Acquired: 2023/04/18 - 17:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 127360 (427.0 / 81.0) 90613	(6.58, 1.00) (0.00, N/A, -0.1)	343.2 338.4	0.7115 96.4 96.4	1.9182	N/A			
8:2FTS	(527.0 / 507.0) 118005 (527.0 / 81.0) 90675	(7.83, 1.00) (0.00, N/A, 0.0)	304.2 293.6	0.7684 113.6 113.6	1.6150	N/A			
PFSBA	(297.9 / 78.0) 1651079 (297.9 / 278.0) 2829	(5.69, 0.64) (N/A, 0.02, -0.3)	507.3 41.4	0.0017 107.2 107.2	2.0027	N/A			
PFHxSA	(397.9 / 78.0) 1183599 (397.9 / 378.0) 3790	(7.56, 0.85) (N/A, 0.02, -0.3)	434.5 69.4	0.0032 75.7 75.7	1.9584	N/A			
PFOSA	(498.0 / 78.0) 283987 (498.0 / 478.0) 9188	(8.92, 1.00) (0.00, N/A, 0.1)	776.3 99.3	0.0324 130.3 130.3	0.4808	N/A			
NMeFOSA	(512.0 / 219.0) 409375 (512.0 / 169.0) 316422	(9.87, 1.00) (0.00, N/A, 0.8)	5857.5 18189.1	0.7729 103.2 103.2	2.0001	N/A			
NEtFOSA	(526.0 / 219.0) 442707 (526.0 / 169.0) 526191	(10.09, 1.00) (0.00, N/A, 1.4)	106261.8 25882.3	1.1886 101.6 101.6	1.9937	N/A			
NMeFOSAA	(570.0 / 419.0) 63571 (570.0 / 483.0) 28591	(8.09, 1.00) (0.00, N/A, 0.5)	1032539.9 91716.3	0.4498 94.5 94.5	0.5080	N/A			
NEtFOSAA	(584.0 / 419.0) 50778 (584.0 / 526.0) 30019	(8.35, 1.00) (0.00, N/A, -0.2)	1863827.3 11370.7	0.5912 99.3 99.3	0.6015	N/A			
NMeFOSE	(616.0 / 59.0) 156142	(9.79, 1.00) (0.01, N/A, 0.0)	1048.4	N/A 0.0 0.0	1.9951	N/A			
NEtFOSE	(630.0 / 59.0) 182079	(10.01, 1.00) (0.01, N/A, 0.0)	63673.4	N/A 0.0 0.0	2.0590	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 85065 (285.0 / 185.0) 400223	(5.73, 1.00) (0.00, N/A, 0.1)	456.9 601.7	4.7049 99.8 99.8	0.9720	N/A			
ADONA	(377.0 / 85.0) 482053 (377.0 / 251.0) 53529	(6.45, 1.12) (N/A, 0.02, -0.2)	412.2 146.2	0.1110 102.5 102.5	0.9347	N/A			
9CI-PF3ONS	(531.0 / 351.0) 965902 (533.0 / 353.0) 314744	(8.82, 1.54) (N/A, 0.04, 0.0)	315.2 360.8	0.3259 99.8 99.8	0.9581	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 800677 (633.0 / 453.0) 286197	(9.62, 1.68) (N/A, 0.04, -0.1)	1282.0 1126.7	0.3574 97.3 97.3	0.9009	N/A			
PFECHS	(461.0 / 98.9) 1097303 (461.0 / 381.2) 408772	(7.69, 0.92) (N/A, 0.04, 0.0)	478.3 498.2	0.3725 97.7 97.7	1.6581	N/A			
3:3FTCA	(241.0 / 177.0) 18984 (241.0 / 117.0) 30857	(3.87, 0.87) (N/A, 0.02, 0.0)	527.3 262.2	1.6254 97.7 97.7	1.7409	N/A			
5:3FTCA	(341.0 / 236.7) 92708 (341.0 / 217.0) 160637	(5.71, 1.06) (N/A, 0.02, -0.1)	405.5 423.8	1.7327 96.2 96.2	1.9717	N/A			
7:3FTCA	(441.0 / 317.0) 105396 (441.0 / 337.0) 128916	(7.11, 1.32) (N/A, 0.03, 0.1)	229.0 335.0	1.2232 102.1 102.1	1.8870	N/A			
PFEESA	(315.0 / 135.0) 292017 (315.0 / 83.0) 83968	(5.88, 1.09) (N/A, 0.03, -0.1)	815.1 293.3	0.2875 101.1 101.1	0.8336	N/A			
PFMPA	(229.0 / 85.0) 72253	(3.72, 0.83) (N/A, 0.02, 0.0)	709.8	N/A 0.0 0.0	0.9520	N/A			
PFMBA	(279.0 / 85.0) 203559	(4.79, 1.07) (N/A, 0.02, 0.0)	901.7	N/A 0.0 0.0	0.9521	N/A			

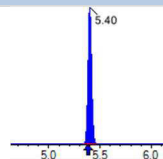
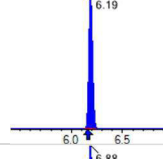
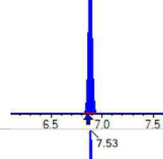
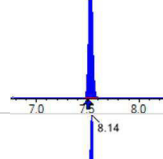
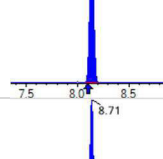
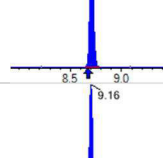
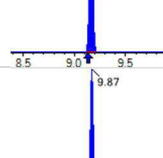
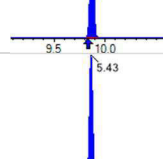
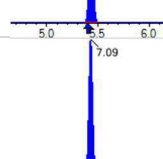
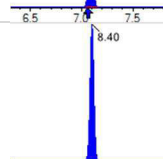
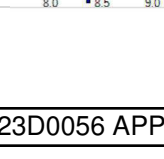


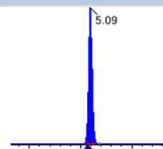
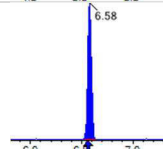
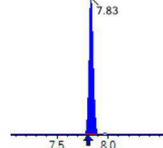
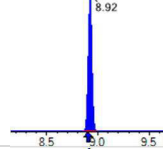
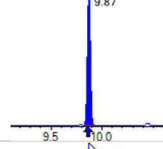
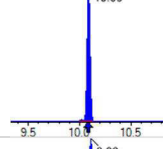
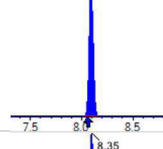
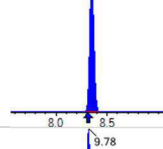
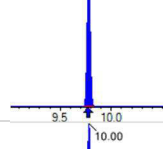
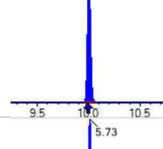
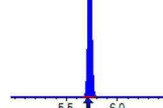
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (2)
 Acquired: 2023/04/18 - 17:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 185903 (295.0 / 85.0) 160856	(5.31, 0.98) (N/A, 0.02, -0.1)	652.3 703.9	0.8653 89.0 89.0	0.9517	N/A			
TDCA	(499.0 / 80.0) 414193	(8.40, 1.00) (N/A, 0.04, 0.0)	1214.5	N/A 0.0 0.0	0.4787	N/A			MI5 DG 2023-04-19
13C3_PFDA_IIS	(216.0 / 172.0) 216437	(3.22, N/A) (N/A, 0.02, N/A)	528.2	N/A	1.0503 [1.0000]	105.0% { 105.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 146047	(5.40, N/A) (N/A, 0.02, N/A)	446.9	N/A	1.0074 [1.0000]	100.7% { 97.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 283308	(6.88, N/A) (N/A, 0.03, N/A)	411.9	N/A	1.0390 [1.0000]	103.9% { 102.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 244905	(7.53, N/A) (N/A, 0.03, N/A)	368.9	N/A	0.9784 [1.0000]	97.8% { 97.3% }			
13C2_PFDA_IIS	(515.0 / 470.1) 218016	(8.14, N/A) (N/A, 0.04, N/A)	248.4	N/A	0.9182 [1.0000]	91.8% { 83.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 401560	(7.09, N/A) (N/A, 0.03, N/A)	249.2	N/A	1.0515 [1.0000]	105.1% { 100.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 528263	(8.40, N/A) (N/A, 0.04, N/A)	644.9	N/A	1.1079 [1.0000]	110.8% { 116.3% }			
13C4_PFDA_EIS	(217.0 / 172.0) 1921993	(3.22, N/A) (N/A, 0.02, N/A)	1007.4	N/A	8.2896 [8.0000]	103.6% { 109.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1279460	(4.46, N/A) (N/A, 0.02, N/A)	1197.2	N/A	4.4307 [4.0000]	110.8% { 109.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 697275	(5.40, N/A) (N/A, 0.02, N/A)	609.1	N/A	2.1323 [2.0000]	106.6% {104.1%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 548389	(6.19, N/A) (N/A, 0.02, N/A)	1764.0	N/A	2.1247 [2.0000]	106.2% {102.9%}			
13C8_PFOA_EIS	(421.0 / 376.0) 671405	(6.88, N/A) (N/A, 0.03, N/A)	372.1	N/A	1.9915 [2.0000]	99.6% {104.8%}			
13C9_PFNA_EIS	(472.0 / 427.0) 264578	(7.53, N/A) (N/A, 0.03, N/A)	363.8	N/A	1.0407 [1.0000]	104.1% {98.7%}			
13C6_PFDA_EIS	(519.0 / 474.0) 299399	(8.14, N/A) (N/A, 0.04, N/A)	487.0	N/A	1.1575 [1.0000]	115.8% {107.3%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 269115	(8.71, N/A) (N/A, 0.04, N/A)	351.5	N/A	1.0814 [1.0000]	108.1% {99.1%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 235350	(9.16, N/A) (N/A, 0.03, N/A)	1134.6	N/A	1.1151 [1.0000]	111.5% {103.5%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 283323	(9.87, N/A) (N/A, 0.04, N/A)	430.3	N/A	1.0883 [1.0000]	108.8% {100.1%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1558224	(5.43, N/A) (N/A, 0.03, N/A)	657.0	N/A	2.0396 [2.0000]	102.0% {107.5%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 654292	(7.09, N/A) (N/A, 0.03, N/A)	496.3	N/A	2.0311 [2.0000]	101.6% {112.8%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1463677	(8.40, N/A) (N/A, 0.04, N/A)	963.2	N/A	2.2183 [2.0000]	110.9% {131.7%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 132059	(5.09, N/A) (N/A, 0.02, N/A)	397.1	N/A	3.5863 [4.0000]	89.7% { 93.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 178745	(6.58, N/A) (N/A, 0.02, N/A)	453.9	N/A	3.9131 [4.0000]	97.8% { 107.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 211679	(7.83, N/A) (N/A, 0.03, N/A)	321.0	N/A	4.1023 [4.0000]	102.6% { 117.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1414869	(8.92, N/A) (N/A, 0.02, N/A)	1090.8	N/A	1.9106 [2.0000]	95.5% { 104.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 419523	(9.87, N/A) (N/A, 0.01, N/A)	450.1	N/A	1.8298 [2.0000]	91.5% { 100.0% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 412589	(10.09, N/A) (N/A, 0.01, N/A)	1121.1	N/A	1.8320 [2.0000]	91.6% { 100.6% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 497696	(8.09, N/A) (N/A, 0.03, N/A)	664.3	N/A	3.6124 [4.0000]	90.3% { 93.7% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 381958	(8.35, N/A) (N/A, 0.04, N/A)	388.1	N/A	3.4713 [4.0000]	86.8% { 96.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1372728	(9.78, N/A) (N/A, 0.01, N/A)	1179.5	N/A	18.8986 [20.0000]	94.5% { 101.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1743502	(10.00, N/A) (N/A, 0.01, N/A)	1735.4	N/A	19.3644 [20.0000]	96.8% { 108.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1390131	(5.73, N/A) (N/A, 0.02, N/A)	780.4	N/A	8.2599 [8.0000]	103.2% { 102.2% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (3)
 Acquired: 2023/04/18 - 17:24

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 808810	(3.21, 1.00) (0.00, N/A, 0.0)	876.2	N/A 0.0 0.0	4.0089	N/A			
PFPeA	(263.0 / 219.0) 560513 (263.0 / 69.0) 6498	(4.45, 1.00) (0.00, N/A, 0.1)	870.9 134.8	0.0116 98.8 98.8	1.9997	N/A			
PFHxA	(313.0 / 269.0) 359074 (313.0 / 119.0) 32751	(5.39, 1.00) (0.00, N/A, 0.0)	388.3 141.6	0.0912 109.3 109.3	1.0214	N/A			
PFHpA	(363.0 / 319.0) 277204 (363.0 / 169.0) 76658	(6.18, 1.00) (0.00, N/A, 0.1)	465.3 355.9	0.2765 99.7 99.7	1.0125	N/A			
PFOA	(413.0 / 369.0) 326078 (413.0 / 169.0) 100135	(6.87, 1.00) (0.00, N/A, 0.2)	256.5 218.0	0.3071 102.9 102.9	1.0110	N/A			
PFNA	(463.0 / 419.0) 250464 (463.0 / 169.0) 48420	(7.52, 1.00) (0.00, N/A, 0.1)	482.8 313.9	0.1933 95.5 95.5	0.9923	N/A			
PFDA	(513.0 / 469.0) 289357 (513.0 / 169.0) 29428	(8.12, 1.00) (0.00, N/A, -0.2)	405.2 129.7	0.1017 103.6 103.6	1.0695	N/A			
PFUnA	(563.0 / 519.0) 255358 (563.0 / 169.0) 25541	(8.69, 1.00) (0.00, N/A, 0.1)	260.4 245.9	0.1000 99.1 99.1	1.0571	N/A			
PFDoA	(613.0 / 569.0) 218736 (613.0 / 169.0) 28560	(9.15, 1.00) (0.00, N/A, 0.2)	1251.0 182.1	0.1306 91.7 91.7	0.9872	N/A			
PFTrDA	(663.0 / 619.0) 236677 (663.0 / 169.0) 52645	(9.52, 1.04) (N/A, 0.02, 0.0)	361.4 261.0	0.2224 107.9 107.9	1.0017	N/A			
PFTeDA	(713.0 / 669.0) 274025 (713.0 / 169.0) 49082	(9.85, 1.00) (0.00, N/A, -0.2)	577.4 186.0	0.1791 90.8 90.8	1.0420	N/A			

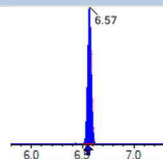
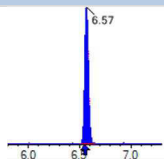
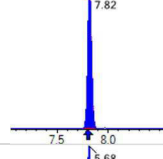
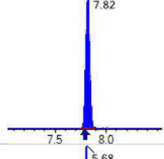
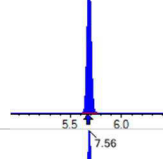
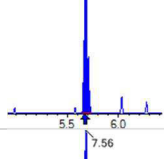
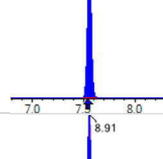
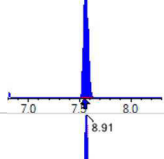
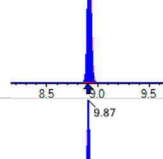
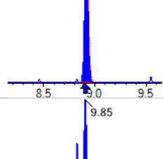
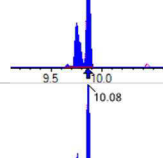
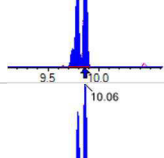
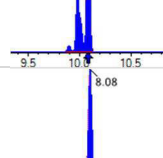
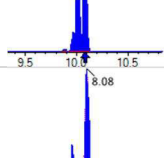
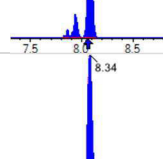
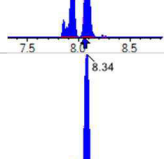
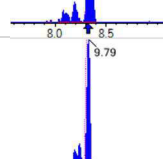
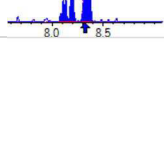
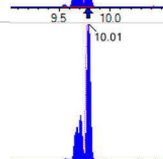
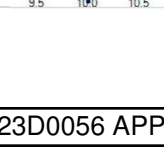


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (3)
 Acquired: 2023/04/18 - 17:24

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 2048337 (813.0 / 169.0) 304887	(10.48 , 1.93) (N/A , 0.03 , 0.0)	2954.6 1627.1	0.1488 99.7 99.7	4.2184	N/A			
PFODA	(913.0 / 869.0) 1350498 (913.0 / 169.0) 363422	(11.16 , 2.06) (N/A , 0.06 , 0.1)	947.0 598.3	0.2691 102.2 102.2	4.3390	N/A			
PFBS	(299.0 / 80.0) 414382 (299.0 / 99.0) 286931	(5.42 , 1.00) (0.00 , N/A , 0.0)	405.1 339.3	0.6924 100.7 100.7	0.8898	N/A			
PFPeS	(349.0 / 80.0) 694708 (349.0 / 99.0) 242235	(6.32 , 0.89) (N/A , 0.02 , 0.2)	753.0 396.9	0.3487 98.5 98.5	0.9908	N/A			
PFHxS	(399.0 / 80.0) 553240 (399.0 / 99.0) 191532	(7.07 , 1.00) (0.00 , N/A , -0.1)	81381.4 385764.0	0.3462 97.8 97.8	0.9493	N/A			
PFHpS	(449.0 / 80.0) 538331 (449.0 / 99.0) 152534	(7.75 , 0.92) (N/A , 0.02 , 0.1)	716.6 391.5	0.2833 101.4 101.4	0.9971	N/A			
PFOS	(499.0 / 80.0) 724635 (499.0 / 99.0) 165323	(8.39 , 1.00) (0.00 , N/A , 0.0)	17614.8 5494.7	0.2281 99.1 99.1	0.9350	N/A			
PFNS	(549.0 / 80.0) 594227 (549.0 / 99.0) 147981	(8.92 , 1.06) (N/A , 0.02 , 0.0)	865.5 542.2	0.2490 101.0 101.0	0.9724	N/A			
PFDS	(599.0 / 80.0) 680851 (599.0 / 99.0) 164851	(9.34 , 1.11) (N/A , 0.02 , 0.0)	1002.8 695.7	0.2421 105.7 105.7	0.9685	N/A			
PFDoS	(699.0 / 80.0) 703127 (699.0 / 99.0) 174065	(9.99 , 1.19) (N/A , 0.02 , 0.0)	738.1 573.3	0.2476 108.5 108.5	0.8858	N/A			
4:2FTS	(327.0 / 307.0) 430067 (327.0 / 81.0) 278279	(5.09 , 1.00) (0.00 , N/A , 0.1)	976.4 678.8	0.6471 99.5 99.5	3.8246	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 254642 (427.0 / 81.0) 192156	(6.57, 1.00) (0.00, N/A, 0.0)	525.9 424.3	0.7546 102.2 102.2	4.0550	N/A			
8:2FTS	(527.0 / 507.0) 275483 (527.0 / 81.0) 179068	(7.82, 1.00) (0.00, N/A, -0.1)	482.5 539.4	0.6500 96.1 96.1	4.2912	N/A			
PFSBA	(297.9 / 78.0) 3408962 (297.9 / 278.0) 6444	(5.68, 0.64) (N/A, 0.01, 0.1)	793.7 96.0	0.0019 118.3 118.3	4.4053	N/A			
PFHxSA	(397.9 / 78.0) 2446467 (397.9 / 378.0) 9860	(7.56, 0.85) (N/A, 0.01, -0.2)	640.4 140.9	0.0040 95.3 95.3	4.3126	N/A			
PFOSA	(498.0 / 78.0) 565598 (498.0 / 478.0) 15069	(8.91, 1.00) (0.00, N/A, 0.0)	696.3 179.1	0.0266 107.3 107.3	1.0202	N/A			
NMeFOSA	(512.0 / 219.0) 810745 (512.0 / 169.0) 641008	(9.87, 1.00) (0.00, N/A, 0.8)	8854.9 627136.9	0.7906 105.6 105.6	4.3400	N/A			
NEtFOSA	(526.0 / 219.0) 894622 (526.0 / 169.0) 1088046	(10.08, 1.00) (0.00, N/A, 1.4)	30047.6 11262.9	1.2162 104.0 104.0	3.9874	N/A			
NMeFOSAA	(570.0 / 419.0) 121509 (570.0 / 483.0) 56837	(8.08, 1.00) (0.00, N/A, 0.0)	93969.5 118254.7	0.4678 98.3 98.3	1.0291	N/A			
NEtFOSAA	(584.0 / 419.0) 87279 (584.0 / 526.0) 52940	(8.34, 1.00) (0.01, N/A, 0.1)	3460438.3 2321.6	0.6066 101.9 101.9	1.0121	N/A			
NMeFOSE	(616.0 / 59.0) 283503	(9.79, 1.00) (0.02, N/A, 0.0)	1750.7	N/A 0.0 0.0	4.3139	N/A			
NEtFOSE	(630.0 / 59.0) 314245	(10.01, 1.00) (0.01, N/A, 0.0)	1564.7	N/A 0.0 0.0	3.9855	N/A			

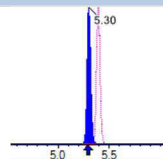
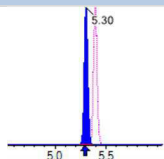
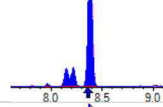
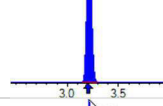
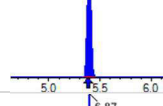
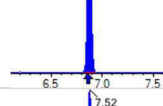
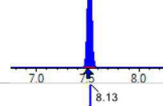
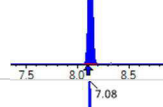
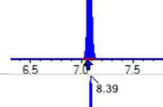
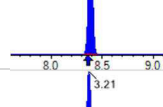
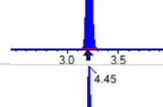
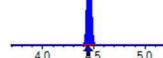


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (3)
 Acquired: 2023/04/18 - 17:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 173525 (285.0 / 185.0) 792732	(5.72, 1.00) (0.00, N/A, 0.0)	626.5 818.4	4.5684 96.9 96.9	2.0118	N/A			
ADONA	(377.0 / 85.0) 1031761 (377.0 / 251.0) 119666	(6.44, 1.13) (N/A, 0.02, 0.0)	378.2 179.5	0.1160 107.0 107.0	2.0297	N/A			
9CI-PF3ONS	(531.0 / 351.0) 2038315 (533.0 / 353.0) 665666	(8.80, 1.54) (N/A, 0.02, 0.0)	640.9 201.7	0.3266 100.0 100.0	2.0512	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 1779230 (633.0 / 453.0) 685444	(9.61, 1.68) (N/A, 0.02, -0.1)	1941.2 1708.1	0.3852 104.8 104.8	2.0312	N/A			
PFECHS	(461.0 / 98.9) 2187186 (461.0 / 381.2) 830500	(7.68, 0.92) (N/A, 0.02, 0.0)	541.1 376.8	0.3797 99.6 99.6	3.9432	N/A			
3:3FTCA	(241.0 / 177.0) 40518 (241.0 / 117.0) 62588	(3.86, 0.87) (N/A, 0.01, 0.0)	570.5 473.8	1.5447 92.9 92.9	3.9326	N/A			
5:3FTCA	(341.0 / 236.7) 197919 (341.0 / 217.0) 340767	(5.70, 1.06) (N/A, 0.01, 0.0)	422.8 611.6	1.7218 95.6 95.6	4.3862	N/A			
7:3FTCA	(441.0 / 317.0) 209994 (441.0 / 337.0) 249063	(7.10, 1.32) (N/A, 0.02, 0.0)	367.7 479.6	1.1860 99.0 99.0	3.9177	N/A			
PFEESA	(315.0 / 135.0) 606834 (315.0 / 83.0) 182344	(5.87, 1.09) (N/A, 0.02, 0.2)	814.2 414.2	0.3005 105.6 105.6	1.8052	N/A			
PFMPA	(229.0 / 85.0) 149919	(3.71, 0.83) (N/A, 0.01, 0.0)	838.8	N/A 0.0 0.0	2.0908	N/A			
PFMBA	(279.0 / 85.0) 403482	(4.78, 1.07) (N/A, 0.01, 0.0)	1021.0	N/A 0.0 0.0	1.9974	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 391806 (295.0 / 85.0) 348497	(5.30, 0.98) (N/A, 0.01, -0.1)	1034.6 776.5	0.8895 91.5 91.5	2.0902	N/A			
TDCA	(499.0 / 80.0) 748039	(8.38, 1.00) (N/A, 0.03, 0.0)	19901.0	N/A 0.0 0.0	1.0314	N/A			
13C3_PFDA_IIS	(216.0 / 172.0) 220149	(3.21, N/A) (N/A, 0.01, N/A)	567.2	N/A	1.0683 [1.0000]	106.8% { 107.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 149846	(5.39, N/A) (N/A, 0.02, N/A)	322.0	N/A	1.0336 [1.0000]	103.4% { 99.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 273321	(6.87, N/A) (N/A, 0.02, N/A)	372.4	N/A	1.0024 [1.0000]	100.2% { 98.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 253018	(7.52, N/A) (N/A, 0.02, N/A)	351.1	N/A	1.0108 [1.0000]	101.1% { 100.5% }			
13C2_PFDA_IIS	(515.0 / 470.1) 239822	(8.13, N/A) (N/A, 0.02, N/A)	323.3	N/A	1.0101 [1.0000]	101.0% { 91.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 394076	(7.08, N/A) (N/A, 0.02, N/A)	311.0	N/A	1.0319 [1.0000]	103.2% { 98.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 503144	(8.39, N/A) (N/A, 0.03, N/A)	415.8	N/A	1.0552 [1.0000]	105.5% { 110.8% }			
13C4_PFDA_EIS	(217.0 / 172.0) 1871022	(3.21, N/A) (N/A, 0.01, N/A)	1187.5	N/A	7.9337 [8.0000]	99.2% { 106.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1208837	(4.45, N/A) (N/A, 0.01, N/A)	1313.8	N/A	4.0800 [4.0000]	102.0% { 103.4% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (3)
 Acquired: 2023/04/18 - 17:24

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 669154	(5.39, N/A) (N/A, 0.02, N/A)	717.8	N/A	1.9945 [2.0000]	99.7% {99.9%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 515934	(6.18, N/A) (N/A, 0.02, N/A)	1008.3	N/A	1.9483 [2.0000]	97.4% {96.8%}			
13C8_PFOA_EIS	(421.0 / 376.0) 646311	(6.87, N/A) (N/A, 0.02, N/A)	456.7	N/A	1.9871 [2.0000]	99.4% {100.9%}			
13C9_PFNA_EIS	(472.0 / 427.0) 267531	(7.52, N/A) (N/A, 0.02, N/A)	250.3	N/A	1.0186 [1.0000]	101.9% {99.8%}			
13C6_PFDA_EIS	(519.0 / 474.0) 279731	(8.12, N/A) (N/A, 0.02, N/A)	234.6	N/A	0.9832 [1.0000]	98.3% {100.2%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 266421	(8.70, N/A) (N/A, 0.02, N/A)	164.3	N/A	0.9733 [1.0000]	97.3% {98.1%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 238524	(9.15, N/A) (N/A, 0.02, N/A)	855.5	N/A	1.0273 [1.0000]	102.7% {104.9%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 284970	(9.85, N/A) (N/A, 0.02, N/A)	359.3	N/A	0.9951 [1.0000]	99.5% {100.7%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1526527	(5.42, N/A) (N/A, 0.02, N/A)	663.1	N/A	2.0360 [2.0000]	101.8% {105.3%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 610137	(7.08, N/A) (N/A, 0.02, N/A)	399.2	N/A	1.9300 [2.0000]	96.5% {105.2%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1226790	(8.39, N/A) (N/A, 0.03, N/A)	580.9	N/A	1.9521 [2.0000]	97.6% {110.4%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (3)
 Acquired: 2023/04/18 - 17:24

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 140515	(5.09, N/A) (N/A, 0.01, N/A)	585.1	N/A	3.8885 [4.0000]	97.2% { 99.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 169061	(6.57, N/A) (N/A, 0.01, N/A)	335.8	N/A	3.7714 [4.0000]	94.3% { 101.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 185980	(7.82, N/A) (N/A, 0.02, N/A)	335.9	N/A	3.6727 [4.0000]	91.8% { 103.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1328063	(8.92, N/A) (N/A, 0.01, N/A)	964.6	N/A	1.8829 [2.0000]	94.1% { 98.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 382891	(9.86, N/A) (N/A, 0.00, N/A)	416.8	N/A	1.7534 [2.0000]	87.7% { 91.3% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 416876	(10.08, N/A) (N/A, 0.01, N/A)	1000.7	N/A	1.9434 [2.0000]	97.2% { 101.6% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 502030	(8.08, N/A) (N/A, 0.02, N/A)	437.2	N/A	3.8257 [4.0000]	95.6% { 94.5% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 387505	(8.33, N/A) (N/A, 0.02, N/A)	425.3	N/A	3.6976 [4.0000]	92.4% { 98.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1152693	(9.77, N/A) (N/A, 0.00, N/A)	1102.3	N/A	16.6616 [20.0000]	83.3% { 85.1% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1554543	(9.99, N/A) (N/A, 0.01, N/A)	1347.5	N/A	18.1277 [20.0000]	90.6% { 96.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1370145	(5.72, N/A) (N/A, 0.02, N/A)	869.7	N/A	7.9347 [8.0000]	99.2% { 100.8% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (4)
 Acquired: 2023/04/18 - 17:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1679395	(3.21, 1.00) (0.00, N/A, 0.0)	994.3	N/A 0.0 0.0	8.5131	N/A			
PFPeA	(263.0 / 219.0) 1166787 (263.0 / 69.0) 14800	(4.44, 1.00) (0.00, N/A, 0.0)	1167.2 170.7	0.0127 108.1 108.1	4.2456	N/A			
PFHxA	(313.0 / 269.0) 767281 (313.0 / 119.0) 66167	(5.38, 1.00) (0.00, N/A, 0.1)	469.2 282.1	0.0862 103.3 103.3	2.1721	N/A			
PFHpA	(363.0 / 319.0) 581694 (363.0 / 169.0) 152337	(6.17, 1.00) (0.00, N/A, 0.0)	823.5 466.5	0.2619 94.5 94.5	2.0779	N/A			
PFOA	(413.0 / 369.0) 695958 (413.0 / 169.0) 204090	(6.86, 1.00) (0.00, N/A, 0.1)	367.5 285.8	0.2933 98.2 98.2	2.0367	N/A			
PFNA	(463.0 / 419.0) 513434 (463.0 / 169.0) 103104	(7.51, 1.00) (0.00, N/A, 0.0)	783.8 453.9	0.2008 99.2 99.2	2.1150	N/A			
PFDA	(513.0 / 469.0) 588696 (513.0 / 169.0) 57792	(8.11, 1.00) (0.00, N/A, 0.1)	643.2 367.9	0.0982 100.0 100.0	1.9921	N/A			
PFUnA	(563.0 / 519.0) 519119 (563.0 / 169.0) 53519	(8.68, 1.00) (0.00, N/A, 0.0)	306.8 177.2	0.1031 102.2 102.2	2.0482	N/A			
PFDoA	(613.0 / 569.0) 469715 (613.0 / 169.0) 63043	(9.14, 1.00) (0.00, N/A, 0.0)	1683.1 422.5	0.1342 94.2 94.2	2.3316	N/A			
PFTrDA	(663.0 / 619.0) 488219 (663.0 / 169.0) 111882	(9.51, 1.04) (N/A, 0.01, 0.1)	915.0 658.9	0.2292 111.2 111.2	2.2726	N/A			
PFTeDA	(713.0 / 669.0) 579496 (713.0 / 169.0) 111988	(9.84, 1.00) (0.00, N/A, 0.1)	583.5 682.3	0.1933 98.0 98.0	2.0875	N/A			

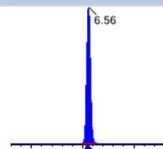
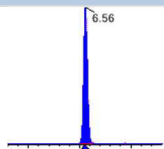
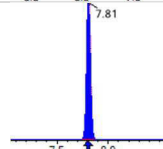
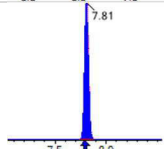
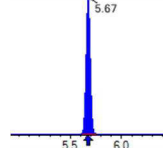
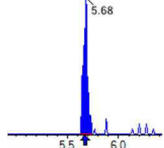
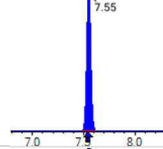
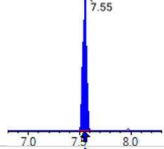
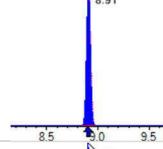
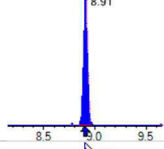
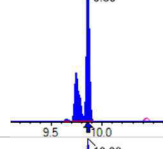
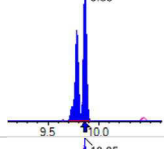
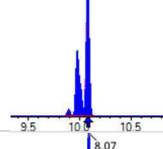
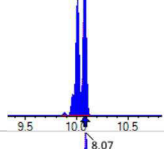
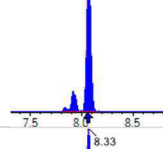
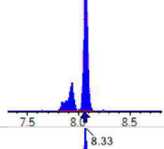
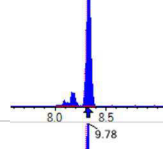
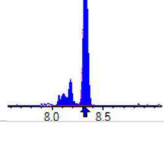
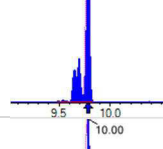
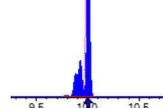


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (4)
 Acquired: 2023/04/18 - 17:40

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 4148225 (813.0 / 169.0) 627470	(10.46 , 1.93) (N/A , 0.01 , 0.1)	3725.9 2869.7	0.1513 101.3 101.3	8.6116	N/A			
PFODA	(913.0 / 869.0) 2783367 (913.0 / 169.0) 735139	(11.13 , 2.06) (N/A , 0.02 , 0.1)	1520.4 847.7	0.2641 100.3 100.3	9.0145	N/A			
PFBS	(299.0 / 80.0) 829774 (299.0 / 99.0) 618519	(5.41 , 1.00) (0.00 , N/A , -0.1)	550.1 522.2	0.7454 108.4 108.4	1.7960	N/A			
PFPeS	(349.0 / 80.0) 1436283 (349.0 / 99.0) 515915	(6.31 , 0.89) (N/A , 0.01 , 0.1)	1144.2 796.3	0.3592 101.5 101.5	1.9455	N/A			
PFHxS	(399.0 / 80.0) 1164217 (399.0 / 99.0) 379545	(7.06 , 1.00) (0.00 , N/A , -0.1)	209879.6 3768.2	0.3260 92.1 92.1	1.8973	N/A			
PFHpS	(449.0 / 80.0) 1077188 (449.0 / 99.0) 322351	(7.74 , 0.92) (N/A , 0.01 , 0.1)	870.7 389.2	0.2993 107.1 107.1	2.0403	N/A			
PFOS	(499.0 / 80.0) 1481836 (499.0 / 99.0) 336040	(8.37 , 1.00) (0.00 , N/A , 0.0)	25260.2 12968.8	0.2268 98.5 98.5	1.9553	N/A			
PFNS	(549.0 / 80.0) 1242191 (549.0 / 99.0) 311085	(8.91 , 1.06) (N/A , 0.01 , 0.0)	976.8 713.0	0.2504 101.5 101.5	2.0787	N/A			
PFDS	(599.0 / 80.0) 1441599 (599.0 / 99.0) 350084	(9.32 , 1.11) (N/A , 0.01 , 0.1)	1063.8 1031.5	0.2428 106.0 106.0	2.0972	N/A			
PFDoS	(699.0 / 80.0) 1724971 (699.0 / 99.0) 395829	(9.98 , 1.19) (N/A , 0.01 , 0.0)	923.3 565.4	0.2295 100.6 100.6	2.2222	N/A			
4:2FTS	(327.0 / 307.0) 883964 (327.0 / 81.0) 572915	(5.08 , 1.00) (0.00 , N/A , 0.0)	1021.7 793.1	0.6481 99.7 99.7	7.8876	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 533964 (427.0 / 81.0) 387490	(6.56 , 1.00) (0.00 , N/A , 0.1)	547.0 471.2	0.7257 98.3 98.3	8.4206	N/A			
8:2FTS	(527.0 / 507.0) 557862 (527.0 / 81.0) 373426	(7.81 , 1.00) (-0.01 , N/A , 0.0)	345.5 398.8	0.6694 98.9 98.9	8.5053	N/A			
PFSBA	(297.9 / 78.0) 7197102 (297.9 / 278.0) 8761	(5.67 , 0.64) (N/A , 0.01 , -0.2)	1015.9 66.0	0.0012 76.2 76.2	8.8692	N/A			
PFHxSA	(397.9 / 78.0) 5168957 (397.9 / 378.0) 20207	(7.55 , 0.85) (N/A , 0.01 , 0.0)	762.1 227.8	0.0039 92.4 92.4	8.6892	N/A			
PFOSA	(498.0 / 78.0) 1195966 (498.0 / 478.0) 36208	(8.91 , 1.00) (0.00 , N/A , 0.0)	731.2 194.1	0.0303 121.9 121.9	2.0572	N/A			
NMeFOSA	(512.0 / 219.0) 1765306 (512.0 / 169.0) 1351710	(9.86 , 1.00) (0.00 , N/A , 0.8)	5878.0 4476.6	0.7657 102.2 102.2	8.4670	N/A			
NEtFOSA	(526.0 / 219.0) 1911248 (526.0 / 169.0) 2336380	(10.08 , 1.00) (0.00 , N/A , 1.6)	16737.2 9720.8	1.2224 104.5 104.5	8.3437	N/A			
NMeFOSAA	(570.0 / 419.0) 247943 (570.0 / 483.0) 108332	(8.07 , 1.00) (0.00 , N/A , -0.1)	10745.3 3806.5	0.4369 91.8 91.8	2.2585	N/A			
NEtFOSAA	(584.0 / 419.0) 173037 (584.0 / 526.0) 108010	(8.33 , 1.00) (0.01 , N/A , 0.2)	51895.1 1452.8	0.6242 104.9 104.9	1.9523	N/A			
NMeFOSE	(616.0 / 59.0) 601115	(9.78 , 1.00) (0.01 , N/A , 0.0)	2354.5	N/A 0.0 0.0	8.3421	N/A			
NEtFOSE	(630.0 / 59.0) 744714	(10.00 , 1.00) (0.01 , N/A , 0.0)	1922457.1	N/A 0.0 0.0	8.5112	N/A			

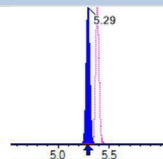
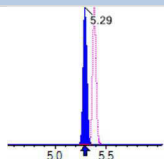
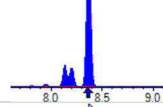
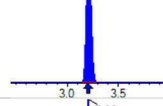
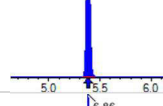
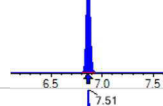
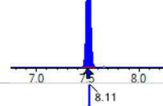
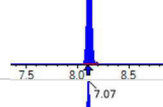
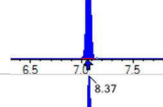
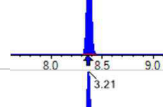
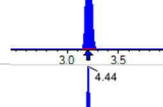
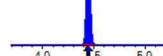


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (4)
 Acquired: 2023/04/18 - 17:40

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 345711 (285.0 / 185.0) 1669505	(5.71, 1.00) (0.00, N/A, 0.0)	451.7 992.2	4.8292 102.5 102.5	3.9589	N/A			
ADONA	(377.0 / 85.0) 2139848 (377.0 / 251.0) 231100	(6.43, 1.13) (N/A, 0.01, 0.0)	652.2 199.7	0.1080 99.7 99.7	4.1581	N/A			
9CI-PF3ONS	(531.0 / 351.0) 4462693 (533.0 / 353.0) 1370148	(8.79, 1.54) (N/A, 0.01, 0.0)	569.1 523.9	0.3070 94.1 94.1	4.4360	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 3725027 (633.0 / 453.0) 1302124	(9.60, 1.68) (N/A, 0.01, 0.0)	1659.3 1204.7	0.3496 95.1 95.1	4.2004	N/A			
PFECHS	(461.0 / 98.9) 4844844 (461.0 / 381.2) 1688961	(7.66, 0.92) (N/A, 0.01, 0.0)	698.0 547.2	0.3486 91.4 91.4	8.9322	N/A			
3:3FTCA	(241.0 / 177.0) 83959 (241.0 / 117.0) 139383	(3.86, 0.87) (N/A, 0.01, 0.1)	663.8 680.3	1.6601 99.8 99.8	8.3114	N/A			
5:3FTCA	(341.0 / 236.7) 396131 (341.0 / 217.0) 695734	(5.69, 1.06) (N/A, 0.01, 0.0)	490.2 596.4	1.7563 97.5 97.5	8.7368	N/A			
7:3FTCA	(441.0 / 317.0) 429229 (441.0 / 337.0) 562749	(7.09, 1.32) (N/A, 0.01, -0.1)	434.1 391.5	1.3111 109.4 109.4	7.9695	N/A			
PFEESA	(315.0 / 135.0) 1312386 (315.0 / 83.0) 366531	(5.86, 1.09) (N/A, 0.01, 0.0)	656.0 605.4	0.2793 98.2 98.2	3.8853	N/A			
PFMPA	(229.0 / 85.0) 304930	(3.70, 0.83) (N/A, 0.01, 0.0)	1048.1	N/A 0.0 0.0	4.3375	N/A			
PFMBA	(279.0 / 85.0) 872692	(4.77, 1.07) (N/A, 0.01, 0.0)	1444.1	N/A 0.0 0.0	4.4064	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 826415 (295.0 / 85.0) 758989	(5.29, 0.98) (N/A, 0.01, 0.0)	929.3 958.0	0.9184 94.4 94.4	4.3875	N/A			
TDCA	(499.0 / 80.0) 1463275	(8.37, 1.00) (N/A, 0.01, 0.0)	6711.2	N/A 0.0 0.0	2.0632	N/A			
13C3_PFDA_IIS	(216.0 / 172.0) 216876	(3.21, N/A) (N/A, 0.01, N/A)	601.6	N/A	1.0524 [1.0000]	105.2% { 105.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 158117	(5.38, N/A) (N/A, 0.01, N/A)	336.4	N/A	1.0906 [1.0000]	109.1% { 105.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 283258	(6.86, N/A) (N/A, 0.01, N/A)	587.0	N/A	1.0388 [1.0000]	103.9% { 102.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 266161	(7.51, N/A) (N/A, 0.01, N/A)	515.8	N/A	1.0633 [1.0000]	106.3% { 105.8% }			
13C2_PFDA_IIS	(515.0 / 470.1) 253929	(8.11, N/A) (N/A, 0.01, N/A)	436.5	N/A	1.0695 [1.0000]	106.9% { 96.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 403677	(7.07, N/A) (N/A, 0.01, N/A)	481.9	N/A	1.0570 [1.0000]	105.7% { 101.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 489650	(8.37, N/A) (N/A, 0.01, N/A)	519.6	N/A	1.0269 [1.0000]	102.7% { 107.8% }			
13C4_PFDA_EIS	(217.0 / 172.0) 1829467	(3.21, N/A) (N/A, 0.01, N/A)	1102.2	N/A	7.8745 [8.0000]	98.4% { 104.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1185203	(4.44, N/A) (N/A, 0.01, N/A)	1243.8	N/A	3.7910 [4.0000]	94.8% { 101.4% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (4)
 Acquired: 2023/04/18 - 17:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 672373	(5.38, N/A) (N/A, 0.01, N/A)	934.7	N/A	1.8992 [2.0000]	95.0% { 100.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 527553	(6.17, N/A) (N/A, 0.01, N/A)	1322.7	N/A	1.8880 [2.0000]	94.4% { 99.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 684737	(6.86, N/A) (N/A, 0.01, N/A)	423.6	N/A	2.0314 [2.0000]	101.6% { 106.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 257292	(7.51, N/A) (N/A, 0.01, N/A)	378.1	N/A	0.9312 [1.0000]	93.1% { 96.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 305530	(8.11, N/A) (N/A, 0.01, N/A)	189.5	N/A	1.0142 [1.0000]	101.4% { 109.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 279549	(8.68, N/A) (N/A, 0.01, N/A)	188.2	N/A	0.9645 [1.0000]	96.4% { 102.9% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 216863	(9.14, N/A) (N/A, 0.01, N/A)	1407.6	N/A	0.8822 [1.0000]	88.2% { 95.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 300835	(9.84, N/A) (N/A, 0.01, N/A)	452.2	N/A	0.9922 [1.0000]	99.2% { 106.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1514364	(5.41, N/A) (N/A, 0.01, N/A)	515.7	N/A	1.9718 [2.0000]	98.6% { 104.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 642431	(7.07, N/A) (N/A, 0.01, N/A)	577.7	N/A	1.9838 [2.0000]	99.2% { 110.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1199635	(8.37, N/A) (N/A, 0.01, N/A)	434.7	N/A	1.9615 [2.0000]	98.1% { 107.9% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (4)
 Acquired: 2023/04/18 - 17:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 140043	(5.08, N/A) (N/A, 0.01, N/A)	518.9	N/A	3.7832 [4.0000]	94.6% { 98.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 170715	(6.56, N/A) (N/A, 0.00, N/A)	457.5	N/A	3.7177 [4.0000]	92.9% { 102.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 190014	(7.81, N/A) (N/A, 0.01, N/A)	432.2	N/A	3.6632 [4.0000]	91.6% { 105.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1392649	(8.91, N/A) (N/A, 0.01, N/A)	582.7	N/A	2.0289 [2.0000]	101.4% { 102.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 427336	(9.86, N/A) (N/A, 0.00, N/A)	392.9	N/A	2.0109 [2.0000]	100.5% { 101.9% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 425617	(10.08, N/A) (N/A, 0.00, N/A)	960.7	N/A	2.0388 [2.0000]	101.9% { 103.8% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 484571	(8.07, N/A) (N/A, 0.01, N/A)	405.3	N/A	3.7944 [4.0000]	94.9% { 91.2% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 396370	(8.32, N/A) (N/A, 0.01, N/A)	365.6	N/A	3.8864 [4.0000]	97.2% { 100.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1263898	(9.77, N/A) (N/A, 0.00, N/A)	1357.2	N/A	18.7724 [20.0000]	93.9% { 93.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1725114	(9.99, N/A) (N/A, 0.00, N/A)	1888.1	N/A	20.6711 [20.0000]	103.4% { 107.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1387135	(5.71, N/A) (N/A, 0.01, N/A)	1170.2	N/A	7.6129 [8.0000]	95.2% { 102.0% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (5)
 Acquired: 2023/04/18 - 17:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3584141	(3.20, 1.00) (0.00, N/A, 0.0)	1416.8	N/A 0.0 0.0	18.9871	N/A			
PFPeA	(263.0 / 219.0) 2598694 (263.0 / 69.0) 30489	(4.44, 1.00) (0.00, N/A, 0.0)	1456.6 370.2	0.0117 100.0 100.0	9.5842	N/A			
PFHxA	(313.0 / 269.0) 1616813 (313.0 / 119.0) 134923	(5.38, 1.00) (0.00, N/A, 0.0)	856.3 508.5	0.0834 100.0 100.0	4.5963	N/A			
PFHpA	(363.0 / 319.0) 1234145 (363.0 / 169.0) 342150	(6.16, 1.00) (0.00, N/A, 0.0)	763.7 988.9	0.2772 100.0 100.0	4.3644	N/A			
PFOA	(413.0 / 369.0) 1430217 (413.0 / 169.0) 427014	(6.86, 1.00) (0.00, N/A, 0.0)	448.0 336.7	0.2986 100.0 100.0	4.4722	N/A			
PFNA	(463.0 / 419.0) 1131077 (463.0 / 169.0) 229058	(7.50, 1.00) (0.00, N/A, -0.1)	908.0 533.0	0.2025 100.0 100.0	4.4723	N/A			
PFDA	(513.0 / 469.0) 1288463 (513.0 / 169.0) 126440	(8.10, 1.00) (0.00, N/A, 0.0)	500.0 452.2	0.0981 100.0 100.0	4.7740	N/A			
PFUnA	(563.0 / 519.0) 1148910 (563.0 / 169.0) 115918	(8.67, 1.00) (0.00, N/A, 0.0)	628.0 246.3	0.1009 100.0 100.0	4.6656	N/A			
PFDoA	(613.0 / 569.0) 961123 (613.0 / 169.0) 136920	(9.13, 1.00) (0.00, N/A, 0.0)	1297.2 517.0	0.1425 100.0 100.0	4.5485	N/A			
PFTTrDA	(663.0 / 619.0) 1007779 (663.0 / 169.0) 207732	(9.50, 1.04) (N/A, 0.00, 0.1)	1283.2 476.1	0.2061 100.0 100.0	4.4725	N/A			
PFTeDA	(713.0 / 669.0) 1204031 (713.0 / 169.0) 237474	(9.83, 1.00) (0.00, N/A, 0.0)	800.2 551.8	0.1972 100.0 100.0	4.6088	N/A			



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL5
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18B (5)
Acquired: 2023/04/18 - 17:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 8688577 (813.0 / 169.0) 1297095	(10.45 , 1.93) (N/A , 0.00 , 0.0)	3268.1 2982.7	0.1493 100.0 100.0	18.8406	N/A			
PFODA	(913.0 / 869.0) 5906267 (913.0 / 169.0) 1555380	(11.11 , 2.05) (N/A , 0.00 , 0.0)	1752.1 1174.6	0.2633 100.0 100.0	19.9807	N/A			
PFBS	(299.0 / 80.0) 1877047 (299.0 / 99.0) 1290247	(5.41 , 1.00) (0.00 , N/A , 0.0)	622.6 546.2	0.6874 100.0 100.0	4.2438	N/A			
PFPeS	(349.0 / 80.0) 3278329 (349.0 / 99.0) 1160358	(6.30 , 0.89) (N/A , 0.00 , 0.0)	913.3 1037.9	0.3539 100.0 100.0	4.9182	N/A			
PFHxS	(399.0 / 80.0) 2355995 (399.0 / 99.0) 833593	(7.06 , 1.00) (0.00 , N/A , 0.1)	221805.4 175688.4	0.3538 100.0 100.0	4.2523	N/A			
PFHpS	(449.0 / 80.0) 2454523 (449.0 / 99.0) 685778	(7.73 , 0.92) (N/A , 0.00 , 0.1)	1048.2 740.6	0.2794 100.0 100.0	5.0185	N/A			
PFOS	(499.0 / 80.0) 2975778 (499.0 / 99.0) 685249	(8.36 , 1.00) (0.00 , N/A , 0.0)	19507.7 121828.8	0.2303 100.0 100.0	4.2385	N/A			
PFNS	(549.0 / 80.0) 2733038 (549.0 / 99.0) 674094	(8.90 , 1.06) (N/A , 0.00 , 0.0)	1320.9 1058.5	0.2466 100.0 100.0	4.9370	N/A			
PFDS	(599.0 / 80.0) 3153293 (599.0 / 99.0) 722464	(9.31 , 1.11) (N/A , 0.00 , 0.0)	1460.1 1091.2	0.2291 100.0 100.0	4.9518	N/A			
PFDoS	(699.0 / 80.0) 3599418 (699.0 / 99.0) 821081	(9.97 , 1.19) (N/A , 0.00 , 0.0)	1019.5 837.0	0.2281 100.0 100.0	5.0055	N/A			
4:2FTS	(327.0 / 307.0) 1951799 (327.0 / 81.0) 1269408	(5.07 , 1.00) (0.00 , N/A , 0.0)	981.0 1061.4	0.6504 100.0 100.0	17.2089	N/A			

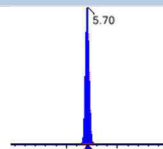
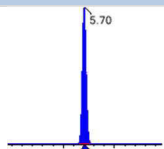
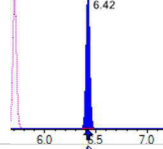
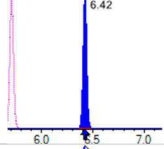
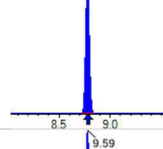
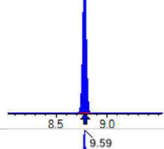
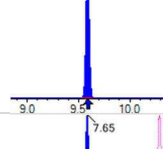
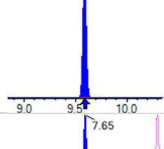
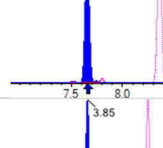
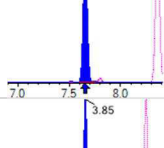
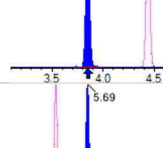
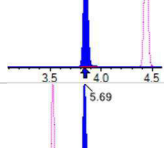
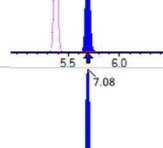
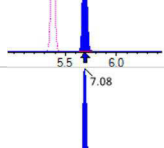
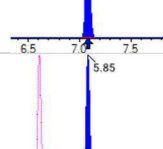
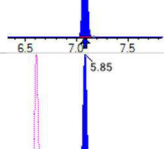
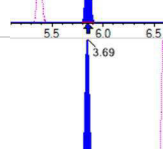
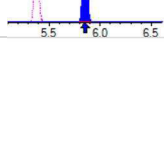
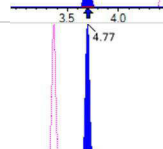
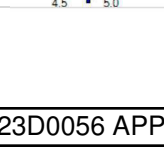


Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL5
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18B (5)
Acquired: 2023/04/18 - 17:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 1206994 (427.0 / 81.0) 891058	(6.55 , 1.00) (0.00 , N/A , 0.0)	797.2 526.6	0.7382 100.0 100.0	19.4471	N/A			
8:2FTS	(527.0 / 507.0) 1206896 (527.0 / 81.0) 816544	(7.80 , 1.00) (0.00 , N/A , 0.0)	652.7 657.0	0.6766 100.0 100.0	19.4645	N/A			
PFSBA	(297.9 / 78.0) 15214285 (297.9 / 278.0) 24315	(5.67 , 0.64) (N/A , 0.00 , -0.2)	903.3 186.7	0.0016 100.0 100.0	19.2854	N/A			
PFHxSA	(397.9 / 78.0) 10981101 (397.9 / 378.0) 46458	(7.54 , 0.85) (N/A , 0.00 , 0.0)	946.1 212.9	0.0042 100.0 100.0	18.9877	N/A			
PFOSA	(498.0 / 78.0) 2726709 (498.0 / 478.0) 67717	(8.90 , 1.00) (-0.01 , N/A , 0.0)	988.4 295.7	0.0248 100.0 100.0	4.8244	N/A			
NMeFOSA	(512.0 / 219.0) 3905755 (512.0 / 169.0) 2925130	(9.86 , 1.00) (0.00 , N/A , 0.8)	2460061.6 5603.7	0.7489 100.0 100.0	19.0809	N/A			
NEtFOSA	(526.0 / 219.0) 4119688 (526.0 / 169.0) 4818271	(10.08 , 1.00) (0.00 , N/A , 1.2)	11832.1 9599.2	1.1696 100.0 100.0	18.6633	N/A			
NMeFOSAA	(570.0 / 419.0) 531386 (570.0 / 483.0) 252860	(8.06 , 1.00) (0.00 , N/A , 0.1)	14909.1 28979.1	0.4758 100.0 100.0	4.4858	N/A			
NEtFOSAA	(584.0 / 419.0) 414308 (584.0 / 526.0) 246601	(8.32 , 1.00) (0.01 , N/A , 0.0)	17924.5 4735.2	0.5952 100.0 100.0	4.6755	N/A			
NMeFOSE	(616.0 / 59.0) 1377571	(9.78 , 1.00) (0.01 , N/A , 0.0)	29841524.6	N/A 0.0 0.0	17.8470	N/A			
NEtFOSE	(630.0 / 59.0) 1508287	(10.00 , 1.00) (0.01 , N/A , 0.0)	43846563.4	N/A 0.0 0.0	18.4904	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 798070 (285.0 / 185.0) 3761001	(5.70, 1.00) (0.00, N/A, 0.0)	965.7 927.8	4.7126 100.0 100.0	9.3245	N/A			
ADONA	(377.0 / 85.0) 4632968 (377.0 / 251.0) 502108	(6.42, 1.13) (N/A, 0.00, 0.0)	687.4 294.4	0.1084 100.0 100.0	9.1852	N/A			
9CI-PF3ONS	(531.0 / 351.0) 9429428 (533.0 / 353.0) 3078027	(8.78, 1.54) (N/A, 0.00, 0.0)	713.5 496.1	0.3264 100.0 100.0	9.5632	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 7543693 (633.0 / 453.0) 2772585	(9.59, 1.68) (N/A, 0.00, 0.0)	2008.2 1145.0	0.3675 100.0 100.0	8.6790	N/A			
PFECHS	(461.0 / 98.9) 10061797 (461.0 / 381.2) 3837820	(7.65, 0.92) (N/A, 0.00, 0.0)	595.5 517.2	0.3814 100.0 100.0	20.0248	N/A			
3:3FTCA	(241.0 / 177.0) 175297 (241.0 / 117.0) 291525	(3.85, 0.87) (N/A, 0.00, 0.1)	1177.6 1064.4	1.6630 100.0 100.0	17.5890	N/A			
5:3FTCA	(341.0 / 236.7) 832671 (341.0 / 217.0) 1499872	(5.69, 1.06) (N/A, 0.00, 0.0)	598.1 876.4	1.8013 100.0 100.0	18.4419	N/A			
7:3FTCA	(441.0 / 317.0) 976418 (441.0 / 337.0) 1170111	(7.08, 1.32) (N/A, 0.00, 0.0)	487.6 597.2	1.1984 100.0 100.0	18.2052	N/A			
PFEESA	(315.0 / 135.0) 2776559 (315.0 / 83.0) 789716	(5.85, 1.09) (N/A, 0.00, 0.0)	925.4 994.4	0.2844 100.0 100.0	8.2545	N/A			
PFMPA	(229.0 / 85.0) 637804	(3.69, 0.83) (N/A, 0.00, 0.0)	1349.3	N/A 0.0 0.0	9.1956	N/A			
PFMBA	(279.0 / 85.0) 1799511	(4.77, 1.07) (N/A, 0.00, 0.0)	1569.5	N/A 0.0 0.0	9.2094	N/A			



Chemist: ABK
Instrument: Saphira

Sample I.D.: SC01530-CAL5
DF, IV: 1, 10.0µL

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18B (5)

Type: Sciex Q3 5500

Acquisition Method: 1633 2023-04-18.dam

Acquired: 2023/04/18 - 17:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 1707605 (295.0 / 85.0) 1660533	(5.29, 0.98) (N/A, 0.00, 0.0)	1329.9 1226.1	0.9724 100.0 100.0	9.1040	N/A			
TDCA	(499.0 / 80.0) 3124048	(8.36, 1.00) (N/A, 0.00, 0.0)	8370.7	N/A 0.0 0.0	4.7549	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 205477	(3.20, N/A) (N/A, 0.00, N/A)	507.9	N/A	0.9971 [1.0000]	99.7% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 150136	(5.38, N/A) (N/A, 0.00, N/A)	703.2	N/A	1.0356 [1.0000]	103.6% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 277401	(6.86, N/A) (N/A, 0.00, N/A)	396.3	N/A	1.0173 [1.0000]	101.7% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 251675	(7.50, N/A) (N/A, 0.00, N/A)	427.6	N/A	1.0054 [1.0000]	100.5% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 262798	(8.10, N/A) (N/A, 0.00, N/A)	281.3	N/A	1.1068 [1.0000]	110.7% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 398846	(7.06, N/A) (N/A, 0.00, N/A)	419.9	N/A	1.0444 [1.0000]	104.4% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 454043	(8.36, N/A) (N/A, 0.00, N/A)	431.8	N/A	0.9523 [1.0000]	95.2% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1750602	(3.20, N/A) (N/A, 0.00, N/A)	1263.7	N/A	7.9531 [8.0000]	99.4% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1169324	(4.44, N/A) (N/A, 0.00, N/A)	1031.1	N/A	3.9390 [4.0000]	98.5% { 100.0% }			

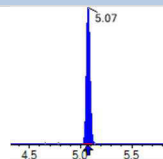
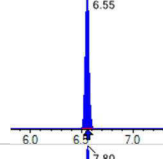
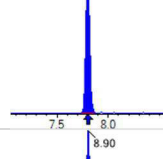
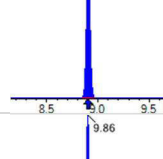
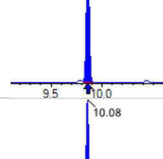
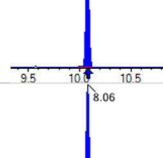
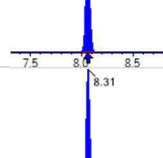
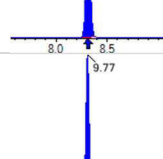
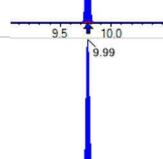
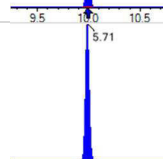
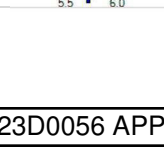


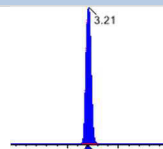
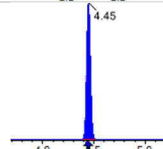
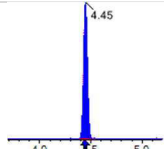
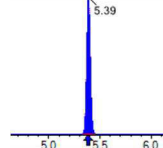
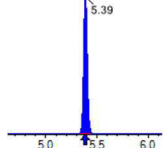
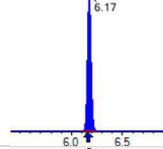
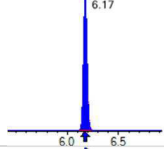
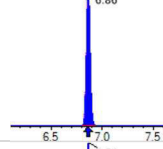
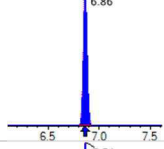
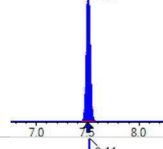
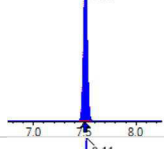
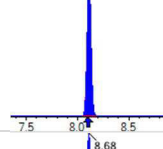
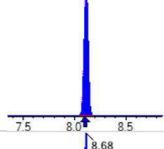
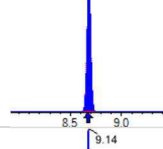
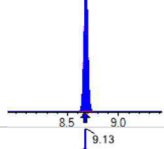
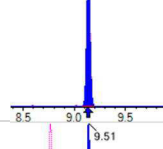
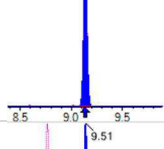
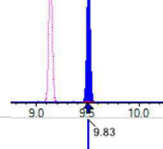
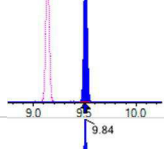
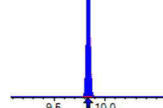
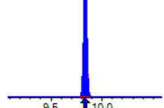
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (5)
 Acquired: 2023/04/18 - 17:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 669562	(5.38, N/A) (N/A, 0.00, N/A)	671.1	N/A	1.9918 [2.0000]	99.6% {100.0%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 532879	(6.16, N/A) (N/A, 0.00, N/A)	795.9	N/A	2.0084 [2.0000]	100.4% {100.0%}			
13C8_PFOA_EIS	(421.0 / 376.0) 640834	(6.86, N/A) (N/A, 0.00, N/A)	473.8	N/A	1.9413 [2.0000]	97.1% {100.0%}			
13C9_PFNA_EIS	(472.0 / 427.0) 268057	(7.50, N/A) (N/A, 0.00, N/A)	681.7	N/A	1.0260 [1.0000]	102.6% {100.0%}			
13C6_PFDA_EIS	(519.0 / 474.0) 279041	(8.10, N/A) (N/A, 0.00, N/A)	361.2	N/A	0.8950 [1.0000]	89.5% {100.0%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 271599	(8.67, N/A) (N/A, 0.00, N/A)	328.8	N/A	0.9054 [1.0000]	90.5% {100.0%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 227467	(9.13, N/A) (N/A, 0.00, N/A)	567.7	N/A	0.8941 [1.0000]	89.4% {100.0%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 283105	(9.83, N/A) (N/A, 0.00, N/A)	489.1	N/A	0.9022 [1.0000]	90.2% {100.0%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1449794	(5.41, N/A) (N/A, 0.00, N/A)	672.6	N/A	1.9106 [2.0000]	95.5% {100.0%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 580053	(7.06, N/A) (N/A, 0.00, N/A)	429.8	N/A	1.8129 [2.0000]	90.6% {100.0%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1111315	(8.36, N/A) (N/A, 0.00, N/A)	399.2	N/A	1.9596 [2.0000]	98.0% {100.0%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 141728	(5.07, N/A) (N/A, 0.00, N/A)	484.2	N/A	3.8751 [4.0000]	96.9% {100.0%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 167090	(6.55, N/A) (N/A, 0.00, N/A)	426.5	N/A	3.6829 [4.0000]	92.1% {100.0%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 179628	(7.80, N/A) (N/A, 0.00, N/A)	357.0	N/A	3.5049 [4.0000]	87.6% {100.0%}			
13C8_PFOSA_EIS	(506.0 / 78.0) 1353913	(8.90, N/A) (N/A, 0.00, N/A)	660.6	N/A	2.1272 [2.0000]	106.4% {100.0%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 419552	(9.86, N/A) (N/A, 0.00, N/A)	573.0	N/A	2.1291 [2.0000]	106.5% {100.0%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 410146	(10.08, N/A) (N/A, 0.00, N/A)	881.3	N/A	2.1188 [2.0000]	105.9% {100.0%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 531293	(8.06, N/A) (N/A, 0.00, N/A)	574.7	N/A	4.4866 [4.0000]	112.2% {100.0%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 395089	(8.31, N/A) (N/A, 0.00, N/A)	427.4	N/A	4.1776 [4.0000]	104.4% {100.0%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1353867	(9.77, N/A) (N/A, 0.00, N/A)	1294.6	N/A	21.6857 [20.0000]	108.4% {100.0%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1608261	(9.99, N/A) (N/A, 0.00, N/A)	1532.2	N/A	20.7822 [20.0000]	103.9% {100.0%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1359548	(5.71, N/A) (N/A, 0.00, N/A)	976.6	N/A	7.8582 [8.0000]	98.2% {100.0%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 6890436	(3.21, 1.00) (0.00, N/A, 0.0)	1292.5	N/A 0.0 0.0	40.8127	N/A			
PFPeA	(263.0 / 219.0) 5017304 (263.0 / 69.0) 59112	(4.45, 1.00) (0.00, N/A, 0.0)	1511.6 620.2	0.0118 100.4 100.4	19.5380	N/A			
PFHxA	(313.0 / 269.0) 3200830 (313.0 / 119.0) 278013	(5.39, 1.00) (0.00, N/A, 0.0)	864.9 500.2	0.0869 104.1 104.1	9.9451	N/A			
PFHpA	(363.0 / 319.0) 2560647 (363.0 / 169.0) 704420	(6.17, 1.00) (0.00, N/A, 0.0)	1176.6 932.0	0.2751 99.2 99.2	10.2821	N/A			
PFOA	(413.0 / 369.0) 2896645 (413.0 / 169.0) 901367	(6.86, 1.00) (0.00, N/A, 0.0)	685.2 553.0	0.3112 104.2 104.2	9.2404	N/A			
PFNA	(463.0 / 419.0) 2358436 (463.0 / 169.0) 454722	(7.51, 1.00) (0.00, N/A, -0.1)	699.3 396.9	0.1928 95.2 95.2	9.8867	N/A			
PFDA	(513.0 / 469.0) 2561203 (513.0 / 169.0) 254302	(8.11, 1.00) (0.00, N/A, -0.1)	751.6 432.5	0.0993 101.2 101.2	10.3809	N/A			
PFUnA	(563.0 / 519.0) 2292741 (563.0 / 169.0) 250635	(8.68, 1.00) (0.00, N/A, -0.1)	708.9 401.2	0.1093 108.3 108.3	9.7219	N/A			
PFDoA	(613.0 / 569.0) 1998856 (613.0 / 169.0) 299865	(9.14, 1.00) (0.00, N/A, 0.0)	1272.3 1094.6	0.1500 105.3 105.3	10.2262	N/A			
PFTrDA	(663.0 / 619.0) 2168691 (663.0 / 169.0) 448682	(9.51, 1.04) (N/A, 0.01, 0.0)	1447.4 955.9	0.2069 100.4 100.4	10.4045	N/A			
PFTeDA	(713.0 / 669.0) 2507800 (713.0 / 169.0) 450782	(9.83, 1.00) (0.00, N/A, 0.0)	794.9 712.8	0.1798 91.1 91.1	10.1564	N/A			

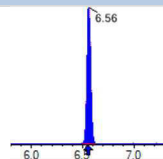
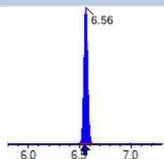
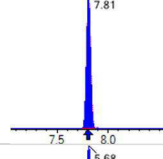
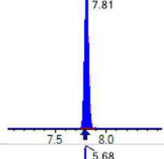
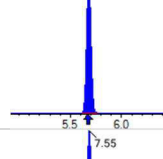
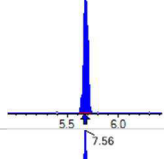
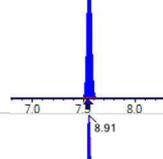
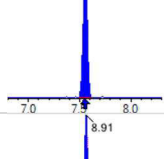
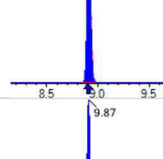
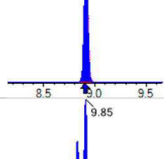
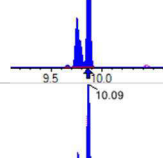
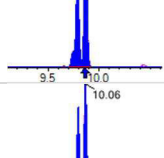
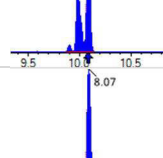
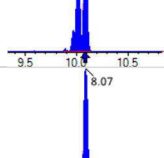
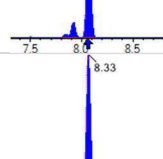
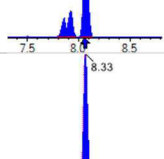
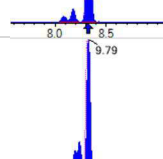
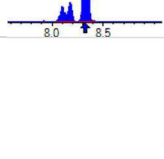
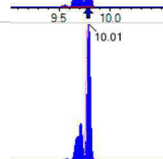
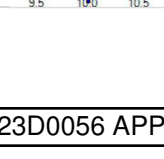


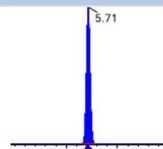
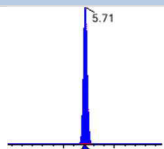
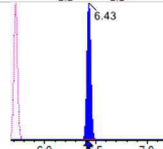
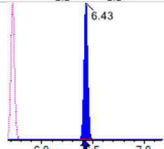
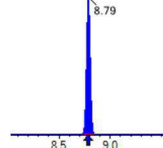
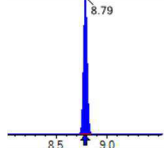
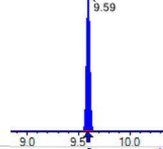
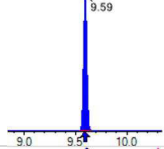
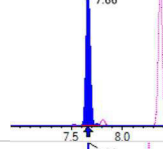
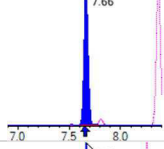
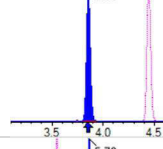
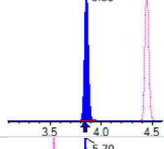
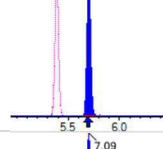
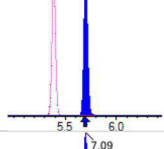
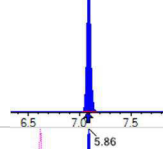
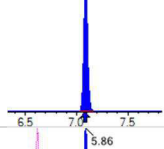
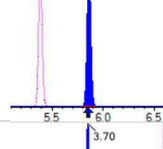
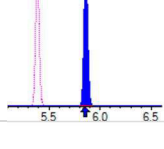
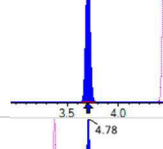
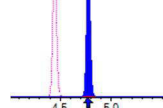
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

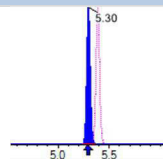
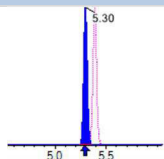
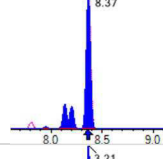
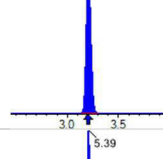
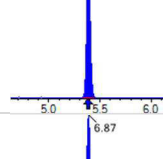
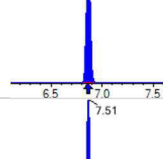
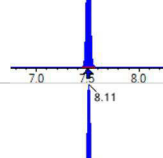
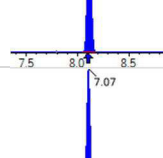
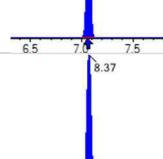
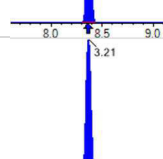
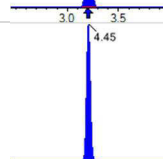
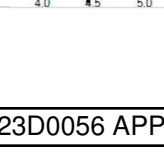
Sample I.D.: SC01530-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (6)
 Acquired: 2023/04/18 - 18:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 15925396 (813.0 / 169.0) 2439569	(10.45 , 1.93) (N/A , 0.00 , 0.0)	3254.5 3105.2	0.1532 102.6 102.6	36.4993	N/A			
PFODA	(913.0 / 869.0) 11213166 (913.0 / 169.0) 3002473	(11.10 , 2.05) (N/A , 0.00 , 0.0)	2021.4 1595.3	0.2678 101.7 101.7	40.0936	N/A			
PFBS	(299.0 / 80.0) 3878519 (299.0 / 99.0) 282252	(5.42 , 1.00) (0.00 , N/A , 0.0)	596.0 788.2	0.7277 105.9 105.9	9.2681	N/A			
PFPeS	(349.0 / 80.0) 6680233 (349.0 / 99.0) 2335485	(6.31 , 0.89) (N/A , 0.01 , -0.1)	754.6 1080.3	0.3496 98.8 98.8	9.4340	N/A			
PFHxS	(399.0 / 80.0) 5248711 (399.0 / 99.0) 1776901	(7.06 , 1.00) (0.00 , N/A , 0.0)	28543.6 334444.5	0.3385 95.7 95.7	8.9177	N/A			
PFHpS	(449.0 / 80.0) 4710802 (449.0 / 99.0) 1414780	(7.74 , 0.92) (N/A , 0.01 , 0.1)	1190.5 929.2	0.3003 107.5 107.5	10.4751	N/A			
PFOS	(499.0 / 80.0) 6020897 (499.0 / 99.0) 1420454	(8.37 , 1.00) (0.00 , N/A , -0.1)	55513.9 4530.1	0.2359 102.5 102.5	9.3269	N/A			
PFNS	(549.0 / 80.0) 5311119 (549.0 / 99.0) 1361197	(8.91 , 1.06) (N/A , 0.01 , 0.0)	1309.8 1045.7	0.2563 103.9 103.9	10.4343	N/A			
PFDS	(599.0 / 80.0) 6182363 (599.0 / 99.0) 1434786	(9.32 , 1.11) (N/A , 0.01 , 0.1)	1191.1 931.3	0.2321 101.3 101.3	10.5588	N/A			
PFDoS	(699.0 / 80.0) 7282086 (699.0 / 99.0) 1681567	(9.98 , 1.19) (N/A , 0.01 , 0.0)	1124.2 808.6	0.2309 101.2 101.2	11.0136	N/A			
4:2FTS	(327.0 / 307.0) 4045148 (327.0 / 81.0) 2591149	(5.08 , 1.00) (0.00 , N/A , 0.1)	1208.4 1178.6	0.6406 98.5 98.5	36.6844	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 2264472 (427.0 / 81.0) 1693408	(6.56 , 1.00) (0.00 , N/A , 0.0)	588.4 862.5	0.7478 101.3 101.3	36.0145	N/A			
8:2FTS	(527.0 / 507.0) 2403131 (527.0 / 81.0) 1654535	(7.81 , 1.00) (0.00 , N/A , 0.0)	832.8 681.4	0.6885 101.8 101.8	39.0267	N/A			
PFSBA	(297.9 / 78.0) 28265627 (297.9 / 278.0) 48709	(5.68 , 0.64) (N/A , 0.01 , 0.1)	830.1 200.4	0.0017 107.8 107.8	38.0518	N/A			
PFHxSA	(397.9 / 78.0) 21676889 (397.9 / 378.0) 85660	(7.55 , 0.85) (N/A , 0.01 , 0.0)	921.5 161.1	0.0040 93.4 93.4	39.8072	N/A			
PFOSA	(498.0 / 78.0) 5398127 (498.0 / 478.0) 127994	(8.91 , 1.00) (-0.01 , N/A , -0.1)	1295.1 480.4	0.0237 95.5 95.5	10.1435	N/A			
NMeFOSA	(512.0 / 219.0) 7779256 (512.0 / 169.0) 5924301	(9.87 , 1.00) (0.00 , N/A , 1.1)	5960168.2 5125.1	0.7616 101.7 101.7	38.4149	N/A			
NEtFOSA	(526.0 / 219.0) 8597079 (526.0 / 169.0) 10246389	(10.09 , 1.00) (0.00 , N/A , 1.5)	11449.6 8523.9	1.1918 101.9 101.9	40.2680	N/A			
NMeFOSAA	(570.0 / 419.0) 1016044 (570.0 / 483.0) 465545	(8.07 , 1.00) (0.00 , N/A , 0.0)	6778.1 8043761.5	0.4582 96.3 96.3	9.7033	N/A			
NEtFOSAA	(584.0 / 419.0) 844598 (584.0 / 526.0) 479613	(8.33 , 1.00) (0.01 , N/A , 0.0)	26118.3 93069.3	0.5679 95.4 95.4	9.7843	N/A			
NMeFOSE	(616.0 / 59.0) 2788483	(9.79 , 1.00) (0.01 , N/A , 0.0)	577907792.0	N/A 0.0 0.0	38.8669	N/A			
NEtFOSE	(630.0 / 59.0) 3106997	(10.01 , 1.00) (0.01 , N/A , 0.0)	45902448.8	N/A 0.0 0.0	37.6533	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 1534807 (285.0 / 185.0) 7619802	(5.71, 1.00) (0.00, N/A, 0.0)	840.4 1263.0	4.9647 105.3 105.3	19.4112	N/A			
ADONA	(377.0 / 85.0) 9256784 (377.0 / 251.0) 992849	(6.43, 1.13) (N/A, 0.01, 0.0)	716.3 483.9	0.1073 99.0 99.0	19.8656	N/A			
9CI-PF3ONS	(531.0 / 351.0) 17982724 (533.0 / 353.0) 5995717	(8.79, 1.54) (N/A, 0.01, 0.0)	571.4 732.2	0.3334 102.1 102.1	19.7417	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 14916382 (633.0 / 453.0) 5440459	(9.59, 1.68) (N/A, 0.01, 0.0)	2277.3 1297.0	0.3647 99.2 99.2	18.5763	N/A			
PFECHS	(461.0 / 98.9) 19615859 (461.0 / 381.2) 7783670	(7.66, 0.92) (N/A, 0.01, 0.1)	837.0 522.1	0.3968 104.0 104.0	42.4580	N/A			
3:3FTCA	(241.0 / 177.0) 371461 (241.0 / 117.0) 621219	(3.86, 0.87) (N/A, 0.01, 0.0)	1548.7 1529.7	1.6724 100.6 100.6	39.3540	N/A			
5:3FTCA	(341.0 / 236.7) 1681672 (341.0 / 217.0) 3062348	(5.70, 1.06) (N/A, 0.01, 0.1)	792.2 1168.3	1.8210 101.1 101.1	40.7074	N/A			
7:3FTCA	(441.0 / 317.0) 1983743 (441.0 / 337.0) 2326591	(7.09, 1.32) (N/A, 0.01, 0.0)	611.8 519.7	1.1728 97.9 97.9	40.4245	N/A			
PFEESA	(315.0 / 135.0) 5709003 (315.0 / 83.0) 1621012	(5.86, 1.09) (N/A, 0.01, 0.1)	1374.2 760.9	0.2839 99.8 99.8	18.5500	N/A			
PFMPA	(229.0 / 85.0) 1231329	(3.70, 0.83) (N/A, 0.01, 0.0)	1355.9	N/A 0.0 0.0	18.7446	N/A			
PFMBA	(279.0 / 85.0) 3727818	(4.78, 1.07) (N/A, 0.01, 0.0)	1678.4	N/A 0.0 0.0	20.1437	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 3403456 (295.0 / 85.0) 3221470	(5.30, 0.98) (N/A, 0.01, 0.0)	1215.7 1140.4	0.9465 97.3 97.3	19.8318	N/A			
TDCA	(499.0 / 80.0) 6183606	(8.37, 1.00) (N/A, 0.01, 0.0)	15304.0	N/A 0.0 0.0	10.2359	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 183371	(3.21, N/A) (N/A, 0.01, N/A)	464.8	N/A	0.8898 [1.0000]	89.0% { 89.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 140651	(5.39, N/A) (N/A, 0.01, N/A)	367.8	N/A	0.9702 [1.0000]	97.0% { 93.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 258771	(6.87, N/A) (N/A, 0.01, N/A)	283.4	N/A	0.9490 [1.0000]	94.9% { 93.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 251893	(7.51, N/A) (N/A, 0.01, N/A)	391.1	N/A	1.0063 [1.0000]	100.6% { 100.1% }			
13C2_PFDA_IIS	(515.0 / 470.1) 216193	(8.11, N/A) (N/A, 0.01, N/A)	542.9	N/A	0.9105 [1.0000]	91.1% { 82.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 352815	(7.07, N/A) (N/A, 0.01, N/A)	498.2	N/A	0.9238 [1.0000]	92.4% { 88.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 409356	(8.37, N/A) (N/A, 0.01, N/A)	409.3	N/A	0.8585 [1.0000]	85.9% { 90.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1565709	(3.21, N/A) (N/A, 0.01, N/A)	1129.0	N/A	7.9707 [8.0000]	99.6% { 89.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1107458	(4.45, N/A) (N/A, 0.01, N/A)	1079.0	N/A	3.9822 [4.0000]	99.6% { 94.7% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (6)
 Acquired: 2023/04/18 - 18:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 612620	(5.39, N/A) (N/A, 0.01, N/A)	782.2	N/A	1.9453 [2.0000]	97.3% { 91.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 469309	(6.17, N/A) (N/A, 0.01, N/A)	870.4	N/A	1.8881 [2.0000]	94.4% { 88.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 628153	(6.86, N/A) (N/A, 0.01, N/A)	451.1	N/A	2.0399 [2.0000]	102.0% { 98.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 252832	(7.50, N/A) (N/A, 0.01, N/A)	434.3	N/A	0.9669 [1.0000]	96.7% { 94.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 255089	(8.11, N/A) (N/A, 0.01, N/A)	302.1	N/A	0.9945 [1.0000]	99.5% { 91.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 260110	(8.68, N/A) (N/A, 0.01, N/A)	156.0	N/A	1.0541 [1.0000]	105.4% { 95.8% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 210416	(9.14, N/A) (N/A, 0.01, N/A)	644.3	N/A	1.0053 [1.0000]	100.5% { 92.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 267576	(9.83, N/A) (N/A, 0.00, N/A)	866.3	N/A	1.0365 [1.0000]	103.7% { 94.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1371695	(5.42, N/A) (N/A, 0.01, N/A)	531.2	N/A	2.0435 [2.0000]	102.2% { 94.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 616199	(7.07, N/A) (N/A, 0.01, N/A)	475.6	N/A	2.1771 [2.0000]	108.9% { 106.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1021828	(8.37, N/A) (N/A, 0.01, N/A)	374.5	N/A	1.9985 [2.0000]	99.9% { 91.9% }			

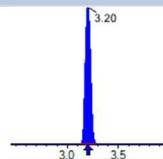
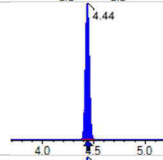
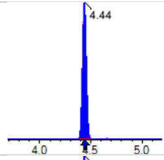
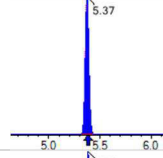
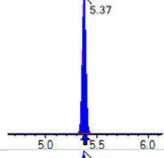
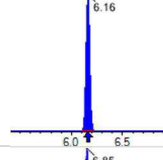
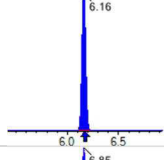
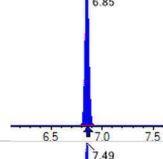
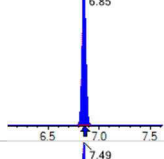
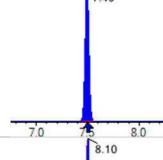
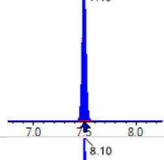
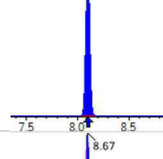
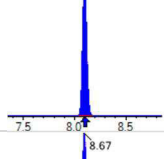
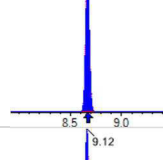
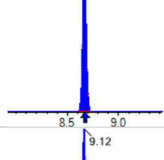
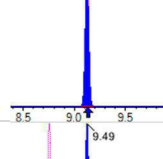
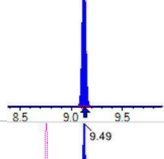
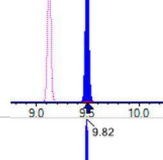
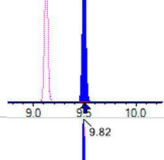
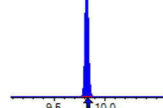
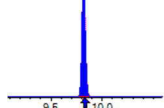


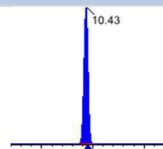
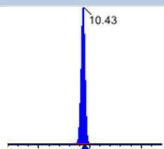
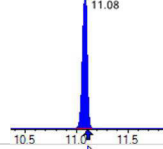
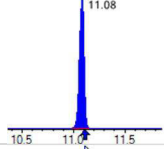
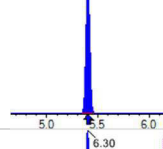
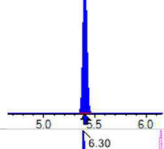
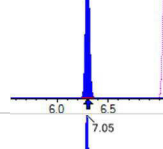
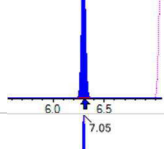
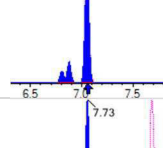
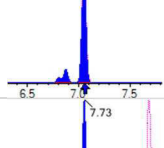
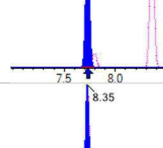
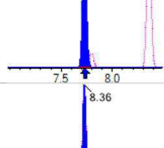
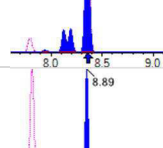
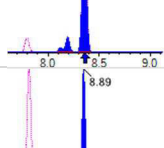
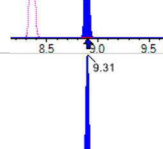
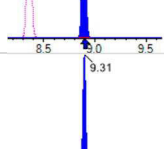
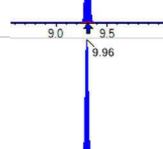
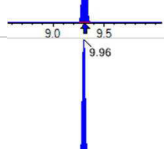
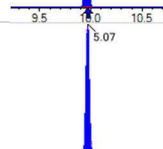
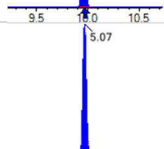
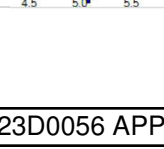
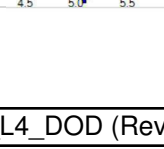
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (6)
 Acquired: 2023/04/18 - 18:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 137793	(5.08 , N/A) (N/A , 0.01 , N/A)	598.8	N/A	4.2590 [4.0000]	106.5% { 97.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 169274	(6.56 , N/A) (N/A , 0.01 , N/A)	478.6	N/A	4.2178 [4.0000]	105.4% { 101.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 178387	(7.81 , N/A) (N/A , 0.01 , N/A)	442.4	N/A	3.9348 [4.0000]	98.4% { 99.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1274830	(8.92 , N/A) (N/A , 0.01 , N/A)	836.6	N/A	2.2216 [2.0000]	111.1% { 94.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 415066	(9.87 , N/A) (N/A , 0.01 , N/A)	375.8	N/A	2.3363 [2.0000]	116.8% { 98.9% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 396692	(10.08 , N/A) (N/A , 0.01 , N/A)	961.4	N/A	2.2730 [2.0000]	113.7% { 96.7% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 473782	(8.07 , N/A) (N/A , 0.01 , N/A)	491.3	N/A	4.4377 [4.0000]	110.9% { 89.2% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 384440	(8.32 , N/A) (N/A , 0.01 , N/A)	403.7	N/A	4.5088 [4.0000]	112.7% { 97.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1258394	(9.78 , N/A) (N/A , 0.01 , N/A)	1034.3	N/A	22.3568 [20.0000]	111.8% { 92.9% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1626890	(10.00 , N/A) (N/A , 0.01 , N/A)	1830.2	N/A	23.3178 [20.0000]	116.6% { 101.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1255981	(5.72 , N/A) (N/A , 0.01 , N/A)	936.7	N/A	7.7491 [8.0000]	96.9% { 92.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 12710058	(3.20, 1.00) (0.00, N/A, 0.0)	1354.7	N/A 0.0 0.0	82.0098	N/A			
PFPeA	(263.0 / 219.0) 9730294 (263.0 / 69.0) 110112	(4.44, 1.00) (0.00, N/A, 0.0)	1394.8 513.5	0.0113 96.5 96.5	40.6370	N/A			
PFHxA	(313.0 / 269.0) 6257296 (313.0 / 119.0) 550194	(5.37, 1.00) (0.00, N/A, 0.0)	1143.9 571.5	0.0879 105.4 105.4	19.3901	N/A			
PFHpA	(363.0 / 319.0) 5152199 (363.0 / 169.0) 1355024	(6.16, 1.00) (0.00, N/A, 0.1)	1804.0 1007.7	0.2630 94.9 94.9	19.5670	N/A			
PFOA	(413.0 / 369.0) 6168706 (413.0 / 169.0) 1735920	(6.85, 1.00) (0.00, N/A, 0.0)	760.8 534.3	0.2814 94.3 94.3	20.2060	N/A			
PFNA	(463.0 / 419.0) 4782582 (463.0 / 169.0) 941785	(7.49, 1.00) (0.00, N/A, 0.0)	816.7 842.3	0.1969 97.2 97.2	20.3935	N/A			
PFDA	(513.0 / 469.0) 4960532 (513.0 / 169.0) 453995	(8.10, 1.00) (0.00, N/A, 0.2)	970.2 444.3	0.0915 93.3 93.3	21.0646	N/A			
PFUnA	(563.0 / 519.0) 4884804 (563.0 / 169.0) 524624	(8.67, 1.00) (0.00, N/A, 0.1)	756.2 431.5	0.1074 106.4 106.4	20.4452	N/A			
PFDoA	(613.0 / 569.0) 4029215 (613.0 / 169.0) 574340	(9.12, 1.00) (0.00, N/A, 0.0)	1700.4 958.3	0.1425 100.1 100.1	18.9887	N/A			
PFTrDA	(663.0 / 619.0) 4367315 (663.0 / 169.0) 899398	(9.49, 1.04) (N/A, -0.01, 0.0)	1249.5 887.3	0.2059 99.9 99.9	19.3010	N/A			
PFTeDA	(713.0 / 669.0) 4805628 (713.0 / 169.0) 902031	(9.82, 1.00) (0.00, N/A, 0.1)	1107.0 780.1	0.1877 95.2 95.2	19.6407	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 27565163 (813.0 / 169.0) 4430607	(10.43, 1.93) (N/A, -0.01, 0.0)	4533.6 3127.7	0.1607 107.7 107.7	65.2628	N/A			
PFODA	(913.0 / 869.0) 21063117 (913.0 / 169.0) 5424913	(11.08, 2.05) (N/A, -0.02, 0.0)	1902.8 1517.3	0.2576 97.8 97.8	77.8000	N/A			
PFBS	(299.0 / 80.0) 7609834 (299.0 / 99.0) 5397355	(5.40, 1.00) (0.00, N/A, 0.0)	822.1 972.1	0.7093 103.2 103.2	18.7851	N/A			
PFPeS	(349.0 / 80.0) 13095963 (349.0 / 99.0) 4684715	(6.30, 0.89) (N/A, 0.00, 0.0)	1160.5 993.3	0.3577 101.1 101.1	18.9571	N/A			
PFHxS	(399.0 / 80.0) 10006180 (399.0 / 99.0) 3436138	(7.05, 1.00) (0.00, N/A, 0.0)	23994.8 82198.3	0.3434 97.1 97.1	17.4261	N/A			
PFHpS	(449.0 / 80.0) 9416119 (449.0 / 99.0) 2725862	(7.73, 0.92) (N/A, 0.00, 0.1)	930.5 611.0	0.2895 103.6 103.6	21.6318	N/A			
PFOS	(499.0 / 80.0) 12363460 (499.0 / 99.0) 2766844	(8.35, 1.00) (0.00, N/A, -0.1)	16584.6 224851.2	0.2238 97.2 97.2	19.7867	N/A			
PFNS	(549.0 / 80.0) 10209013 (549.0 / 99.0) 2545997	(8.89, 1.06) (N/A, -0.01, 0.0)	1080.5 877.0	0.2494 101.1 101.1	20.7214	N/A			
PFDS	(599.0 / 80.0) 12616080 (599.0 / 99.0) 3010223	(9.31, 1.11) (N/A, -0.01, 0.0)	1663.4 1507.0	0.2386 104.1 104.1	22.2609	N/A			
PFDoS	(699.0 / 80.0) 14097411 (699.0 / 99.0) 3375721	(9.96, 1.19) (N/A, -0.01, 0.0)	1057.3 727.8	0.2395 105.0 105.0	22.0279	N/A			
4:2FTS	(327.0 / 307.0) 8263291 (327.0 / 81.0) 5422078	(5.07, 1.00) (0.00, N/A, 0.1)	1156.9 1339.8	0.6562 100.9 100.9	72.7939	N/A			



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL7
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18B (7)
Acquired: 2023/04/18 - 18:28

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 4840726 (427.0 / 81.0) 3567472	(6.55 , 1.00) (0.00 , N/A , 0.0)	1011.9 956.2	0.7370 99.8 99.8	74.9284	N/A			
8:2FTS	(527.0 / 507.0) 5205701 (527.0 / 81.0) 3410557	(7.80 , 1.00) (0.00 , N/A , 0.0)	756.8 918.1	0.6552 96.8 96.8	76.5070	N/A			
PFSBA	(297.9 / 78.0) 47405703 (297.9 / 278.0) 94002	(5.67 , 0.64) (N/A , 0.00 , 0.2)	943.3 205.2	0.0020 124.1 124.1	67.8463	N/A			
PFHxSA	(397.9 / 78.0) 34800536 (397.9 / 378.0) 153469	(7.54 , 0.85) (N/A , 0.00 , 0.0)	865.5 240.0	0.0044 104.2 104.2	67.9408	N/A			
PFOSA	(498.0 / 78.0) 10637267 (498.0 / 478.0) 270024	(8.90 , 1.00) (0.00 , N/A , 0.0)	1170.3 583.1	0.0254 102.2 102.2	21.2497	N/A			
NMeFOSA	(512.0 / 219.0) 15460842 (512.0 / 169.0) 11997127	(9.86 , 1.00) (0.00 , N/A , 1.2)	142959761.7 5007.4	0.7760 103.6 103.6	85.0499	N/A			
NEtFOSA	(526.0 / 219.0) 16424670 (526.0 / 169.0) 19031157	(10.07 , 1.00) (0.00 , N/A , 1.2)	10091.8 8459.6	1.1587 99.1 99.1	81.6456	N/A			
NMeFOSAA	(570.0 / 419.0) 2062699 (570.0 / 483.0) 929430	(8.06 , 1.00) (0.00 , N/A , 0.0)	6575.6 20347.6	0.4506 94.7 94.7	20.1219	N/A			
NEtFOSAA	(584.0 / 419.0) 1674681 (584.0 / 526.0) 958138	(8.31 , 1.00) (0.00 , N/A , -0.1)	5221.7 1349468.3	0.5721 96.1 96.1	20.4921	N/A			
NMeFOSE	(616.0 / 59.0) 5689104	(9.78 , 1.00) (0.01 , N/A , 0.0)	62352.9	N/A 0.0 0.0	76.2853	N/A			
NEtFOSE	(630.0 / 59.0) 6032592	(10.00 , 1.00) (0.01 , N/A , 0.0)	32052.2	N/A 0.0 0.0	84.8643	N/A			

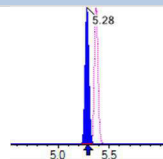
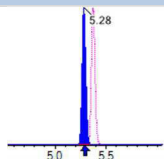
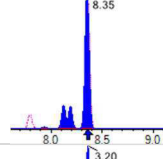
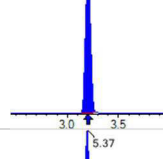
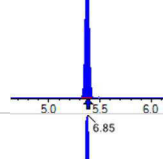
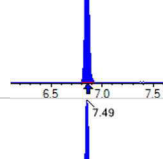
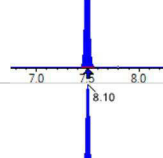
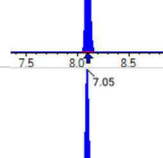
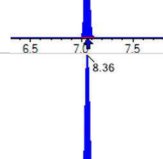
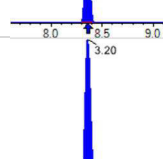
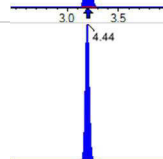
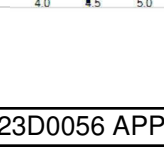


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (7)
 Acquired: 2023/04/18 - 18:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 3255689 (285.0 / 185.0) 14173085	(5.70, 1.00) (0.00, N/A, 0.0)	1113.2 1040.1	4.3533 92.4 92.4	40.2334	N/A			
ADONA	(377.0 / 85.0) 17413053 (377.0 / 251.0) 1983672	(6.42, 1.13) (N/A, 0.00, 0.0)	918.7 451.7	0.1139 105.1 105.1	36.5143	N/A			
9CI-PF3ONS	(531.0 / 351.0) 31233416 (533.0 / 353.0) 11636954	(8.77, 1.54) (N/A, -0.01, 0.0)	531.6 696.2	0.3726 114.1 114.1	33.5039	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 26670426 (633.0 / 453.0) 10570447	(9.58, 1.68) (N/A, -0.01, 0.0)	1494.1 1985.7	0.3963 107.8 107.8	32.4543	N/A			
PFECHS	(461.0 / 98.9) 33943185 (461.0 / 381.2) 14520043	(7.65, 0.92) (N/A, 0.00, 0.0)	627.7 730.3	0.4278 112.2 112.2	75.9036	N/A			
3:3FTCA	(241.0 / 177.0) 756815 (241.0 / 117.0) 1251578	(3.85, 0.87) (N/A, 0.00, 0.0)	1281.1 1769.1	1.6537 99.4 99.4	85.9907	N/A			
5:3FTCA	(341.0 / 236.7) 3530346 (341.0 / 217.0) 5979578	(5.68, 1.06) (N/A, 0.00, 0.0)	901.0 1430.1	1.6938 94.0 94.0	85.2308	N/A			
7:3FTCA	(441.0 / 317.0) 4182612 (441.0 / 337.0) 5104201	(7.08, 1.32) (N/A, 0.00, 0.0)	755.5 828.1	1.2203 101.8 101.8	85.0070	N/A			
PFEESA	(315.0 / 135.0) 10888059 (315.0 / 83.0) 3236998	(5.85, 1.09) (N/A, 0.00, 0.0)	819.2 1294.8	0.2973 104.5 104.5	35.2843	N/A			
PFMPA	(229.0 / 85.0) 2435249	(3.69, 0.83) (N/A, 0.00, 0.0)	1752.9	N/A 0.0 0.0	39.7586	N/A			
PFMBA	(279.0 / 85.0) 7209927	(4.76, 1.07) (N/A, 0.00, 0.0)	2035.8	N/A 0.0 0.0	41.7832	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 6848074 (295.0 / 85.0) 6475819	(5.28, 0.98) (N/A, 0.00, 0.0)	1201.5 1325.8	0.9456 97.2 97.2	39.7977	N/A			
TDCA	(499.0 / 80.0) 12537193	(8.35, 1.00) (N/A, 0.00, 0.0)	12117.8	N/A 0.0 0.0	21.4408	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 164397	(3.20, N/A) (N/A, 0.00, N/A)	425.7	N/A	0.7978 [1.0000]	79.8% { 80.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 124505	(5.37, N/A) (N/A, 0.00, N/A)	409.2	N/A	0.8588 [1.0000]	85.9% { 82.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 238509	(6.85, N/A) (N/A, 0.00, N/A)	310.4	N/A	0.8747 [1.0000]	87.5% { 86.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 241930	(7.49, N/A) (N/A, 0.00, N/A)	343.3	N/A	0.9665 [1.0000]	96.6% { 96.1% }			
13C2_PFDA_IIS	(515.0 / 470.1) 194808	(8.10, N/A) (N/A, 0.00, N/A)	242.6	N/A	0.8205 [1.0000]	82.0% { 74.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 359294	(7.05, N/A) (N/A, -0.01, N/A)	420.9	N/A	0.9408 [1.0000]	94.1% { 90.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 418889	(8.36, N/A) (N/A, -0.01, N/A)	346.8	N/A	0.8785 [1.0000]	87.9% { 92.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1437280	(3.20, N/A) (N/A, 0.00, N/A)	899.1	N/A	8.1613 [8.0000]	102.0% { 82.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1032621	(4.44, N/A) (N/A, 0.00, N/A)	948.7	N/A	4.1946 [4.0000]	104.9% { 88.3% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (7)
 Acquired: 2023/04/18 - 18:28

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 614248	(5.37, N/A) (N/A, -0.01, N/A)	669.8	N/A	2.2034 [2.0000]	110.2% {91.7%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 496201	(6.16, N/A) (N/A, 0.00, N/A)	672.7	N/A	2.2552 [2.0000]	112.8% {93.1%}			
13C8_PFOA_EIS	(421.0 / 376.0) 611749	(6.85, N/A) (N/A, 0.00, N/A)	492.4	N/A	2.1554 [2.0000]	107.8% {95.5%}			
13C9_PFNA_EIS	(472.0 / 427.0) 248560	(7.49, N/A) (N/A, -0.01, N/A)	433.9	N/A	0.9897 [1.0000]	99.0% {92.7%}			
13C6_PFDA_EIS	(519.0 / 474.0) 243477	(8.10, N/A) (N/A, 0.00, N/A)	397.4	N/A	1.0535 [1.0000]	105.3% {87.3%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 263518	(8.67, N/A) (N/A, -0.01, N/A)	291.2	N/A	1.1851 [1.0000]	118.5% {97.0%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 228422	(9.12, N/A) (N/A, 0.00, N/A)	853.0	N/A	1.2112 [1.0000]	121.1% {100.4%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 265148	(9.82, N/A) (N/A, -0.01, N/A)	598.8	N/A	1.1399 [1.0000]	114.0% {93.7%}			
13C3_PFBs_EIS	(302.0 / 80.0) 1327843	(5.40, N/A) (N/A, 0.00, N/A)	561.7	N/A	1.9425 [2.0000]	97.1% {91.6%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 601158	(7.05, N/A) (N/A, -0.01, N/A)	403.2	N/A	2.0857 [2.0000]	104.3% {103.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 989054	(8.36, N/A) (N/A, 0.00, N/A)	215.5	N/A	1.8904 [2.0000]	94.5% {89.0%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (7)
 Acquired: 2023/04/18 - 18:28

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 141851	(5.07, N/A) (N/A, 0.00, N/A)	507.1	N/A	4.3054 [4.0000]	107.6% { 100.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 173926	(6.55, N/A) (N/A, -0.01, N/A)	413.5	N/A	4.2555 [4.0000]	106.4% { 104.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 197118	(7.80, N/A) (N/A, 0.00, N/A)	549.0	N/A	4.2695 [4.0000]	106.7% { 109.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1199148	(8.90, N/A) (N/A, 0.00, N/A)	839.4	N/A	2.0421 [2.0000]	102.1% { 88.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 372597	(9.86, N/A) (N/A, 0.00, N/A)	190.9	N/A	2.0495 [2.0000]	102.5% { 88.8% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 373788	(10.07, N/A) (N/A, -0.01, N/A)	844.6	N/A	2.0930 [2.0000]	104.7% { 91.1% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 465659	(8.06, N/A) (N/A, 0.00, N/A)	418.4	N/A	4.2623 [4.0000]	106.6% { 87.6% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 363763	(8.31, N/A) (N/A, 0.00, N/A)	276.9	N/A	4.1692 [4.0000]	104.2% { 92.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1308070	(9.76, N/A) (N/A, 0.00, N/A)	1100.5	N/A	22.7105 [20.0000]	113.6% { 96.6% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1401519	(9.98, N/A) (N/A, -0.01, N/A)	1700.5	N/A	19.6305 [20.0000]	98.2% { 87.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1285396	(5.70, N/A) (N/A, 0.00, N/A)	949.7	N/A	8.9591 [8.0000]	112.0% { 94.5% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (8)
 Acquired: 2023/04/18 - 18:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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			NR,
PFPeA	(263.0 / 219.0) 20699321 (263.0 / 69.0) 236740	(4.44, 1.00) (0.00, N/A, 0.0)	1401.2 643.2	0.0114 97.5 97.5	96.8178	N/A			
PFHxA	(313.0 / 269.0) 14305994 (313.0 / 119.0) 1277734	(5.37, 1.00) (0.00, N/A, 0.0)	1537.9 977.0	0.0893 107.0 107.0	48.3109	N/A			
PFHpA	(363.0 / 319.0) 12224898 (363.0 / 169.0) 3283177	(6.16, 1.00) (0.00, N/A, 0.0)	1568.9 1424.4	0.2686 96.9 96.9	51.8783	N/A			
PFOA	(413.0 / 369.0) 14210181 (413.0 / 169.0) 4312613	(6.85, 1.00) (0.00, N/A, -0.1)	758.5 754.2	0.3035 101.6 101.6	51.0497	N/A			
PFNA	(463.0 / 419.0) 11352687 (463.0 / 169.0) 2212362	(7.49, 1.00) (0.00, N/A, 0.0)	1060.5 784.4	0.1949 96.2 96.2	52.6826	N/A			
PFDA	(513.0 / 469.0) 12874373 (513.0 / 169.0) 1228527	(8.09, 1.00) (0.00, N/A, 0.0)	873.2 592.3	0.0954 97.2 97.2	51.0219	N/A			
PFUnA	(563.0 / 519.0) 11608166 (563.0 / 169.0) 1204191	(8.66, 1.00) (0.00, N/A, 0.1)	743.7 529.9	0.1037 102.8 102.8	50.8695	N/A			
PFDoA	(613.0 / 569.0) 9937800 (613.0 / 169.0) 1402317	(9.12, 1.00) (0.00, N/A, 0.0)	1271.7 1342.7	0.1411 99.1 99.1	50.6547	N/A			
PFTTrDA	(663.0 / 619.0) 10141568 (663.0 / 169.0) 2158527	(9.49, 1.04) (N/A, -0.01, 0.0)	1521.2 1539.2	0.2128 103.3 103.3	48.4758	N/A			
PFTeDA	(713.0 / 669.0) 10939325 (713.0 / 169.0) 2204018	(9.82, 1.00) (0.00, N/A, 0.0)	1112.7 873.1	0.2015 102.2 102.2	47.2816	N/A			

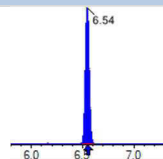
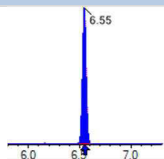
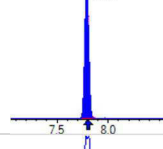
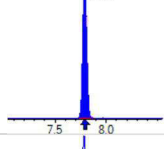
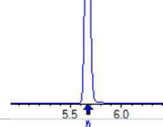
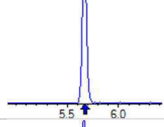
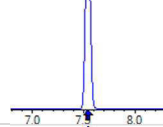
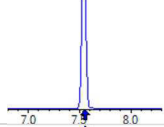
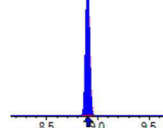
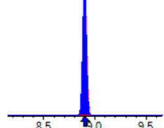
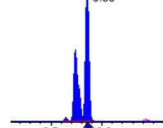
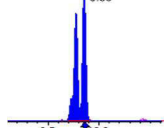
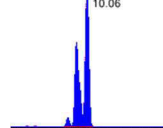
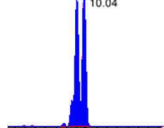
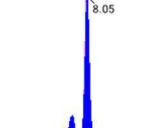
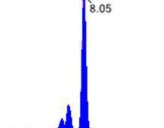
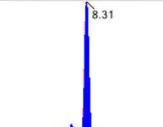
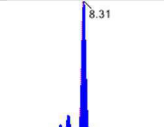
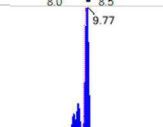
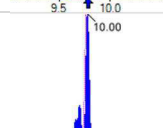


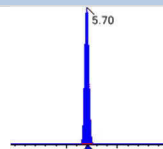
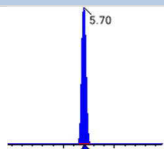
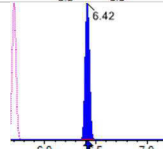
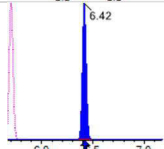
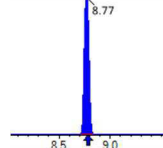
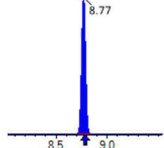
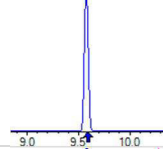
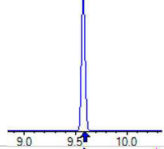
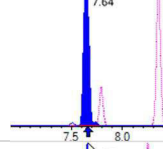
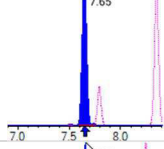
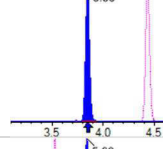
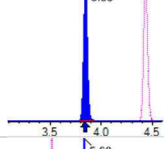
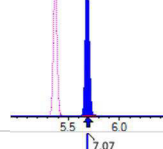
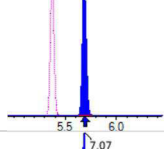
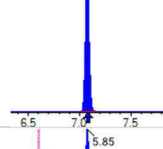
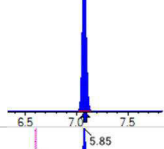
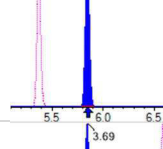
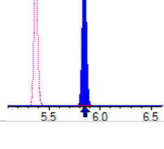
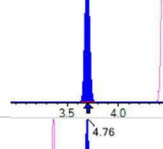
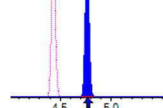
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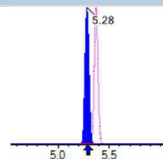
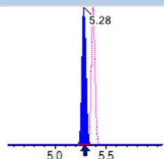
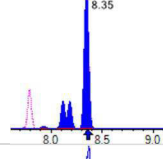
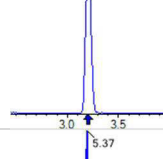
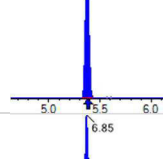
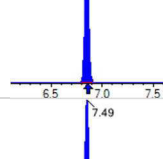
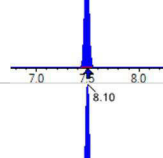
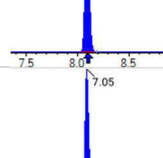
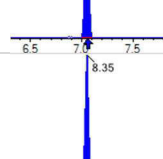
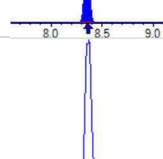
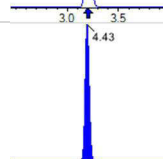
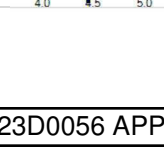
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 Acquisition Method: 1633 2023-04-18.dam

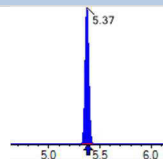
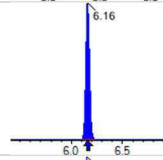
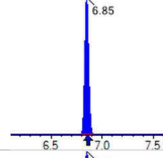
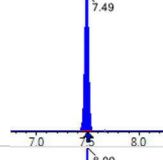
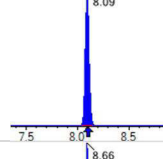
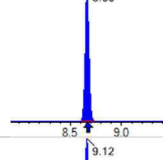
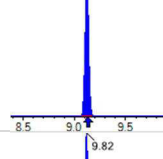
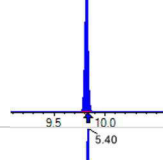
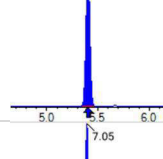
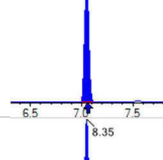
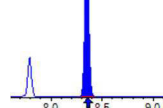
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 Acquired: 2023/04/18 - 18:44

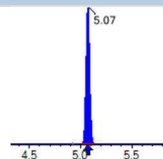
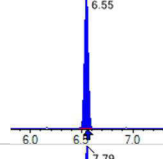
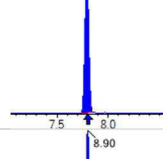
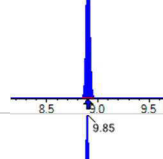
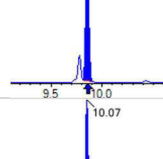
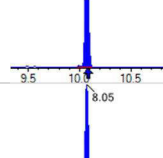
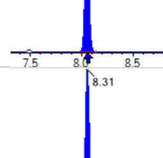
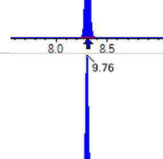
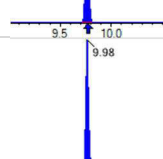
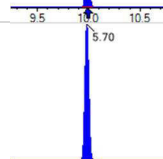
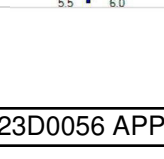
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFODA	(913.0 / 869.0) 42734450 (913.0 / 169.0) 11550480	(11.07, 2.05) (N/A, -0.04, 0.1)	1777.9 1947.0	0.2703 102.6 102.6	164.3768	N/A			
PFBS	(299.0 / 80.0) 17272132 (299.0 / 99.0) 12338233	(5.40, 1.00) (0.00, N/A, 0.0)	848.5 898.6	0.7143 103.9 103.9	44.4006	N/A			
PFPeS	(349.0 / 80.0) 28990833 (349.0 / 99.0) 11508458	(6.30, 0.89) (N/A, -0.01, 0.0)	1326.1 1110.5	0.3970 112.2 112.2	45.0446	N/A			
PFHxS	(399.0 / 80.0) 24035988 (399.0 / 99.0) 8414720	(7.05, 1.00) (0.00, N/A, 0.1)	17441.5 36207.6	0.3501 98.9 98.9	44.9306	N/A			
PFHpS	(449.0 / 80.0) 20807493 (449.0 / 99.0) 6299455	(7.72, 0.92) (N/A, -0.01, 0.0)	1133.0 1085.4	0.3027 108.4 108.4	50.8516	N/A			
PFOS	(499.0 / 80.0) 28061025 (499.0 / 99.0) 6607784	(8.35, 1.00) (0.00, N/A, 0.0)	14009.2 3305533.4	0.2355 102.3 102.3	47.7750	N/A			
PFNS	(549.0 / 80.0) 23512759 (549.0 / 99.0) 6422652	(8.89, 1.06) (N/A, -0.01, 0.0)	984.9 739.4	0.2732 110.7 110.7	50.7694	N/A			
PFDS	(599.0 / 80.0) 26455315 (599.0 / 99.0) 6982027	(9.30, 1.11) (N/A, -0.01, 0.0)	1640.5 1607.7	0.2639 115.2 115.2	49.6588	N/A			
PFDoS	(699.0 / 80.0) 28725420 (699.0 / 99.0) 7640832	(9.96, 1.19) (N/A, -0.01, 0.0)	1269.1 965.7	0.2660 116.6 116.6	47.7489	N/A			
4:2FTS	(327.0 / 307.0) 18867277 (327.0 / 81.0) 11987275	(5.07, 1.00) (0.00, N/A, 0.0)	1335.8 1480.6	0.6353 97.7 97.7	171.9229	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 12251180 (427.0 / 81.0) 9328608	(6.54 , 1.00) (0.00 , N/A , 0.0)	925.4 1170.9	0.7614 103.1 103.1	187.3429	N/A			
8:2FTS	(527.0 / 507.0) 12375800 (527.0 / 81.0) 8916357	(7.79 , 1.00) (0.00 , N/A , 0.1)	919.0 961.4	0.7205 106.5 106.5	153.4332	N/A			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOSA	(498.0 / 78.0) 24956464 (498.0 / 478.0) 641359	(8.90 , 1.00) (0.00 , N/A , 0.0)	1253.4 699.2	0.0257 103.5 103.5	50.4231	N/A			
NMeFOSA	(512.0 / 219.0) 34766705 (512.0 / 169.0) 26849420	(9.85 , 1.00) (0.00 , N/A , 1.5)	67526.1 896759.1	0.7723 103.1 103.1	189.6843	N/A			
NEtFOSA	(526.0 / 219.0) 35427702 (526.0 / 169.0) 42534557	(10.06 , 1.00) (-0.01 , N/A , 1.1)	7979.8 7151.0	1.2006 102.7 102.7	196.4454	N/A			
NMeFOSAA	(570.0 / 419.0) 5114482 (570.0 / 483.0) 2345896	(8.05 , 1.00) (0.00 , N/A , 0.1)	2418789.5 3299.5	0.4587 96.4 96.4	50.3989	N/A			
NEtFOSAA	(584.0 / 419.0) 4149885 (584.0 / 526.0) 2395065	(8.31 , 1.00) (0.00 , N/A , 0.0)	6147.0 4827.9	0.5771 97.0 97.0	49.9952	N/A			
NMeFOSE	(616.0 / 59.0) 13395605	(9.77 , 1.00) (0.01 , N/A , 0.0)	107700.3	N/A 0.0 0.0	204.8804	N/A			
NEtFOSE	(630.0 / 59.0) 14366170	(10.00 , 1.00) (0.01 , N/A , 0.0)	114507.9	N/A 0.0 0.0	204.3393	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 7668918 (285.0 / 185.0) 28271963	(5.70, 1.00) (0.00, N/A, 0.0)	1157.0 1325.0	3.6866 78.2 78.2	104.1908	N/A			
ADONA	(377.0 / 85.0) 33969359 (377.0 / 251.0) 4571650	(6.42, 1.13) (N/A, -0.01, 0.0)	886.4 689.0	0.1346 124.2 124.2	78.3118	N/A			
9CI-PF3ONS	(531.0 / 351.0) 56351266 (533.0 / 353.0) 25872824	(8.77, 1.54) (N/A, -0.01, 0.0)	413.5 571.3	0.4591 140.7 140.7	66.4555	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			
PFECHS	(461.0 / 98.9) 58670254 (461.0 / 381.2) 29027513	(7.64, 0.92) (N/A, -0.01, -0.1)	360.9 562.5	0.4948 129.7 129.7	139.5700	N/A			
3:3FTCA	(241.0 / 177.0) 1965770 (241.0 / 117.0) 3149658	(3.85, 0.87) (N/A, 0.00, 0.0)	2265.0 2380.3	1.6023 96.3 96.3	250.1487	N/A			
5:3FTCA	(341.0 / 236.7) 8110867 (341.0 / 217.0) 13136345	(5.68, 1.06) (N/A, 0.00, -0.1)	1067.6 1275.5	1.6196 89.9 89.9	213.3932	N/A			
7:3FTCA	(441.0 / 317.0) 10887408 (441.0 / 337.0) 12320691	(7.07, 1.32) (N/A, -0.01, 0.0)	816.6 770.6	1.1316 94.4 94.4	241.1379	N/A			
PFEESA	(315.0 / 135.0) 23619566 (315.0 / 83.0) 7485492	(5.85, 1.09) (N/A, -0.01, 0.0)	1091.8 1507.6	0.3169 111.4 111.4	83.4136	N/A			
PFMPA	(229.0 / 85.0) 5546640	(3.69, 0.83) (N/A, 0.00, 0.0)	1632.8	N/A 0.0 0.0	101.4196	N/A			
PFMBA	(279.0 / 85.0) 15293063	(4.76, 1.07) (N/A, 0.00, 0.0)	1936.7	N/A 0.0 0.0	99.2588	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 14947917 (295.0 / 85.0) 14037627	(5.28, 0.98) (N/A, 0.00, 0.0)	1204.6 1707.3	0.9391 96.6 96.6	94.6683	N/A			
TDCA	(499.0 / 80.0) 28192901	(8.35, 1.00) (N/A, -0.01, 0.0)	13511.0	N/A 0.0 0.0	51.2914	N/A			
13C3_PFDA_IIS	(216.0 / 172.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A	0.0000 [1.0000]	0.0% { 0.0% }			NR,IS1,
13C2_PFHxA_IIS	(315.0 / 270.0) 127317	(5.37, N/A) (N/A, 0.00, N/A)	500.3	N/A	0.8782 [1.0000]	87.8% { 84.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 243597	(6.85, N/A) (N/A, -0.01, N/A)	235.1	N/A	0.8933 [1.0000]	89.3% { 87.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 214936	(7.49, N/A) (N/A, -0.01, N/A)	179.5	N/A	0.8586 [1.0000]	85.9% { 85.4% }			
13C2_PFDA_IIS	(515.0 / 470.1) 232191	(8.10, N/A) (N/A, -0.01, N/A)	345.4	N/A	0.9779 [1.0000]	97.8% { 88.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 350603	(7.05, N/A) (N/A, -0.01, N/A)	448.5	N/A	0.9180 [1.0000]	91.8% { 87.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 380390	(8.35, N/A) (N/A, -0.01, N/A)	299.1	N/A	0.7978 [1.0000]	79.8% { 83.8% }			
13C4_PFDA_EIS	(217.0 / 172.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A	0.0000 [8.0000]	0.0% { 0.0% }			NR,S1,
13C5_PFPeA_EIS	(268.0 / 223.0) 922013	(4.43, N/A) (N/A, 0.00, N/A)	839.6	N/A	3.6626 [4.0000]	91.6% { 78.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 563651	(5.37, N/A) (N/A, -0.01, N/A)	1202.6	N/A	1.9773 [2.0000]	98.9% { 84.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 444067	(6.16, N/A) (N/A, -0.01, N/A)	611.9	N/A	1.9736 [2.0000]	98.7% { 83.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 557784	(6.85, N/A) (N/A, -0.01, N/A)	389.4	N/A	1.9242 [2.0000]	96.2% { 87.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 228398	(7.49, N/A) (N/A, -0.01, N/A)	287.9	N/A	1.0237 [1.0000]	102.4% { 85.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 260886	(8.09, N/A) (N/A, -0.01, N/A)	308.2	N/A	0.9471 [1.0000]	94.7% { 93.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 251687	(8.66, N/A) (N/A, -0.01, N/A)	248.8	N/A	0.9496 [1.0000]	95.0% { 92.7% }			
13C2_PFDaA_EIS	(615.0 / 570.0) 211195	(9.12, N/A) (N/A, -0.01, N/A)	693.3	N/A	0.9395 [1.0000]	94.0% { 92.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 250722	(9.82, N/A) (N/A, -0.01, N/A)	720.1	N/A	0.9043 [1.0000]	90.4% { 88.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1275092	(5.40, N/A) (N/A, 0.00, N/A)	615.6	N/A	1.9115 [2.0000]	95.6% { 87.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 560068	(7.05, N/A) (N/A, -0.01, N/A)	446.6	N/A	1.9913 [2.0000]	99.6% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 929728	(8.35, N/A) (N/A, -0.01, N/A)	122.7	N/A	1.9568 [2.0000]	97.8% { 83.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 137135	(5.07, N/A) (N/A, 0.00, N/A)	480.2	N/A	4.2655 [4.0000]	106.6% { 96.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 176052	(6.55, N/A) (N/A, -0.01, N/A)	736.8	N/A	4.4143 [4.0000]	110.4% { 105.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 233669	(7.79, N/A) (N/A, -0.01, N/A)	59.4	N/A	5.1867 [4.0000]	129.7% { 130.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1185631	(8.90, N/A) (N/A, 0.00, N/A)	651.1	N/A	2.2235 [2.0000]	111.2% { 87.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 375674	(9.85, N/A) (N/A, -0.01, N/A)	140.6	N/A	2.2756 [2.0000]	113.8% { 89.5% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 335091	(10.07, N/A) (N/A, -0.01, N/A)	635.4	N/A	2.0663 [2.0000]	103.3% { 81.7% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 462002	(8.05, N/A) (N/A, -0.01, N/A)	373.3	N/A	4.6568 [4.0000]	116.4% { 87.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 369365	(8.31, N/A) (N/A, -0.01, N/A)	228.1	N/A	4.6618 [4.0000]	116.5% { 93.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1146807	(9.76, N/A) (N/A, -0.01, N/A)	1435.4	N/A	21.9258 [20.0000]	109.6% { 84.7% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1386146	(9.98, N/A) (N/A, -0.01, N/A)	1647.9	N/A	21.3802 [20.0000]	106.9% { 86.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1169191	(5.70, N/A) (N/A, 0.00, N/A)	775.7	N/A	7.9691 [8.0000]	99.6% { 86.0% }			

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2315014**Laboratory ID:** SC01442-SCV1**Sequence:** SC01442**Standard ID:** 23C0366

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	8.51	6.4	30.00
PFPEA	4.00	4.16	4.0	30.00
PFHXA	2.00	2.07	3.7	30.00
PFHPA	2.00	2.09	4.4	30.00
PFOA	2.00	2.23	11.7	30.00
PFNA	2.00	2.23	11.4	30.00
PFDA	2.00	2.08	4.1	30.00
PFUnA	2.00	2.09	4.5	30.00
PFDOA	2.00	2.07	3.3	30.00
PFTRDA	2.00	2.28	13.9	30.00
PFTEDA	2.00	2.05	2.7	30.00
PFBS	1.77	1.91	7.8	30.00
PFPEs	1.88	2.09	11.4	30.00
PFHXS	1.83	1.84	0.8	30.00
PFHPS	1.91	1.99	3.9	30.00
PFOS	1.86	1.96	5.2	30.00
PFNS	1.92	2.10	9.3	30.00
PFDS	1.93	2.10	8.8	30.00
PFDOS	1.94	2.13	9.6	30.00
4:2FTS	7.50	8.80	17.4	30.00
6:2FTS	7.60	8.51	12.0	30.00
8:2FTS	7.68	8.82	14.9	30.00
PFOSA	2.00	2.17	8.7	30.00
NMeFOSA	8.00	8.84	10.5	30.00
NEtFOSA	8.00	7.19	-10.1	30.00
NMeFOSAA	2.00	2.17	8.4	30.00
NEtFOSAA	2.00	2.18	8.8	30.00

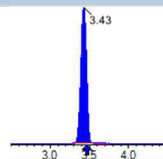
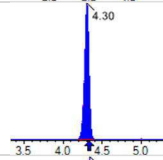
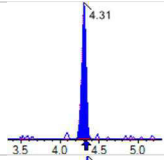
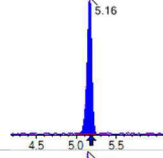
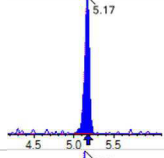
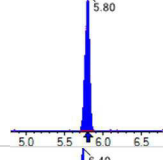
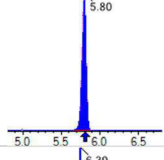
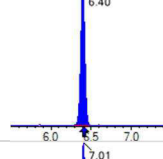
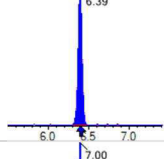
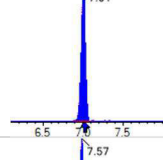
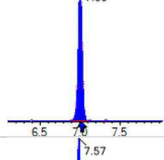
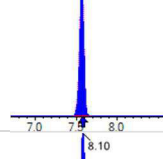
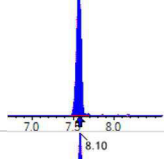
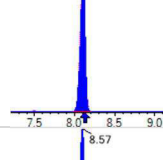
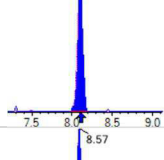
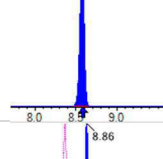
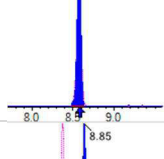
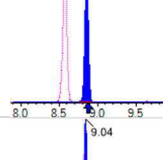
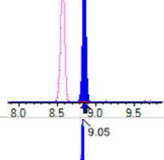
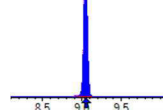
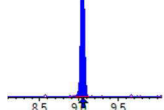
SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2315014**Laboratory ID:** SC01442-SCV1**Sequence:** SC01442**Standard ID:** 23C0366

NMeFOSE	8.00	8.70	8.7	30.00
NEtFOSE	8.00	8.88	11.0	30.00
HFPO-DA	4.00	4.28	6.9	30.00
ADONA	3.78	4.22	11.7	30.00
PFEEESA	3.56	4.11	15.4	30.00
PFMPA	4.00	4.27	6.8	30.00
PFMBA	4.00	4.13	3.1	30.00
NFDHA	4.00	4.76	18.9	30.00
9CL-PF3ONS	3.74	4.04	8.0	30.00
11CL-PF3OUDS	3.78	4.33	14.5	30.00
3:3FTCA	8.00	7.90	-1.2	30.00
5:3FTCA	8.00	8.39	4.9	30.00
7:3FTCA	8.00	8.51	6.3	30.00
13C4-PFBA	8.00	7.37	-7.8	30.00
13C5-PFPEA	4.00	3.77	-5.7	30.00
13C5-PFHXA	2.00	1.75	-12.6	30.00
13C4-PFHPA	2.00	1.76	-11.9	30.00
13C8-PFOA	2.00	1.80	-10.0	30.00
13C9-PFNA	1.00	0.956	-4.4	30.00
13C6-PFDA	1.00	0.965	-3.5	30.00
13C7-PFUnA	1.00	0.967	-3.3	30.00
13C2-PFDOA	1.00	0.923	-7.7	30.00
13C2-PFTEDA	1.00	0.980	-2.0	30.00
13C3-PFBS	2.00	1.78	-10.9	30.00
13C3-PFHXS	2.00	1.83	-8.4	30.00
13C8-PFOS	2.00	1.77	-11.5	30.00
13C2-4:2FTS	4.00	3.02	-24.6	30.00
13C2-6:2FTS	4.00	3.38	-15.5	30.00
13C2-8:2FTS	4.00	3.05	-23.7	30.00

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2315014**Laboratory ID:** SC01442-SCV1**Sequence:** SC01442**Standard ID:** 23C0366

13C8-PFOSA	2.00	1.89	-5.7	30.00
D3-NMEFOSA	2.00	1.79	-10.6	30.00
D5-NETFOSA	2.00	1.86	-7.2	30.00
D3-NMEFOSAA	4.00	3.40	-15.0	30.00
D5-NETFOSAA	4.00	3.28	-18.0	30.00
D7-NMEFOSE	20.0	19.5	-2.5	30.00
D9-NETFOSSE	20.0	19.8	-0.8	30.00
13C3-HFPO-DA	8.00	7.33	-8.4	30.00

* Values outside of QC limits

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 983781	(3.43, 1.00) (0.00, N/A, 0.0)	199.3	N/A 0.0 0.0	8.5107	N/A			
PFPeA	(263.0 / 219.0) 950790 (263.0 / 69.0) 10669	(4.30, 1.00) (0.00, N/A, -0.2)	1576.1 205.9	0.0112 85.5 85.5	4.1608	N/A			
PFHxA	(313.0 / 269.0) 557731 (313.0 / 119.0) 56357	(5.16, 1.00) (0.00, N/A, -0.2)	650.6 667.7	0.1010 92.6 92.6	2.0744	N/A			
PFHpA	(363.0 / 319.0) 441349 (363.0 / 169.0) 139006	(5.80, 1.00) (0.00, N/A, -0.1)	2451.6 4102727.7	0.3150 103.2 103.2	2.0870	N/A			
PFOA	(413.0 / 369.0) 660710 (413.0 / 169.0) 208722	(6.40, 1.00) (0.00, N/A, 0.1)	1357.8 5402.4	0.3159 100.9 100.9	2.2345	N/A			
PFNA	(463.0 / 419.0) 578919 (463.0 / 169.0) 118193	(7.01, 1.00) (0.00, N/A, 0.2)	5401.1 1613.6	0.2042 95.6 95.6	2.2282	N/A			
PFDA	(513.0 / 469.0) 731326 (513.0 / 169.0) 88789	(7.57, 1.00) (0.00, N/A, -0.1)	1515.2 1755.9	0.1214 105.9 105.9	2.0816	N/A			
PFUnA	(563.0 / 519.0) 639012 (563.0 / 169.0) 71299	(8.10, 1.00) (0.00, N/A, 0.0)	1701.2 72846.6	0.1116 94.4 94.4	2.0890	N/A			
PFDoA	(613.0 / 569.0) 532305 (613.0 / 169.0) 92509	(8.57, 1.00) (0.00, N/A, 0.0)	1926.7 5242.9	0.1738 101.4 101.4	2.0668	N/A			
PFTrDA	(663.0 / 619.0) 534706 (663.0 / 169.0) 135706	(8.86, 1.03) (N/A, -0.01, 0.1)	2272.9 4493.2	0.2538 102.4 102.4	2.2787	N/A			
PFTeDA	(713.0 / 669.0) 535328 (713.0 / 169.0) 103638	(9.04, 1.00) (0.00, N/A, -0.1)	1527.4 658.6	0.1936 96.1 96.1	2.0539	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (10)
 Acquired: 2023/04/12 - 12:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 936830 (299.0 / 99.0) 629138	(5.11, 1.00) (0.00, N/A, -0.1)	18654.9 5092.1	0.6716 104.5 104.5	1.9079	N/A			
PFPeS	(349.0 / 80.0) 1605852 (349.0 / 99.0) 531618	(5.81, 0.90) (N/A, -0.01, 0.0)	8353.6 4795.6	0.3311 97.6 97.6	2.0947	N/A			
PFHxS	(399.0 / 80.0) 1204556 (399.0 / 99.0) 433769	(6.48, 1.00) (0.00, N/A, 0.0)	436874.1 6193321.1	0.3601 104.0 104.0	1.8440	N/A			
PFHpS	(449.0 / 80.0) 1307865 (449.0 / 99.0) 386652	(7.13, 0.92) (N/A, -0.01, 0.2)	173507.4 4634.4	0.2956 106.6 106.6	1.9854	N/A			
PFOS	(499.0 / 80.0) 1808104 (499.0 / 99.0) 402950	(7.73, 1.00) (0.00, N/A, 0.1)	1036.3 1621.4	0.2229 99.6 99.6	1.9558	N/A			
PFNS	(549.0 / 80.0) 1813786 (549.0 / 99.0) 432685	(8.29, 1.07) (N/A, -0.01, 0.1)	1230247.6 729156.9	0.2386 98.6 98.6	2.0994	N/A			
PFDS	(599.0 / 80.0) 2051380 (599.0 / 99.0) 454796	(8.71, 1.13) (N/A, -0.01, 0.0)	6475.7 10748074.2	0.2217 98.9 98.9	2.1004	N/A			
PFDoS	(699.0 / 80.0) 1596977 (699.0 / 99.0) 364935	(9.12, 1.18) (N/A, -0.01, 0.0)	3118.1 1781.1	0.2285 95.5 95.5	2.1257	N/A			
4:2FTS	(327.0 / 307.0) 1372013 (327.0 / 81.0) 816032	(4.93, 1.00) (0.00, N/A, -0.1)	2543.8 1077.8	0.5948 87.5 87.5	8.8047	N/A			
6:2FTS	(427.0 / 407.0) 977926 (427.0 / 81.0) 650984	(6.17, 1.00) (0.00, N/A, 0.0)	3169.9 2216.5	0.6657 94.5 94.5	8.5124	N/A			
8:2FTS	(527.0 / 507.0) 998595 (527.0 / 81.0) 659445	(7.33, 1.00) (0.00, N/A, 0.0)	7996.7 2129.8	0.6604 97.7 97.7	8.8225	N/A			

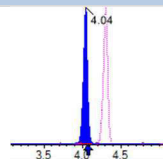
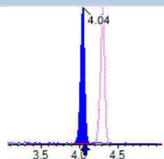
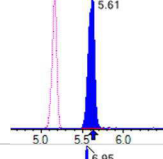
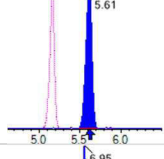
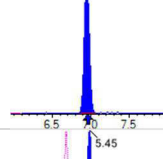
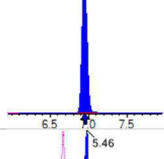
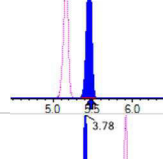
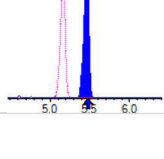
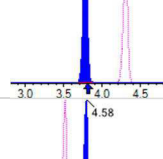
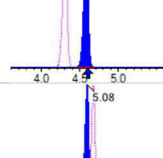
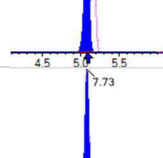
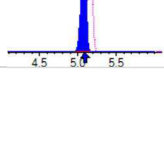
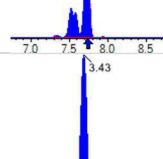
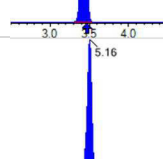
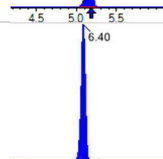
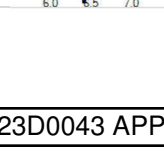


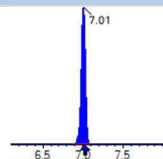
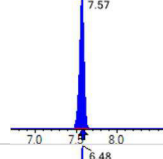
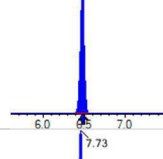
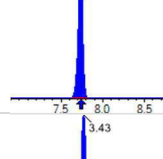
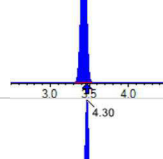
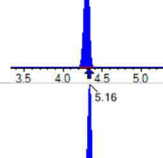
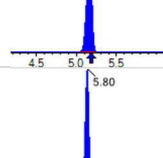
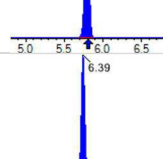
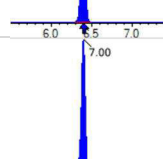
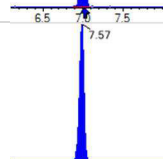
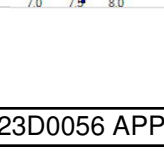
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (10)
 Acquired: 2023/04/12 - 12:08

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) 2691174 (498.0 / 478.0) 60808	(9.74, 1.00) (0.00, N/A, 0.0)	3728.2 508.5	0.0226 91.3 91.3	2.1736	N/A			
NMeFOSA	(512.0 / 219.0) 2096232 (512.0 / 169.0) 1568503	(10.40, 1.00) (0.00, N/A, 0.0)	5872.6 4984.5	0.7482 86.3 86.3	8.8402	N/A			
NEIFOSA	(526.0 / 219.0) 1849369 (526.0 / 169.0) 2099775	(10.59, 1.00) (0.00, N/A, 0.0)	7109.0 5367.7	1.1354 90.8 90.8	7.1893	N/A			
NMeFOSAA	(570.0 / 419.0) 309808 (570.0 / 483.0) 145828	(7.71, 1.00) (0.01, N/A, 0.1)	2726.7 230.8	0.4707 101.6 101.6	2.1685	N/A			
NEIFOSAA	(584.0 / 419.0) 256319 (584.0 / 526.0) 147518	(7.96, 1.00) (0.01, N/A, 0.1)	8159.1 699.0	0.5755 94.3 94.3	2.1764	N/A			
NMeFOSE	(616.0 / 59.0) 982993	(10.34, 1.00) (0.01, N/A, 0.0)	1602.6	N/A 0.0 0.0	8.6980	N/A			
NEtFOSE	(630.0 / 59.0) 1217145	(10.53, 1.00) (0.01, N/A, 0.0)	1913.3	N/A 0.0 0.0	8.8839	N/A			
HFPO-DA	(285.0 / 169.0) 595379 (285.0 / 185.0) 1693380	(5.41, 1.00) (0.00, N/A, 0.2)	2139.9 2745.1	2.8442 109.3 109.3	4.2756	N/A			
ADONA	(377.0 / 85.0) 2101119 (377.0 / 251.0) 203035	(6.02, 1.11) (N/A, -0.01, -0.1)	4851.6 1225.5	0.0966 97.4 97.4	4.2231	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 6048233 (533.0 / 353.0) 1808399	(8.15, 1.51) (N/A, -0.01, 0.0)	5194.5 2262.0	0.2990 103.0 103.0	4.0377	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 3833754 (633.0 / 453.0) 1263380	(8.90, 1.65) (N/A, -0.01, 0.0)	5978.6 3571.2	0.3295 98.3 98.3	4.3298	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 66184 (241.0 / 117.0) 108977	(4.04, 0.94) (N/A, -0.02, -0.1)	46.1 42.9	1.6466 99.7 99.7	7.9040	N/A			
5:3FTCA	(341.0 / 236.7) 354490 (341.0 / 217.0) 616436	(5.61, 1.09) (N/A, -0.01, 0.0)	695.5 834.7	1.7389 110.9 110.9	8.3886	N/A			
7:3FTCA	(441.0 / 317.0) 629606 (441.0 / 337.0) 553885	(6.95, 1.35) (N/A, -0.01, 0.1)	1003.1 1674.6	0.8797 102.1 102.1	8.5079	N/A			
PFEESA	(315.0 / 135.0) 1388953 (315.0 / 83.0) 331829	(5.45, 1.06) (N/A, -0.01, -0.2)	3654.1 911.2	0.2389 97.9 97.9	4.1067	N/A			
PFMPA	(229.0 / 85.0) 207793	(3.78, 0.88) (N/A, -0.03, 0.0)	2630.0	N/A 0.0 0.0	4.2701	N/A			
PFMBA	(279.0 / 85.0) 735006	(4.58, 1.06) (N/A, -0.02, 0.0)	2818.1	N/A 0.0 0.0	4.1251	N/A			
NFDHA	(295.0 / 201.0) 653548 (295.0 / 85.0) 623805	(5.08, 0.98) (N/A, -0.01, 0.0)	1956.9 1746.2	0.9545 97.5 97.5	4.7555	N/A			
TDCA	(499.0 / 80.0) 1660060	(7.73, 1.00) (N/A, -0.01, 0.0)	15325.3	N/A 0.0 0.0	2.0863	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 135350	(3.43, N/A) (N/A, -0.03, N/A)	1664.4	N/A	1.1103 [1.0000]	111.0% { 113.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 225007	(5.16, N/A) (N/A, -0.01, N/A)	2035.8	N/A	1.1094 [1.0000]	110.9% { 114.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 353136	(6.40, N/A) (N/A, -0.01, N/A)	1905.3	N/A	1.1112 [1.0000]	111.1% { 109.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 313677	(7.01, N/A) (N/A, -0.01, N/A)	559.6	N/A	1.0335 [1.0000]	103.4% { 102.2% }			
13C2_PFDA_IIS	(515.0 / 470.1) 345166	(7.57, N/A) (N/A, -0.01, N/A)	37972.7	N/A	1.0638 [1.0000]	106.4% { 112.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 492118	(6.48, N/A) (N/A, -0.01, N/A)	3182.2	N/A	1.0988 [1.0000]	109.9% { 119.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 761893	(7.73, N/A) (N/A, -0.01, N/A)	3170.8	N/A	1.1203 [1.0000]	112.0% { 117.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1058275	(3.43, N/A) (N/A, -0.03, N/A)	5530.2	N/A	7.3745 [8.0000]	92.2% { 101.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 951141	(4.30, N/A) (N/A, -0.03, N/A)	3683.6	N/A	3.7739 [4.0000]	94.3% { 106.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 557439	(5.16, N/A) (N/A, -0.01, N/A)	3262.2	N/A	1.7478 [2.0000]	87.4% { 95.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 490663	(5.80, N/A) (N/A, -0.01, N/A)	1732.3	N/A	1.7613 [2.0000]	88.1% { 100.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 627208	(6.39, N/A) (N/A, -0.01, N/A)	4390.5	N/A	1.7995 [2.0000]	90.0% { 102.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 281681	(7.00, N/A) (N/A, -0.01, N/A)	2478.9	N/A	0.9558 [1.0000]	95.6% { 94.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 373785	(7.57, N/A) (N/A, -0.01, N/A)	49478.9	N/A	0.9653 [1.0000]	96.5% { 103.9% }			

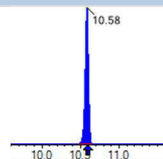
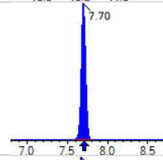
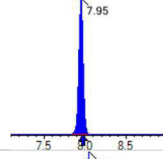
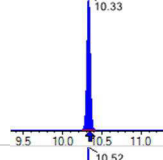
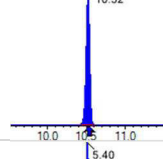
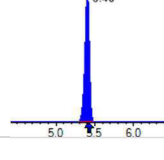


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (10)
 Acquired: 2023/04/12 - 12:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 347656	(8.10, N/A) (N/A, -0.02, N/A)	2962.5	N/A	0.9672 [1.0000]	96.7% { 96.4% }			
13C2_PFDa_EIS	(615.0 / 570.0) 283969	(8.57, N/A) (N/A, -0.01, N/A)	3571.4	N/A	0.9227 [1.0000]	92.3% { 98.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 284384	(9.04, N/A) (N/A, -0.01, N/A)	1601.5	N/A	0.9799 [1.0000]	98.0% { 94.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1376782	(5.11, N/A) (N/A, -0.02, N/A)	2295.9	N/A	1.7820 [2.0000]	89.1% { 98.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 830970	(6.48, N/A) (N/A, -0.01, N/A)	2781.8	N/A	1.8319 [2.0000]	91.6% { 103.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 163867	(7.73, N/A) (N/A, -0.01, N/A)	1791.4	N/A	1.7701 [2.0000]	88.5% { 98.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 209905	(4.93, N/A) (N/A, -0.01, N/A)	974.7	N/A	3.0164 [4.0000]	75.4% { 84.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 268527	(6.17, N/A) (N/A, -0.01, N/A)	12638.9	N/A	3.3810 [4.0000]	84.5% { 91.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 320897	(7.33, N/A) (N/A, -0.01, N/A)	1597.0	N/A	3.0519 [4.0000]	76.3% { 89.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2826165	(9.74, N/A) (N/A, -0.01, N/A)	3156.1	N/A	1.8861 [2.0000]	94.3% { 108.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 571568	(10.40, N/A) (N/A, -0.01, N/A)	2511.9	N/A	1.7875 [2.0000]	89.4% { 109.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT- CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D5_NEIFOSA_EIS	(531.0 / 169.0) 489726	(10.58, N/A) (N/A, -0.01, N/A)	2813.4	N/A	1.8563 [2.0000]	92.8% { 106.4% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 672323	(7.70, N/A) (N/A, -0.01, N/A)	15010.1	N/A	3.3984 [4.0000]	85.0% { 99.9% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 532547	(7.95, N/A) (N/A, -0.02, N/A)	729167.0	N/A	3.2819 [4.0000]	82.0% { 99.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2070306	(10.33, N/A) (N/A, -0.01, N/A)	1551.5	N/A	19.5028 [20.0000]	97.5% { 108.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2782379	(10.52, N/A) (N/A, -0.01, N/A)	1283.8	N/A	19.8311 [20.0000]	99.2% { 110.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1319128	(5.40, N/A) (N/A, -0.01, N/A)	2607.1	N/A	7.3318 [8.0000]	91.6% { 102.2% }			

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2316009**Laboratory ID:** SC01530-SCV1**Sequence:** SC01530**Standard ID:** 23D0357

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	8.50	6.2	30.00
PFPEA	4.00	4.37	9.3	30.00
PFHXA	2.00	2.14	7.0	30.00
PFHPA	2.00	2.07	3.6	30.00
PFOA	2.00	1.98	-1.1	30.00
PFNA	2.00	2.34	17.1	30.00
PFDA	2.00	2.20	9.8	30.00
PFUnA	2.00	2.09	4.6	30.00
PFDOA	2.00	1.97	-1.7	30.00
PFTRDA	2.00	1.90	-4.8	30.00
PFTEDA	2.00	2.06	3.2	30.00
PFBS	1.77	1.92	8.4	30.00
PFPEs	1.88	2.05	8.8	30.00
PFHXS	1.83	1.82	-0.8	30.00
PFHPS	1.91	2.24	17.2	30.00
PFOS	1.86	1.86	0.04	30.00
PFNS	1.92	2.26	17.5	30.00
PFDS	1.93	2.27	17.8	30.00
PFDOS	1.94	2.25	15.9	30.00
4:2FTS	7.50	7.66	2.1	30.00
6:2FTS	7.60	8.82	16.1	30.00
8:2FTS	7.68	8.74	13.8	30.00
PFOSA	2.00	2.14	7.0	30.00
NMeFOSA	8.00	8.05	0.6	30.00
NEtFOSA	8.00	7.09	-11.3	30.00
NMeFOSAA	2.00	2.15	7.7	30.00
NEtFOSAA	2.00	2.30	14.8	30.00

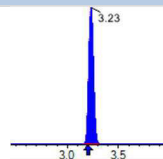
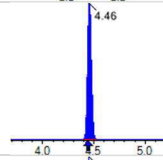
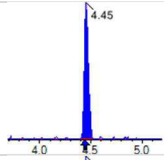
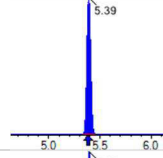
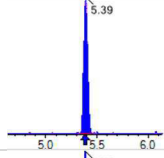
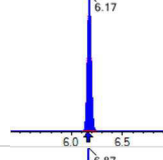
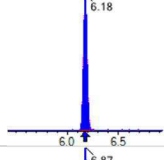
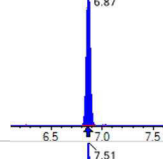
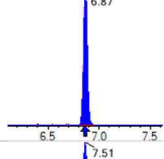
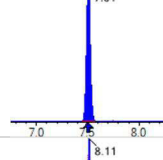
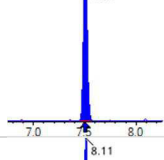
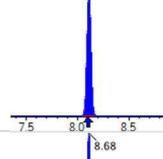
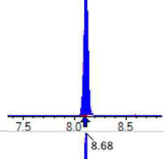
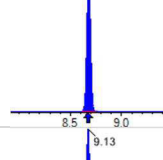
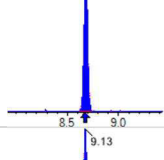
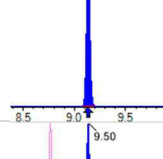
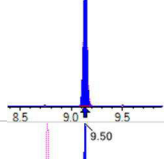
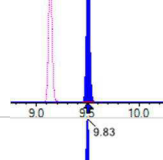
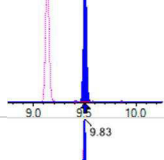
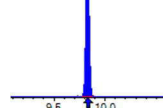
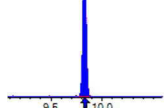
SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2316009**Laboratory ID:** SC01530-SCV1**Sequence:** SC01530**Standard ID:** 23D0357

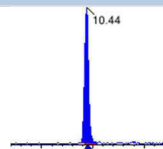
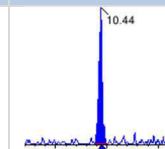
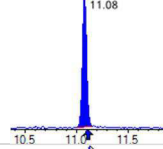
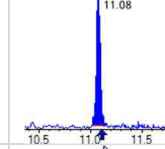
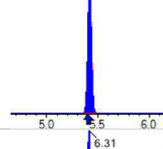
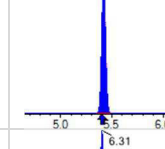
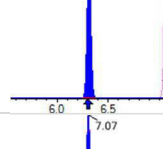
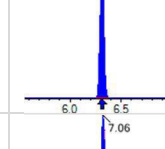
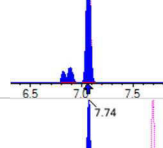
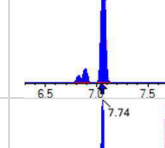
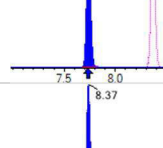
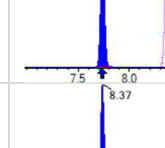
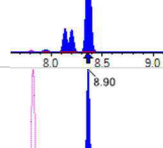
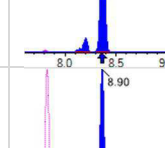
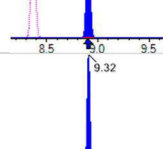
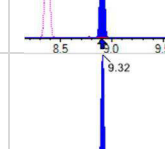
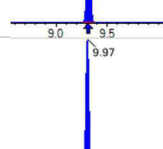
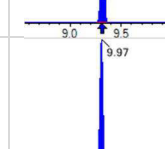
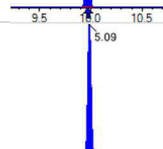
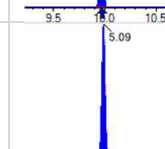
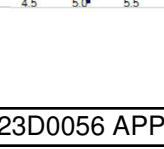
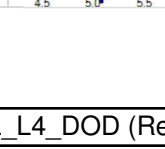
NMeFOSE	8.00	8.11	1.3	30.00
NEtFOSE	8.00	8.21	2.7	30.00
HFPO-DA	4.00	4.30	7.5	30.00
ADONA	3.78	4.25	12.5	30.00
PFEESA	3.56	3.73	4.6	30.00
PFMPA	4.00	4.13	3.3	30.00
PFMBA	4.00	4.72	18.1	30.00
NFDHA	4.00	4.33	8.2	30.00
9CL-PF3ONS	3.74	4.37	16.8	30.00
11CL-PF3OUDS	3.78	4.86	28.6	30.00
3:3FTCA	8.00	8.99	12.3	30.00
5:3FTCA	8.00	8.31	3.8	30.00
7:3FTCA	8.00	7.92	-1.0	30.00
13C4-PFBA	8.00	8.14	1.8	30.00
13C5-PFPEA	4.00	3.66	-8.5	30.00
13C5-PFHXA	2.00	1.99	-0.3	30.00
13C4-PFHPA	2.00	1.94	-2.8	30.00
13C8-PFOA	2.00	1.97	-1.6	30.00
13C9-PFNA	1.00	0.960	-4.0	30.00
13C6-PFDA	1.00	1.05	5.0	30.00
13C7-PFUnA	1.00	1.11	11.0	30.00
13C2-PFDOA	1.00	1.12	12.2	30.00
13C2-PFTEDA	1.00	1.09	9.4	30.00
13C3-PFBS	2.00	1.94	-3.2	30.00
13C3-PFHXS	2.00	1.91	-4.6	30.00
13C8-PFOS	2.00	2.01	0.7	30.00
13C2-4:2FTS	4.00	3.90	-2.6	30.00
13C2-6:2FTS	4.00	3.48	-12.9	30.00
13C2-8:2FTS	4.00	3.39	-15.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2316009**Laboratory ID:** SC01530-SCV1**Sequence:** SC01530**Standard ID:** 23D0357

13C8-PFOSA	2.00	2.20	9.8	30.00
D3-NMEFOSA	2.00	2.24	12.0	30.00
D5-NETFOSA	2.00	2.32	15.9	30.00
D3-NMEFOSAA	4.00	4.33	8.2	30.00
D5-NETFOSAA	4.00	4.20	5.0	30.00
D7-NMEFOSE	20.0	21.7	8.5	30.00
D9-NETFOSSE	20.0	23.4	16.9	30.00
13C3-HFPO-DA	8.00	7.90	-1.2	30.00

* Values outside of QC limits

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1574681	(3.23, 1.00) (0.00, N/A, 0.0)	977.1	N/A 0.0 0.0	8.4952	N/A			
PFPeA	(263.0 / 219.0) 1059299 (263.0 / 69.0) 12432	(4.46, 1.00) (0.00, N/A, 0.1)	825.0 333.8	0.0117 100.0 100.0	4.3731	N/A			
PFHxA	(313.0 / 269.0) 724425 (313.0 / 119.0) 61430	(5.39, 1.00) (0.00, N/A, 0.0)	501.5 332.6	0.0848 101.6 101.6	2.1405	N/A			
PFHpA	(363.0 / 319.0) 545407 (363.0 / 169.0) 151237	(6.17, 1.00) (0.00, N/A, 0.0)	711.3 550.4	0.2773 100.0 100.0	2.0729	N/A			
PFOA	(413.0 / 369.0) 623102 (413.0 / 169.0) 194534	(6.87, 1.00) (0.00, N/A, -0.1)	374.1 272.8	0.3122 104.6 104.6	1.9779	N/A			
PFNA	(463.0 / 419.0) 509447 (463.0 / 169.0) 96360	(7.51, 1.00) (0.00, N/A, 0.0)	759.4 330.1	0.1891 93.4 93.4	2.3422	N/A			
PFDA	(513.0 / 469.0) 561800 (513.0 / 169.0) 51616	(8.11, 1.00) (0.00, N/A, 0.0)	595.3 188.5	0.0919 93.6 93.6	2.1951	N/A			
PFUnA	(563.0 / 519.0) 510148 (563.0 / 169.0) 56224	(8.68, 1.00) (0.00, N/A, -0.1)	373.6 271.0	0.1102 109.2 109.2	2.0912	N/A			
PFDoA	(613.0 / 569.0) 421688 (613.0 / 169.0) 63755	(9.13, 1.00) (0.00, N/A, -0.1)	993.7 540.8	0.1512 106.1 106.1	1.9669	N/A			
PFTTrDA	(663.0 / 619.0) 435269 (663.0 / 169.0) 98325	(9.50, 1.04) (N/A, 0.00, 0.0)	598.7 614.9	0.2259 109.6 109.6	1.9039	N/A			
PFTeDA	(713.0 / 669.0) 528503 (713.0 / 169.0) 99890	(9.83, 1.00) (0.00, N/A, 0.0)	579.5 431.4	0.1890 95.8 95.8	2.0645	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 27485 (813.0 / 169.0) 3457	(10.44 , 1.93) (N/A , -0.01 , -0.1)	261.2 72.6	0.1258 84.2 84.2	0.0607	N/A			
PFODA	(913.0 / 869.0) 23897 (913.0 / 169.0) 5979	(11.08 , 2.04) (N/A , -0.03 , 0.1)	232.1 100.5	0.2502 95.0 95.0	0.0823	N/A			
PFBS	(299.0 / 80.0) 832788 (299.0 / 99.0) 571129	(5.42 , 1.00) (0.00 , N/A , 0.0)	446.6 549.2	0.6858 99.8 99.8	1.9178	N/A			
PFPeS	(349.0 / 80.0) 1391530 (349.0 / 99.0) 467267	(6.31 , 0.89) (N/A , 0.01 , -0.1)	1018.0 772.8	0.3358 94.9 94.9	2.0463	N/A			
PFHxS	(399.0 / 80.0) 1026256 (399.0 / 99.0) 355178	(7.07 , 1.00) (0.00 , N/A , 0.1)	188848.2 2115.9	0.3461 97.8 97.8	1.8156	N/A			
PFHpS	(449.0 / 80.0) 1037684 (449.0 / 99.0) 283494	(7.74 , 0.93) (N/A , 0.01 , 0.0)	635.3 639.3	0.2732 97.8 97.8	2.2385	N/A			
PFOS	(499.0 / 80.0) 1238187 (499.0 / 99.0) 265434	(8.37 , 1.00) (0.00 , N/A , 0.0)	6505.9 628588.3	0.2144 93.1 93.1	1.8608	N/A			
PFNS	(549.0 / 80.0) 1183435 (549.0 / 99.0) 299772	(8.90 , 1.06) (N/A , 0.01 , 0.0)	1249.1 583.7	0.2533 102.7 102.7	2.2556	N/A			
PFDS	(599.0 / 80.0) 1372157 (599.0 / 99.0) 333818	(9.32 , 1.11) (N/A , 0.00 , 0.0)	956.9 1281.9	0.2433 106.2 106.2	2.2735	N/A			
PFDoS	(699.0 / 80.0) 1533066 (699.0 / 99.0) 366791	(9.97 , 1.19) (N/A , 0.00 , 0.0)	641.3 571.2	0.2393 104.9 104.9	2.2494	N/A			
4:2FTS	(327.0 / 307.0) 845948 (327.0 / 81.0) 529312	(5.09 , 1.00) (0.00 , N/A , 0.0)	1149.4 707.6	0.6257 96.2 96.2	7.6570	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (10)
 Acquired: 2023/04/18 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 501865 (427.0 / 81.0) 377733	(6.56 , 1.00) (0.00 , N/A , 0.1)	530.3 359.6	0.7527 102.0 102.0	8.8246	N/A			
8:2FTS	(527.0 / 507.0) 508598 (527.0 / 81.0) 357854	(7.81 , 1.00) (0.00 , N/A , 0.1)	653.0 479.8	0.7036 104.0 104.0	8.7416	N/A			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOSA	(498.0 / 78.0) 1151725 (498.0 / 478.0) 35772	(8.91 , 1.00) (0.00 , N/A , -0.1)	825.9 248.0	0.0311 125.1 125.1	2.1408	N/A			
NMeFOSA	(512.0 / 219.0) 1597845 (512.0 / 169.0) 1033246	(9.87 , 1.00) (0.00 , N/A , 0.0)	11183.7 11378.2	0.6466 86.3 86.3	8.0460	N/A			
NEtFOSA	(526.0 / 219.0) 1579469 (526.0 / 169.0) 1702692	(10.08 , 1.00) (0.00 , N/A , 0.0)	26609.6 20078.1	1.0780 92.2 92.2	7.0927	N/A			
NMeFOSAA	(570.0 / 419.0) 230931 (570.0 / 483.0) 107580	(8.07 , 1.00) (0.00 , N/A , 0.1)	3615.4 125920.2	0.4659 97.9 97.9	2.1530	N/A			
NEtFOSAA	(584.0 / 419.0) 188365 (584.0 / 526.0) 107408	(8.33 , 1.00) (0.01 , N/A , 0.1)	27603.9 285868.7	0.5702 95.8 95.8	2.2964	N/A			
NMeFOSE	(616.0 / 59.0) 577762	(9.79 , 1.00) (0.01 , N/A , 0.0)	8792.1	N/A 0.0 0.0	8.1063	N/A			
NEtFOSE	(630.0 / 59.0) 695260	(10.01 , 1.00) (0.01 , N/A , 0.0)	7701.6	N/A 0.0 0.0	8.2146	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (10)
 Acquired: 2023/04/18 - 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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 355830 (285.0 / 185.0) 1635369	(5.72, 1.00) (0.00, N/A, 0.1)	735.7 897.0	4.5959 97.5 97.5	4.3005	N/A			
ADONA	(377.0 / 85.0) 2072938 (377.0 / 251.0) 233600	(6.43, 1.12) (N/A, 0.01, 0.1)	540.0 167.2	0.1127 104.0 104.0	4.2511	N/A			
9CI-PF3ONS	(531.0 / 351.0) 4162203 (533.0 / 353.0) 1267408	(8.78, 1.54) (N/A, 0.01, 0.1)	812.8 473.6	0.3045 93.3 93.3	4.3665	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 4084530 (633.0 / 453.0) 1441690	(9.59, 1.68) (N/A, 0.00, 0.0)	1092.4 1212.5	0.3530 96.0 96.0	4.8609	N/A			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
3:3FTCA	(241.0 / 177.0) 80015 (241.0 / 117.0) 130515	(3.87, 0.87) (N/A, 0.02, 0.0)	811.8 776.6	1.6311 98.1 98.1	8.9869	N/A			
5:3FTCA	(341.0 / 236.7) 360844 (341.0 / 217.0) 624177	(5.70, 1.06) (N/A, 0.01, 0.1)	552.9 570.8	1.7298 96.0 96.0	8.3068	N/A			
7:3FTCA	(441.0 / 317.0) 408601 (441.0 / 337.0) 501606	(7.09, 1.32) (N/A, 0.01, 0.0)	486.9 323.1	1.2276 102.4 102.4	7.9185	N/A			
PFEESA	(315.0 / 135.0) 1205541 (315.0 / 83.0) 339470	(5.86, 1.09) (N/A, 0.01, 0.0)	676.6 591.8	0.2816 99.0 99.0	3.7252	N/A			
PFMPA	(229.0 / 85.0) 256138	(3.72, 0.83) (N/A, 0.02, 0.0)	972.0	N/A 0.0 0.0	4.1337	N/A			
PFMBA	(279.0 / 85.0) 824370	(4.78, 1.07) (N/A, 0.02, 0.0)	1225.9	N/A 0.0 0.0	4.7225	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (10)
 Acquired: 2023/04/18 - 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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 780998 (295.0 / 85.0) 690127	(5.30, 0.98) (N/A, 0.01, 0.1)	1035.4 929.0	0.8836 90.9 90.9	4.3279	N/A			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 197060	(3.23, N/A) (N/A, 0.03, N/A)	609.8	N/A	0.9563 [1.0000]	95.6% { 95.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 144344	(5.39, N/A) (N/A, 0.01, N/A)	261.8	N/A	0.9956 [1.0000]	99.6% { 96.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 269614	(6.87, N/A) (N/A, 0.01, N/A)	358.5	N/A	0.9888 [1.0000]	98.9% { 97.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 231406	(7.51, N/A) (N/A, 0.01, N/A)	377.2	N/A	0.9244 [1.0000]	92.4% { 91.9% }			
13C2_PFDA_IIS	(515.0 / 470.1) 212422	(8.11, N/A) (N/A, 0.01, N/A)	401.3	N/A	0.8947 [1.0000]	89.5% { 80.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 386476	(7.07, N/A) (N/A, 0.01, N/A)	459.1	N/A	1.0120 [1.0000]	101.2% { 96.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 418805	(8.37, N/A) (N/A, 0.01, N/A)	371.5	N/A	0.8784 [1.0000]	87.8% { 92.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1719022	(3.23, N/A) (N/A, 0.03, N/A)	1083.5	N/A	8.1432 [8.0000]	101.8% { 98.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1044635	(4.45, N/A) (N/A, 0.02, N/A)	1158.6	N/A	3.6602 [4.0000]	91.5% { 89.3% }			

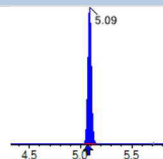
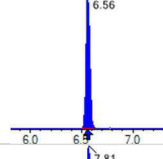
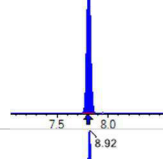
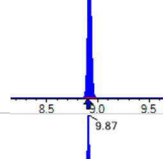
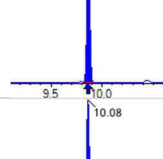
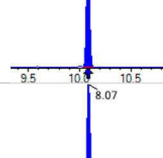
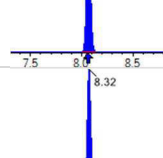
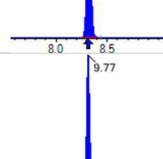
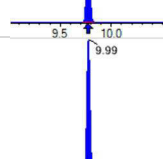
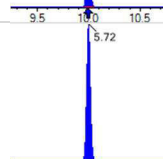
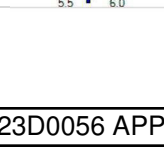


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (10)
 Acquired: 2023/04/18 - 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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 644181	(5.39, N/A) (N/A, 0.01, N/A)	631.8	N/A	1.9932 [2.0000]	99.7% { 96.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 495828	(6.17, N/A) (N/A, 0.01, N/A)	704.5	N/A	1.9438 [2.0000]	97.2% { 93.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 631261	(6.86, N/A) (N/A, 0.01, N/A)	466.4	N/A	1.9676 [2.0000]	98.4% { 98.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 230539	(7.51, N/A) (N/A, 0.01, N/A)	305.6	N/A	0.9597 [1.0000]	96.0% { 86.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 264617	(8.11, N/A) (N/A, 0.01, N/A)	261.3	N/A	1.0500 [1.0000]	105.0% { 94.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 269058	(8.68, N/A) (N/A, 0.01, N/A)	307.6	N/A	1.1097 [1.0000]	111.0% { 99.1% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 230792	(9.13, N/A) (N/A, 0.01, N/A)	715.6	N/A	1.1223 [1.0000]	112.2% { 101.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 277412	(9.83, N/A) (N/A, 0.00, N/A)	636.4	N/A	1.0937 [1.0000]	109.4% { 98.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1423342	(5.42, N/A) (N/A, 0.01, N/A)	880.3	N/A	1.9357 [2.0000]	96.8% { 98.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 591766	(7.07, N/A) (N/A, 0.01, N/A)	439.6	N/A	1.9087 [2.0000]	95.4% { 102.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1053279	(8.37, N/A) (N/A, 0.01, N/A)	503.5	N/A	2.0135 [2.0000]	100.7% { 94.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 138057	(5.09, N/A) (N/A, 0.01, N/A)	608.0	N/A	3.8956 [4.0000]	97.4% {97.4%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 153106	(6.56, N/A) (N/A, 0.01, N/A)	356.1	N/A	3.4826 [4.0000]	87.1% {91.6%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 168550	(7.81, N/A) (N/A, 0.01, N/A)	400.7	N/A	3.3940 [4.0000]	84.9% {93.8%}			
13C8_PFOA_EIS	(506.0 / 78.0) 1288775	(8.92, N/A) (N/A, 0.01, N/A)	967.1	N/A	2.1952 [2.0000]	109.8% {95.2%}			
D3_NMeFOA_EIS	(515.0 / 169.0) 407038	(9.87, N/A) (N/A, 0.01, N/A)	491.1	N/A	2.2394 [2.0000]	112.0% {97.0%}			
D5_NEtFOA_EIS	(531.0 / 169.0) 413771	(10.08, N/A) (N/A, 0.01, N/A)	772.2	N/A	2.3174 [2.0000]	115.9% {100.9%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 472699	(8.07, N/A) (N/A, 0.01, N/A)	448.9	N/A	4.3276 [4.0000]	108.2% {89.0%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 366541	(8.32, N/A) (N/A, 0.01, N/A)	350.1	N/A	4.2018 [4.0000]	105.0% {92.8%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1250129	(9.77, N/A) (N/A, 0.01, N/A)	779.4	N/A	21.7089 [20.0000]	108.5% {92.3%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 1668716	(9.99, N/A) (N/A, 0.01, N/A)	1557.5	N/A	23.3777 [20.0000]	116.9% {103.8%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1314337	(5.72, N/A) (N/A, 0.01, N/A)	1251.0	N/A	7.9017 [8.0000]	98.8% {96.7%}			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC

SDG:

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 6069

Calibration: 2315014

Laboratory ID: SC01502-LCV1

Sequence: SC01502

Standard ID: 23C0358

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.404	0.9	30.00
PFPEA	0.200	0.191	-4.7	30.00
PFHXA	0.100	0.145	45.3 *	30.00
PFHPA	0.100	0.128	28.3	30.00
PFOA	0.100	0.123	22.9	30.00
PFNA	0.100	0.0805	-19.5	30.00
PFDA	0.100	0.104	4.1	30.00
PFUnA	0.100	0.0971	-2.9	30.00
PFDOA	0.100	0.108	8.5	30.00
PFTRDA	0.100	0.0963	-3.7	30.00
PFTEDA	0.100	0.0875	-12.5	30.00
PFBS	0.0885	0.0992	12.1	30.00
PFPEs	0.0940	0.0889	-5.4	30.00
PFHXS	0.0915	0.0889	-2.8	30.00
PFHPS	0.0955	0.0961	0.6	30.00
PFOS	0.0930	0.111	19.4	30.00
PFNS	0.0960	0.0829	-13.6	30.00
PFDS	0.0965	0.0916	-5.1	30.00
PFDOS	0.0970	0.0851	-12.2	30.00
4:2FTS	0.375	0.394	5.0	30.00
6:2FTS	0.380	0.610	60.6 *	30.00
8:2FTS	0.384	0.411	7.0	30.00
PFOSA	0.100	0.0973	-2.7	30.00
NMeFOSA	0.400	0.413	3.1	30.00
NEtFOSA	0.400	0.417	4.4	30.00
NMeFOSAA	0.100	0.121	20.6	30.00
NEtFOSAA	0.100	0.0951	-4.9	30.00
NMeFOSE	0.400	0.432	8.1	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2315014**Laboratory ID:** SC01502-LCV1**Sequence:** SC01502**Standard ID:** 23C0358

NEtFOSE	0.400	0.416	3.9	30.00
HFPO-DA	0.200	0.215	7.5	30.00
ADONA	0.189	0.204	7.8	30.00
PFEESA	0.178	0.185	3.8	30.00
PFMPA	0.200	0.245	22.4	30.00
PFMBA	0.200	0.232	16.0	30.00
NFDHA	0.200	0.178	-10.9	30.00
9CL-PF3ONS	0.187	0.210	12.2	30.00
11CL-PF3OUDS	0.189	0.187	-1.3	30.00
3:3FTCA	0.400	0.542	35.5 *	30.00
5:3FTCA	0.400	0.407	1.8	30.00
7:3FTCA	0.400	0.406	1.6	30.00

* Values outside of QC limits



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (2)
 Acquired: 2023/04/14 - 14:42

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	(213.0 / 169.0) 54837	(3.38, 1.00) (0.00, N/A, 0.0)	62.4	N/A 0.0 0.0	0.4035 [0.4000]	100.9%			
PFPeA	(263.0 / 219.0) 43442 (263.0 / 69.0) 817	(4.27, 1.00) (0.00, N/A, -0.1)	25.3 17.6	0.0188 143.2 160.6	0.1907 [0.2000]	95.3%			
PFHxA	(313.0 / 269.0) 44150 (313.0 / 119.0) 3668	(5.09, 1.00) (0.00, N/A, 0.9)	15.5 59.9	0.0831 76.1 85.3	0.1453 [0.1000]	145.3%			CV2,
PFHpA	(363.0 / 319.0) 33847 (363.0 / 169.0) 5399	(5.75, 1.00) (-0.01, N/A, -0.9)	17.9 28.9	0.1595 52.3 51.2	0.1283 [0.1000]	128.3%			
PFOA	(413.0 / 369.0) 41930 (413.0 / 169.0) 13690	(6.38, 1.00) (0.00, N/A, -0.6)	114.4 1837.3	0.3265 104.3 104.3	0.1229 [0.1000]	122.9%			
PFNA	(463.0 / 419.0) 24032 (463.0 / 169.0) 10860	(7.00, 1.00) (0.00, N/A, -0.4)	1269.6 2053.8	0.4519 211.6 219.2	0.0805 [0.1000]	80.5%			IR2,
PFDA	(513.0 / 469.0) 37303 (513.0 / 169.0) 4334	(7.57, 1.00) (0.00, N/A, 0.8)	125.6 380.0	0.1162 101.3 104.1	0.1041 [0.1000]	104.1%			
PFUnA	(563.0 / 519.0) 33383 (563.0 / 169.0) 6370	(8.11, 1.00) (0.01, N/A, 0.7)	201.5 3304.7	0.1908 161.5 167.6	0.0971 [0.1000]	97.1%			IR2,
PFDoA	(613.0 / 569.0) 30440 (613.0 / 169.0) 3804	(8.56, 1.00) (0.00, N/A, 0.5)	191.5 159.8	0.1250 72.9 84.6	0.1085 [0.1000]	108.5%			
PFTrDA	(663.0 / 619.0) 24623 (663.0 / 169.0) 5317	(8.85, 1.03) (N/A, 0.00, 0.0)	175.3 222.0	0.2160 87.1 83.1	0.0963 [0.1000]	96.3%			
PFTeDA	(713.0 / 669.0) 20880 (713.0 / 169.0) 2387	(9.03, 1.00) (0.00, N/A, 0.6)	197.3 133.7	0.1143 56.7 57.5	0.0875 [0.1000]	87.5%			



Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01502-LCV1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
Path: S2023-04-14A (2)
Acquired: 2023/04/14 - 14:42

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
PFBS	(299.0 / 80.0) 51452 (299.0 / 99.0) 28457	(5.03, 1.00) (0.00, N/A, -0.1)	1129.3 1204.3	0.5531 86.0 83.4	0.0992 [0.0885]	112.1%			
PFPeS	(349.0 / 80.0) 77681 (349.0 / 99.0) 36778	(5.77, 0.89) (N/A, 0.00, -0.2)	4000.3 93096.7	0.4734 139.6 136.2	0.0889 [0.0938]	94.8%			
PFHxS	(399.0 / 80.0) 66150 (399.0 / 99.0) 19937	(6.46, 1.00) (0.00, N/A, 0.0)	304.1 897815.2	0.3014 87.0 87.4	0.0889 [0.0911]	97.6%			
PFHpS	(449.0 / 80.0) 76402 (449.0 / 99.0) 22416	(7.13, 0.92) (N/A, 0.00, -0.3)	2743.0 1445.4	0.2934 105.8 106.0	0.0961 [0.0951]	101.0%			
PFOS	(499.0 / 80.0) 123941 (499.0 / 99.0) 28828	(7.74, 1.00) (0.00, N/A, -0.1)	256.5 1185.9	0.2326 103.9 101.0	0.1111 [0.0927]	119.8%			M12 ABK 4/16/23
PFNS	(549.0 / 80.0) 86468 (549.0 / 99.0) 21330	(8.29, 1.07) (N/A, 0.00, -0.1)	4189.3 1276.8	0.2467 101.9 101.6	0.0829 [0.0960]	86.4%			
PFDS	(599.0 / 80.0) 107949 (599.0 / 99.0) 25082	(8.71, 1.13) (N/A, 0.00, 0.2)	6266.5 10348.1	0.2324 103.7 103.8	0.0916 [0.0963]	95.1%			
PFDoS	(699.0 / 80.0) 77191 (699.0 / 99.0) 16919	(9.11, 1.18) (N/A, 0.00, -0.1)	648.5 217.6	0.2192 91.6 101.7	0.0851 [0.0970]	87.8%			
4:2FTS	(327.0 / 307.0) 77397 (327.0 / 81.0) 47009	(4.86, 1.00) (0.00, N/A, -0.1)	1195.7 133.9	0.6074 89.3 98.4	0.3936 [0.3738]	105.3%			
6:2FTS	(427.0 / 407.0) 92590 (427.0 / 81.0) 71913	(6.14, 1.00) (0.00, N/A, 0.2)	302.4 174.7	0.7767 110.3 107.6	0.6103 [0.3796]	160.8%			CV2,
8:2FTS	(527.0 / 507.0) 53758 (527.0 / 81.0) 44674	(7.33, 1.00) (0.00, N/A, 0.1)	546.1 384.7	0.8310 123.0 110.2	0.4107 [0.3833]	107.1%			

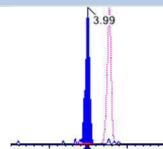
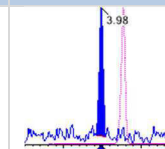
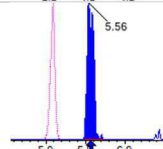
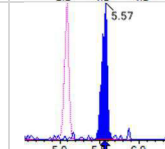
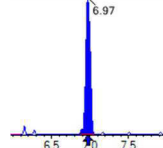
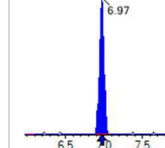
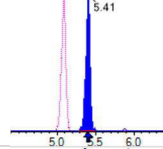
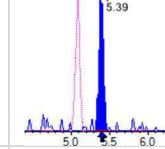
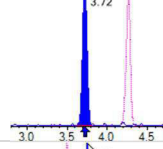
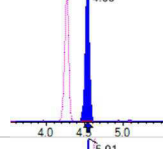
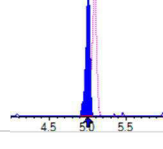
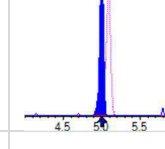
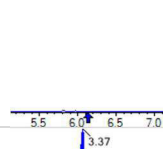
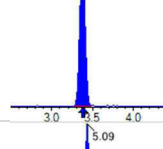
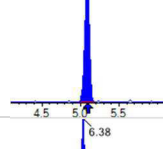


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (2)
 Acquired: 2023/04/14 - 14:42

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
PFOSA	(498.0 / 78.0) 115243 (498.0 / 478.0) 3233	(9.72, 1.00) (0.00, N/A, -0.2)	594.7 64.0	0.0281 113.3 126.4	0.0973 [0.1000]	97.3%			
NMeFOSA	(512.0 / 219.0) 113249 (512.0 / 169.0) 100286	(10.37, 1.00) (0.00, N/A, 1.3)	973.3 947.4	0.8855 102.1 104.9	0.4126 [0.4000]	103.1%			
NEtFOSA	(526.0 / 219.0) 131976 (526.0 / 169.0) 172837	(10.54, 1.00) (-0.01, N/A, 0.9)	930.8 963.4	1.3096 104.8 105.1	0.4175 [0.4000]	104.4%			
NMeFOSAA	(570.0 / 419.0) 17780 (570.0 / 483.0) 6566	(7.71, 1.00) (0.00, N/A, 0.9)	32087.0 262378.2	0.3693 79.7 69.3	0.1206 [0.1000]	120.6%			
NEtFOSAA	(584.0 / 419.0) 12684 (584.0 / 526.0) 12058	(7.98, 1.00) (0.01, N/A, -0.2)	30746.0 12877.9	0.9507 155.7 165.9	0.0951 [0.1000]	95.1%			IR2,
NMeFOSE	(616.0 / 59.0) 50136	(10.31, 1.00) (0.01, N/A, 0.0)	139.3	N/A 0.0 0.0	0.4325 [0.4000]	108.1%			
NEtFOSE	(630.0 / 59.0) 63915	(10.49, 1.00) (0.01, N/A, 0.0)	160.7	N/A 0.0 0.0	0.4156 [0.4000]	103.9%			
HFPO-DA	(285.0 / 169.0) 30129 (285.0 / 185.0) 79789	(5.35, 1.00) (0.00, N/A, 0.0)	9679.5 469.5	2.6482 101.8 101.8	0.2149 [0.2000]	107.5%			
ADONA	(377.0 / 85.0) 102065 (377.0 / 251.0) 11236	(5.99, 1.12) (N/A, 0.00, 0.4)	1273.9 918.1	0.1101 110.9 108.4	0.2038 [0.1885]	108.1%			
9CI-Pf3ONS	(531.0 / 351.0) 316382 (533.0 / 353.0) 98419	(8.15, 1.52) (N/A, 0.00, 0.0)	1093.4 289.2	0.3111 107.1 95.4	0.2098 [0.1867]	112.4%			
11CI-PF3OUDS	(631.0 / 451.0) 166275 (633.0 / 453.0) 61967	(8.89, 1.66) (N/A, 0.00, 0.0)	908.5 483.2	0.3727 111.2 110.1	0.1866 [0.1886]	98.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	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) 4526 (241.0 / 117.0) 6620	(3.99, 0.93) (N/A, 0.01, 0.4)	21.0 14.0	1.4626 88.6 90.6	0.5422 [0.4000]	135.5%			CV2,
5:3FTCA	(341.0 / 236.7) 19436 (341.0 / 217.0) 37276	(5.56, 1.09) (N/A, 0.00, -0.3)	4490.7 130.9	1.9179 122.3 116.2	0.4070 [0.4000]	101.8%			
7:3FTCA	(441.0 / 317.0) 33974 (441.0 / 337.0) 36121	(6.97, 1.37) (N/A, 0.00, 0.2)	591.5 3229.0	1.0632 123.4 125.6	0.4063 [0.4000]	101.6%			
PFEESA	(315.0 / 135.0) 70588 (315.0 / 83.0) 18400	(5.41, 1.06) (N/A, 0.01, 0.8)	1786203.7 81.9	0.2607 106.8 107.6	0.1847 [0.1785]	103.5%			
PFMPA	(229.0 / 85.0) 11874	(3.72, 0.87) (N/A, 0.00, 0.0)	412.1	N/A 0.0 0.0	0.2447 [0.2000]	122.4%			
PFMBA	(279.0 / 85.0) 41229	(4.53, 1.06) (N/A, 0.00, 0.0)	4654.3	N/A 0.0 0.0	0.2321 [0.2000]	116.0%			
NFDHA	(295.0 / 201.0) 27681 (295.0 / 85.0) 28062	(5.01, 0.98) (N/A, 0.01, 0.4)	1714.6 6831.7	1.0138 103.5 106.1	0.1782 [0.2000]	89.1%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.1000]	N/A%			CV2,
13C3_PFBA_IIS	(216.0 / 172.0) 145201	(3.37, N/A) (N/A, 0.00, N/A)	1024.3	N/A	1.1911 [1.0000]	119.1% {115.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 226004	(5.09, N/A) (N/A, 0.00, N/A)	1006.5	N/A	1.1143 [1.0000]	111.4% {113.2%}			
13C4_PFOA_IIS	(417.0 / 372.0) 342504	(6.38, N/A) (N/A, 0.00, N/A)	13679.4	N/A	1.0778 [1.0000]	107.8% {103.4%}			

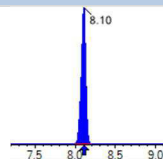
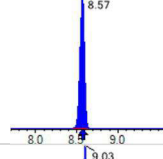
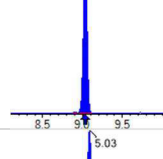
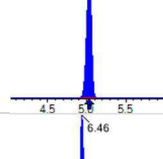
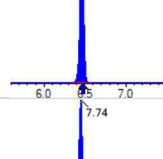
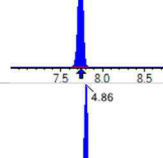
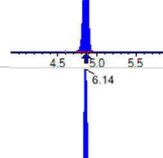
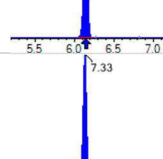
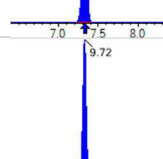
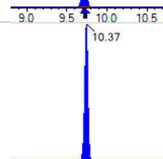
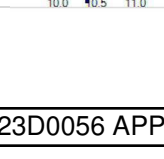


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (2)
 Acquired: 2023/04/14 - 14:42

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
13C5_PFNA_IIS	(468.0 / 423.0) 365303	(7.00, N/A) (N/A, 0.00, N/A)	7274.9	N/A	1.2036 [1.0000]	120.4% { 113.9% }			
13C2_PFDA_IIS	(515.0 / 470.1) 360744	(7.57, N/A) (N/A, 0.00, N/A)	3733.3	N/A	1.1118 [1.0000]	111.2% { 109.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 510899	(6.46, N/A) (N/A, 0.00, N/A)	12884.2	N/A	1.1408 [1.0000]	114.1% { 104.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 795036	(7.74, N/A) (N/A, -0.01, N/A)	2119.3	N/A	1.1690 [1.0000]	116.9% { 112.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1244188	(3.38, N/A) (N/A, 0.01, N/A)	5439.9	N/A	8.0818 [8.0000]	101.0% { 114.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 948299	(4.27, N/A) (N/A, 0.00, N/A)	2853.3	N/A	3.7460 [4.0000]	93.6% { 110.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 629912	(5.09, N/A) (N/A, 0.00, N/A)	2203.8	N/A	1.9664 [2.0000]	98.3% { 107.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 611912	(5.76, N/A) (N/A, 0.01, N/A)	1847.7	N/A	2.1869 [2.0000]	109.3% { 112.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 723580	(6.38, N/A) (N/A, 0.00, N/A)	2721.1	N/A	2.1404 [2.0000]	107.0% { 109.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 323665	(7.00, N/A) (N/A, 0.00, N/A)	46241271.8	N/A	0.9431 [1.0000]	94.3% { 101.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 381138	(7.57, N/A) (N/A, 0.00, N/A)	3941.3	N/A	0.9418 [1.0000]	94.2% { 108.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 390795	(8.10, N/A) (N/A, 0.00, N/A)	7104.1	N/A	1.0403 [1.0000]	104.0% { 107.2% }			
13C2_PFDa_EIS	(615.0 / 570.0) 309373	(8.57, N/A) (N/A, 0.00, N/A)	15929.4	N/A	0.9618 [1.0000]	96.2% { 117.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 260399	(9.03, N/A) (N/A, 0.00, N/A)	1145.5	N/A	0.8585 [1.0000]	85.9% { 111.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1454786	(5.03, N/A) (N/A, 0.00, N/A)	3144.5	N/A	1.8137 [2.0000]	90.7% { 110.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 946629	(6.46, N/A) (N/A, 0.00, N/A)	2499.7	N/A	2.0102 [2.0000]	100.5% { 106.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1972126	(7.74, N/A) (N/A, 0.00, N/A)	3589.7	N/A	2.0475 [2.0000]	102.4% { 118.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 264894	(4.86, N/A) (N/A, 0.00, N/A)	1028.4	N/A	3.6667 [4.0000]	91.7% { 110.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 354614	(6.14, N/A) (N/A, 0.00, N/A)	1772.0	N/A	4.3008 [4.0000]	107.5% { 122.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 371084	(7.33, N/A) (N/A, 0.00, N/A)	1413.9	N/A	3.3995 [4.0000]	85.0% { 99.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2702273	(9.72, N/A) (N/A, 0.00, N/A)	4998.1	N/A	1.7282 [2.0000]	86.4% { 110.4% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 661669	(10.37, N/A) (N/A, 0.00, N/A)	2335.9	N/A	1.9831 [2.0000]	99.2% { 105.6% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (2)
 Acquired: 2023/04/14 - 14:42

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 601837	(10.54 , N/A) (N/A , 0.00 , N/A)	2977.1	N/A	2.1861 [2.0000]	109.3% { 107.5% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 693774	(7.71 , N/A) (N/A , -0.01 , N/A)	2331.0	N/A	3.3607 [4.0000]	84.0% { 106.5% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 602863	(7.96 , N/A) (N/A , 0.00 , N/A)	4903.6	N/A	3.5603 [4.0000]	89.0% { 108.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2123684	(10.30 , N/A) (N/A , 0.00 , N/A)	1399.7	N/A	19.1716 [20.0000]	95.9% { 97.7% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 3123137	(10.48 , N/A) (N/A , 0.00 , N/A)	1510.1	N/A	21.3318 [20.0000]	106.7% { 106.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1327851	(5.35 , N/A) (N/A , 0.00 , N/A)	2443.6	N/A	7.3477 [8.0000]	91.8% { 109.5% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC

SDG:

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 6069

Calibration: 2316009

Laboratory ID: SC01534-LCV1

Sequence: SC01534

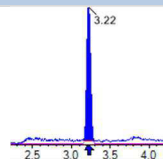
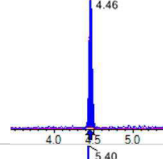
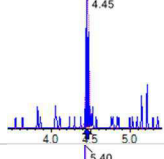
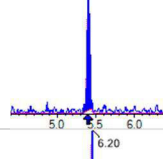
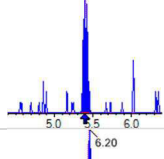
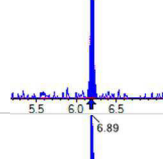
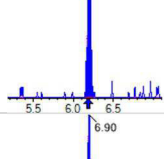
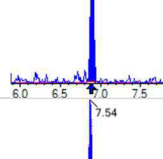
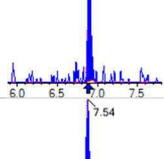
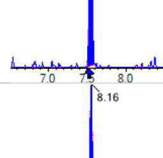
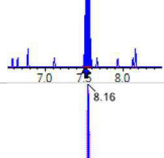
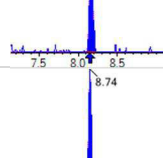
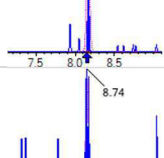
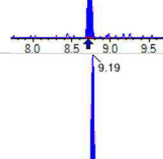
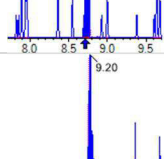
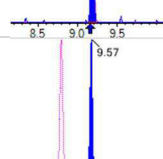
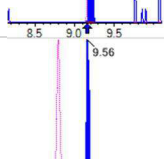
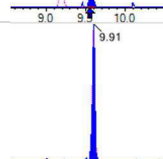
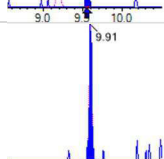
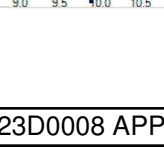
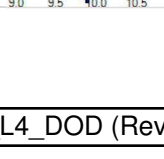
Standard ID: 23D0348

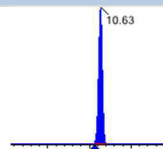
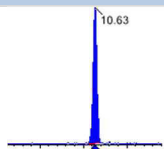
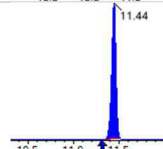
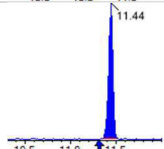
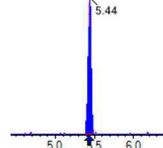
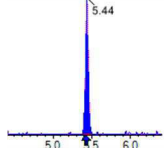
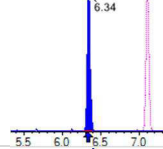
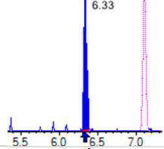
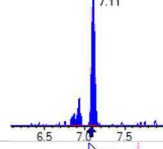
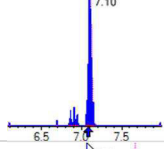
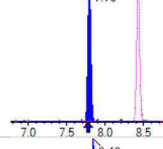
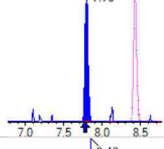
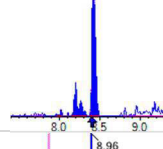
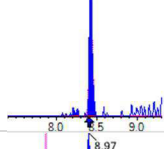
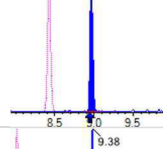
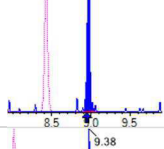
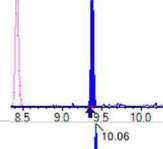
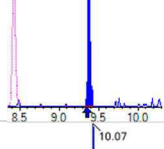
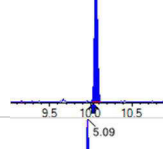
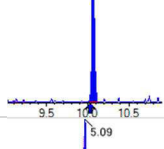
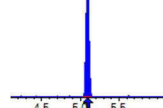
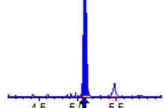
ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.395	-1.3	30.00
PFPEA	0.200	0.203	1.6	30.00
PFHXA	0.100	0.106	5.9	30.00
PFHPA	0.100	0.0987	-1.3	30.00
PFOA	0.100	0.117	16.6	30.00
PFNA	0.100	0.0925	-7.5	30.00
PFDA	0.100	0.0937	-6.3	30.00
PFUnA	0.100	0.0929	-7.1	30.00
PFDOA	0.100	0.0901	-9.9	30.00
PFTRDA	0.100	0.102	1.8	30.00
PFTEDA	0.100	0.103	2.9	30.00
PFBS	0.0885	0.0785	-11.3	30.00
PFPEs	0.0940	0.104	10.7	30.00
PFHXS	0.0915	0.0985	7.7	30.00
PFHPS	0.0955	0.0964	0.9	30.00
PFOS	0.0930	0.0963	3.6	30.00
PFNS	0.0960	0.0994	3.6	30.00
PFDS	0.0965	0.0945	-2.1	30.00
PFDOS	0.0970	0.0967	-0.3	30.00
4:2FTS	0.375	0.409	9.0	30.00
6:2FTS	0.380	0.415	9.1	30.00
8:2FTS	0.384	0.423	10.2	30.00
PFOSA	0.100	0.111	10.9	30.00
NMeFOSA	0.400	0.362	-9.6	30.00
NEtFOSA	0.400	0.365	-8.6	30.00
NMeFOSAA	0.100	0.0429	-57.1 *	30.00
NEtFOSAA	0.100	0.0764	-23.6	30.00
NMeFOSE	0.400	0.323	-19.2	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling / 6069**Calibration:** 2316009**Laboratory ID:** SC01534-LCV1**Sequence:** SC01534**Standard ID:** 23D0348

NEtFOSE	0.400	0.365	-8.8	30.00
HFPO-DA	0.200	0.168	-16.1	30.00
ADONA	0.189	0.184	-2.6	30.00
PFEESA	0.178	0.174	-2.0	30.00
PFMPA	0.200	0.187	-6.4	30.00
PFMBA	0.200	0.197	-1.5	30.00
NFDHA	0.200	0.172	-14.1	30.00
9CL-PF3ONS	0.187	0.202	7.8	30.00
11CL-PF3OUDS	0.189	0.201	6.3	30.00
3:3FTCA	0.400	0.374	-6.5	30.00
5:3FTCA	0.400	0.457	14.2	30.00
7:3FTCA	0.400	0.425	6.2	30.00

* Values outside of QC limits

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 69247	(3.22, 1.00) (0.00, N/A, 0.0)	338.4	N/A 0.0 0.0	0.3948 [0.4000]	98.7%			
PFPeA	(263.0 / 219.0) 51428 (263.0 / 69.0) 728	(4.46, 1.00) (0.00, N/A, 0.5)	205.8 44.8	0.0141 120.6 121.5	0.2031 [0.2000]	101.6%			
PFHxA	(313.0 / 269.0) 33078 (313.0 / 119.0) 3743	(5.40, 1.00) (0.00, N/A, 0.0)	72.2 96.4	0.1132 135.6 130.9	0.1059 [0.1000]	105.9%			
PFHpA	(363.0 / 319.0) 24666 (363.0 / 169.0) 9508	(6.20, 1.00) (0.00, N/A, -0.2)	81.9 84.8	0.3855 139.0 139.9	0.0987 [0.1000]	98.7%			
PFOA	(413.0 / 369.0) 37906 (413.0 / 169.0) 11769	(6.89, 1.00) (0.00, N/A, -0.1)	67.6 38.7	0.3105 104.0 105.9	0.1166 [0.1000]	116.6%			
PFNA	(463.0 / 419.0) 21845 (463.0 / 169.0) 6067	(7.54, 1.00) (0.00, N/A, -0.1)	122.4 68.0	0.2777 137.1 140.0	0.0925 [0.1000]	92.5%			
PFDA	(513.0 / 469.0) 24427 (513.0 / 169.0) 2984	(8.16, 1.00) (0.00, N/A, 0.0)	106.0 72.9	0.1222 124.5 132.5	0.0937 [0.1000]	93.7%			
PFUnA	(563.0 / 519.0) 21669 (563.0 / 169.0) 1904	(8.74, 1.00) (0.00, N/A, -0.2)	127.8 69.1	0.0879 87.1 80.3	0.0929 [0.1000]	92.9%			
PFDoA	(613.0 / 569.0) 19316 (613.0 / 169.0) 3158	(9.19, 1.00) (0.00, N/A, -0.3)	187.1 32.5	0.1635 114.8 111.7	0.0901 [0.1000]	90.1%			
PFTTrDA	(663.0 / 619.0) 23280 (663.0 / 169.0) 5905	(9.57, 1.04) (N/A, 0.02, 0.2)	173.0 106.2	0.2536 123.1 117.0	0.1018 [0.1000]	101.8%			
PFTeDA	(713.0 / 669.0) 29084 (713.0 / 169.0) 3154	(9.91, 1.00) (0.00, N/A, 0.1)	221.7 52.3	0.1085 55.0 57.0	0.1029 [0.1000]	102.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 213315 (813.0 / 169.0) 30516	(10.63, 1.96) (N/A, 0.08, 0.0)	632.2 286.8	0.1431 95.8 97.2	0.4743 [0.4000]	118.6%			
PFODA	(913.0 / 869.0) 122028 (913.0 / 169.0) 31225	(11.44, 2.10) (N/A, 0.13, 0.1)	216.6 110.8	0.2559 97.2 93.7	0.4233 [0.4000]	105.8%			
PFBS	(299.0 / 80.0) 33842 (299.0 / 99.0) 28739	(5.44, 1.00) (0.00, N/A, 0.3)	206.8 160.2	0.8492 123.5 113.5	0.0785 [0.0885]	88.7%			
PFPeS	(349.0 / 80.0) 70953 (349.0 / 99.0) 21566	(6.34, 0.89) (N/A, 0.01, 0.3)	408.8 116.7	0.3039 85.9 83.5	0.1041 [0.0938]	110.9%			
PFHxS	(399.0 / 80.0) 55814 (399.0 / 99.0) 17494	(7.11, 1.00) (0.00, N/A, 0.4)	2819.0 64.1	0.3134 88.6 91.5	0.0985 [0.0911]	108.1%			M4 ABK 4/19/23
PFHpS	(449.0 / 80.0) 49877 (449.0 / 99.0) 16316	(7.79, 0.92) (N/A, 0.02, -0.2)	319.6 104.1	0.3271 117.1 114.9	0.0964 [0.0951]	101.3%			
PFOS	(499.0 / 80.0) 71569 (499.0 / 99.0) 17181	(8.42, 1.00) (0.00, N/A, -0.2)	738.3 1000.8	0.2401 104.2 96.4	0.0963 [0.0927]	103.8%			M4 ABK 4/19/23
PFNS	(549.0 / 80.0) 58261 (549.0 / 99.0) 12158	(8.96, 1.06) (N/A, 0.02, -0.2)	317.2 82.9	0.2087 84.6 87.3	0.0994 [0.0960]	103.6%			
PFDS	(599.0 / 80.0) 63673 (599.0 / 99.0) 13685	(9.38, 1.11) (N/A, 0.03, 0.2)	194.7 116.1	0.2149 93.8 97.0	0.0945 [0.0963]	98.1%			
PFDoS	(699.0 / 80.0) 73576 (699.0 / 99.0) 19327	(10.06, 1.19) (N/A, 0.03, -0.2)	450.8 200.6	0.2627 115.2 112.6	0.0967 [0.0970]	99.7%			
4:2FTS	(327.0 / 307.0) 41022 (327.0 / 81.0) 28102	(5.09, 1.00) (0.00, N/A, -0.1)	390.0 127.9	0.6850 105.3 107.4	0.4087 [0.3738]	109.3%			

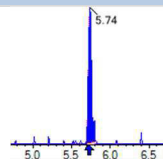
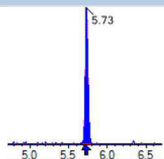
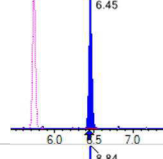
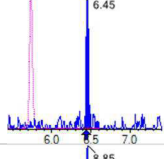
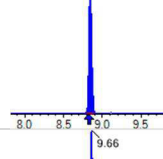
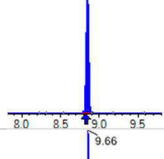
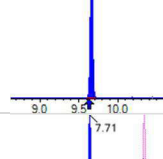
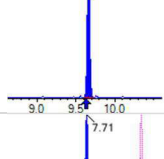
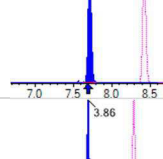
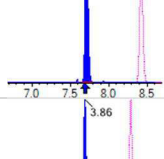
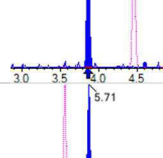
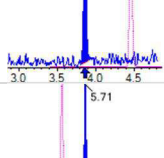
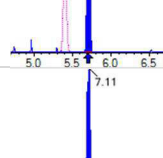
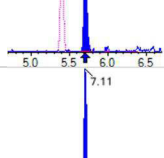
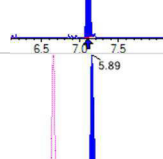
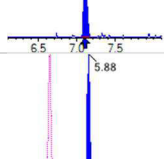
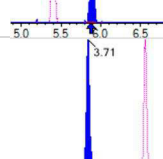
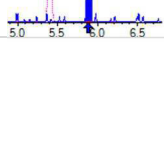
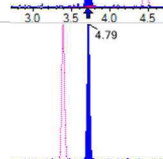
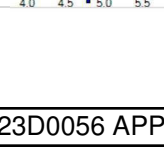


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (2)
 Acquired: 2023/04/18 - 21:36

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 24324 (427.0 / 81.0) 15815	(6.58, 1.00) (0.00, N/A, -0.1)	106.7 119.2	0.6502 88.1 89.0	0.4146 [0.3796]	109.2%			
8:2FTS	(527.0 / 507.0) 26102 (527.0 / 81.0) 15551	(7.85, 1.00) (0.00, N/A, 0.0)	140.6 158.5	0.5958 88.1 87.5	0.4233 [0.3833]	110.4%			
PFSBA	(297.9 / 78.0) 304282 (297.9 / 278.0) 429	(5.68, 0.64) (N/A, 0.00, 0.8)	286.4 20.2	0.0014 88.3 96.2	0.3999 [0.4000]	100.0%			
PFHxSA	(397.9 / 78.0) 203059 (397.9 / 378.0) 1195	(7.55, 0.85) (N/A, 0.00, 0.1)	254.9 26.4	0.0059 139.1 156.7	0.3641 [0.4000]	91.0%			
PFOSA	(498.0 / 78.0) 60428 (498.0 / 478.0) 825	(8.91, 1.00) (0.00, N/A, -0.3)	211.9 212.2	0.0136 54.9 55.5	0.1109 [0.1000]	110.9%			
NMeFOSA	(512.0 / 219.0) 74152 (512.0 / 169.0) 64176	(9.85, 1.00) (0.00, N/A, 0.8)	34913.4 2641.1	0.8655 115.6 113.2	0.3616 [0.4000]	90.4%			
NEtFOSA	(526.0 / 219.0) 85182 (526.0 / 169.0) 101422	(10.06, 1.00) (0.00, N/A, 1.4)	41833.5 18379.0	1.1907 101.8 97.6	0.3654 [0.4000]	91.4%			
NMeFOSAA	(570.0 / 419.0) 12360 (570.0 / 483.0) 6508	(8.11, 1.00) (0.00, N/A, 6.6)	888.3 228544.1	0.5265 110.6 103.1	0.0429 [0.1000]	42.9%			CV1,MI5 DG 2023-04-19
NEtFOSAA	(584.0 / 419.0) 7392 (584.0 / 526.0) 6023	(8.38, 1.00) (0.01, N/A, 0.1)	286.1 1998.1	0.8148 136.9 151.0	0.0764 [0.1000]	76.4%			IR2,MI5 DG 2023-04-19
NMeFOSE	(616.0 / 59.0) 23812	(9.77, 1.00) (0.01, N/A, 0.0)	250.0	N/A 0.0 0.0	0.3232 [0.4000]	80.8%			
NEtFOSE	(630.0 / 59.0) 29602	(9.99, 1.00) (0.01, N/A, 0.0)	278.0	N/A 0.0 0.0	0.3647 [0.4000]	91.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 13110 (285.0 / 185.0) 80202	(5.74, 1.00) (0.00, N/A, 0.2)	120.2 267.4	6.1178 129.8 122.2	0.1679 [0.2000]	83.9%			
ADONA	(377.0 / 85.0) 84768 (377.0 / 251.0) 10647	(6.45, 1.13) (N/A, 0.01, 0.0)	158.0 39.4	0.1256 115.9 116.7	0.1842 [0.1885]	97.7%			
9CI-PF3ONS	(531.0 / 351.0) 181367 (533.0 / 353.0) 65116	(8.84, 1.54) (N/A, 0.02, -0.2)	235.6 448.9	0.3590 110.0 112.3	0.2016 [0.1867]	108.0%			
11CI-PF3OUDS	(631.0 / 451.0) 159378 (633.0 / 453.0) 67593	(9.66, 1.68) (N/A, 0.03, 0.1)	805.6 347.7	0.4241 115.4 118.3	0.2009 [0.1886]	106.5%			
PFECHS	(461.0 / 98.9) 207594 (461.0 / 381.2) 79649	(7.71, 0.92) (N/A, 0.02, 0.0)	225.0 364.1	0.3837 100.6 106.3	0.3904 [0.3695]	105.6%			
3:3FTCA	(241.0 / 177.0) 3481 (241.0 / 117.0) 5552	(3.86, 0.87) (N/A, 0.00, 0.1)	166.2 54.2	1.5949 95.9 93.8	0.3741 [0.4000]	93.5%			
5:3FTCA	(341.0 / 236.7) 18321 (341.0 / 217.0) 33861	(5.71, 1.06) (N/A, 0.01, 0.4)	134.2 150.4	1.8482 102.6 104.5	0.4569 [0.4000]	114.2%			
7:3FTCA	(441.0 / 317.0) 20226 (441.0 / 337.0) 22485	(7.11, 1.32) (N/A, 0.01, 0.2)	108.3 210.3	1.1117 92.8 95.7	0.4246 [0.4000]	106.2%			
PFEESA	(315.0 / 135.0) 52107 (315.0 / 83.0) 15854	(5.89, 1.09) (N/A, 0.02, 0.2)	172.2 116.7	0.3043 107.0 102.9	0.1744 [0.1785]	97.7%			
PFMPA	(229.0 / 85.0) 12130	(3.71, 0.83) (N/A, 0.00, 0.0)	229.9	N/A 0.0 0.0	0.1873 [0.2000]	93.6%			
PFMBA	(279.0 / 85.0) 35931	(4.79, 1.07) (N/A, 0.01, 0.0)	276.6	N/A 0.0 0.0	0.1969 [0.2000]	98.5%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (2)
 Acquired: 2023/04/18 - 21:36

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 28613 (295.0 / 85.0) 32700	(5.31, 0.98) (N/A, 0.01, 0.1)	225.7 212.2	1.1428 117.5 122.2	0.1718 [0.2000]	85.9%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.1000]	N/A%			CV2.
13C3_PFBA_IIS	(216.0 / 172.0) 194834	(3.22, N/A) (N/A, 0.00, N/A)	621.7	N/A	0.9455 [1.0000]	94.5% { 100.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 139626	(5.40, N/A) (N/A, 0.00, N/A)	493.8	N/A	0.9631 [1.0000]	96.3% { 99.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 315160	(6.90, N/A) (N/A, 0.01, N/A)	301.5	N/A	1.1558 [1.0000]	115.6% { 114.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 247336	(7.55, N/A) (N/A, 0.02, N/A)	498.1	N/A	0.9881 [1.0000]	98.8% { 104.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 238560	(8.16, N/A) (N/A, 0.02, N/A)	435.9	N/A	1.0047 [1.0000]	100.5% { 98.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 381696	(7.11, N/A) (N/A, 0.02, N/A)	203.4	N/A	0.9995 [1.0000]	99.9% { 102.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 482154	(8.43, N/A) (N/A, 0.03, N/A)	470.2	N/A	1.0112 [1.0000]	101.1% { 81.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1626571	(3.22, N/A) (N/A, 0.00, N/A)	1346.7	N/A	7.7933 [8.0000]	97.4% { 100.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1091803	(4.46, N/A) (N/A, 0.00, N/A)	1208.2	N/A	3.9547 [4.0000]	98.9% { 98.2% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (2)
 Acquired: 2023/04/18 - 21:36

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 594664	(5.40, N/A) (N/A, 0.01, N/A)	727.6	N/A	1.9022 [2.0000]	95.1% { 99.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 470867	(6.19, N/A) (N/A, 0.01, N/A)	865.2	N/A	1.9083 [2.0000]	95.4% { 106.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 651156	(6.90, N/A) (N/A, 0.02, N/A)	521.0	N/A	1.7363 [2.0000]	86.8% { 104.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 250314	(7.54, N/A) (N/A, 0.02, N/A)	780.2	N/A	0.9749 [1.0000]	97.5% { 105.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 269564	(8.16, N/A) (N/A, 0.02, N/A)	297.9	N/A	0.9524 [1.0000]	95.2% { 97.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 257380	(8.73, N/A) (N/A, 0.02, N/A)	297.5	N/A	0.9452 [1.0000]	94.5% { 101.9% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 230765	(9.19, N/A) (N/A, 0.02, N/A)	769.0	N/A	0.9992 [1.0000]	99.9% { 108.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 306263	(9.91, N/A) (N/A, 0.03, N/A)	385.9	N/A	1.0751 [1.0000]	107.5% { 113.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1413862	(5.44, N/A) (N/A, 0.01, N/A)	532.0	N/A	1.9469 [2.0000]	97.3% { 98.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 593189	(7.11, N/A) (N/A, 0.02, N/A)	554.6	N/A	1.9373 [2.0000]	96.9% { 97.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1176217	(8.43, N/A) (N/A, 0.02, N/A)	536.6	N/A	1.9531 [2.0000]	97.7% { 82.9% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (2)
 Acquired: 2023/04/18 - 21:36

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 125432	(5.09, N/A) (N/A, 0.01, N/A)	493.7	N/A	3.5836 [4.0000]	89.6% { 89.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 157940	(6.58, N/A) (N/A, 0.01, N/A)	340.4	N/A	3.6376 [4.0000]	90.9% { 92.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 178627	(7.85, N/A) (N/A, 0.02, N/A)	318.4	N/A	3.6420 [4.0000]	91.0% { 104.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1305703	(8.91, N/A) (N/A, 0.00, N/A)	1231.7	N/A	1.9318 [2.0000]	96.6% { 98.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 420348	(9.85, N/A) (N/A, 0.00, N/A)	465.9	N/A	2.0088 [2.0000]	100.4% { 102.8% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 433114	(10.07, N/A) (N/A, 0.00, N/A)	947.7	N/A	2.1070 [2.0000]	105.4% { 109.9% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 480532	(8.11, N/A) (N/A, 0.02, N/A)	381.9	N/A	3.8213 [4.0000]	95.5% { 98.9% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 495443	(8.37, N/A) (N/A, 0.02, N/A)	518.2	N/A	4.9333 [4.0000]	123.3% { 126.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1292296	(9.76, N/A) (N/A, 0.00, N/A)	1093.8	N/A	19.4927 [20.0000]	97.5% { 105.3% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1600328	(9.98, N/A) (N/A, 0.00, N/A)	1337.3	N/A	19.4740 [20.0000]	97.4% { 102.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1240603	(5.73, N/A) (N/A, 0.01, N/A)	778.7	N/A	7.7104 [8.0000]	96.4% { 98.6% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23C0362

Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Calibration: 2315014
 Sequence: SC01502

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV1	PFBA	20.0	20.2	101	ng/mL	+/- 30.00%
	PFPEA	10.0	9.99	99.9	ng/mL	+/- 30.00%
	PFHXA	5.00	4.71	94.1	ng/mL	+/- 30.00%
	PFHPA	5.00	5.21	104	ng/mL	+/- 30.00%
	PFOA	5.00	5.23	105	ng/mL	+/- 30.00%
	PFNA	5.00	4.92	98.5	ng/mL	+/- 30.00%
	PFDA	5.00	5.07	101	ng/mL	+/- 30.00%
	PFUnA	5.00	4.52	90.5	ng/mL	+/- 30.00%
	PFDOA	5.00	5.92	118	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.68	93.7	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.06	101	ng/mL	+/- 30.00%
	PFBS	4.42	4.23	95.6	ng/mL	+/- 30.00%
	PFPEs	4.70	4.74	101	ng/mL	+/- 30.00%
	PFHXS	4.58	4.64	101	ng/mL	+/- 30.00%
	PFHPS	4.78	5.32	111	ng/mL	+/- 30.00%
	PFOS	4.65	4.77	103	ng/mL	+/- 30.00%
	PFNS	4.80	5.04	105	ng/mL	+/- 30.00%
	PFDS	4.82	4.74	98.3	ng/mL	+/- 30.00%
	PFDOS	4.85	4.44	91.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.8	105	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.5	103	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.4	95.9	ng/mL	+/- 30.00%
	PFOSA	5.00	5.06	101	ng/mL	+/- 30.00%
	NMeFOSA	20.0	21.2	106	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.6	108	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.65	93.0	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.01	100	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.1	95.4	ng/mL	+/- 30.00%
	NEtFOSE	20.0	20.4	102	ng/mL	+/- 30.00%
	HFPO-DA	10.0	11.3	113	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

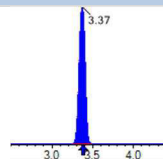
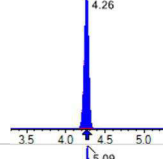
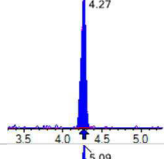
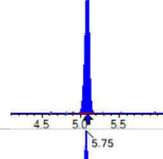
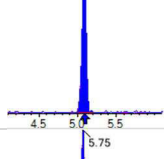
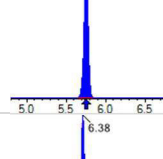
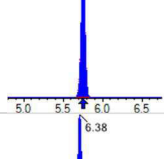
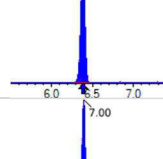
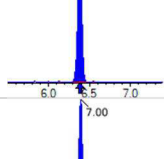
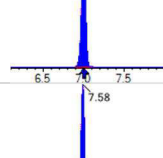
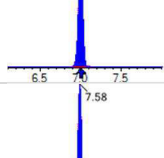
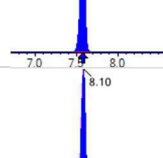
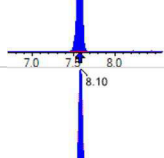
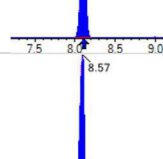
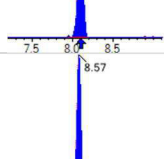
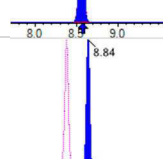
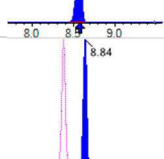
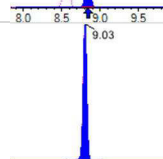
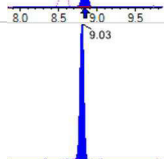
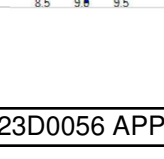
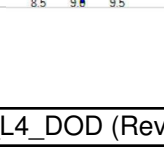
Instrument ID: Saphira

Calibration: 2315014

Standard ID: 23C0362

Sequence: SC01502

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV1	ADONA	9.45	11.2	119	ng/mL	+/- 30.00%
	PFEESA	8.90	8.80	98.9	ng/mL	+/- 30.00%
	PFMPA	10.0	11.6	116	ng/mL	+/- 30.00%
	PFMBA	10.0	9.89	98.9	ng/mL	+/- 30.00%
	NFDHA	10.0	9.53	95.3	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	10.0	107	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.62	102	ng/mL	+/- 30.00%
	3:3FTCA	20.0	22.6	113	ng/mL	+/- 30.00%
	5:3FTCA	20.0	21.2	106	ng/mL	+/- 30.00%
	7:3FTCA	20.0	20.9	104	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 2403967	(3.37, 1.00) (0.00, N/A, 0.0)	199.1	N/A 0.0 0.0	20.2467 [20.0000]	101.2%			
PFPeA	(263.0 / 219.0) 2063653 (263.0 / 69.0) 24158	(4.26, 1.00) (0.00, N/A, -0.1)	3101.3 348.9	0.0117 89.2 100.0	9.9876 [10.0000]	99.9%			
PFHxA	(313.0 / 269.0) 1332027 (313.0 / 119.0) 129705	(5.09, 1.00) (0.00, N/A, 0.1)	1202.1 851.1	0.0974 89.2 100.0	4.7069 [5.0000]	94.1%			
PFHpA	(363.0 / 319.0) 1225102 (363.0 / 169.0) 381367	(5.75, 1.00) (0.00, N/A, 0.1)	3705.8 3534326.9	0.3113 102.0 100.0	5.2089 [5.0000]	104.2%			
PFOA	(413.0 / 369.0) 1629177 (413.0 / 169.0) 510202	(6.38, 1.00) (0.00, N/A, 0.1)	2061.7 4510.9	0.3132 100.0 100.0	5.2341 [5.0000]	104.7%			
PFNA	(463.0 / 419.0) 1449915 (463.0 / 169.0) 298971	(7.00, 1.00) (0.00, N/A, 0.0)	10503.9 11290.3	0.2062 96.6 100.0	4.9233 [5.0000]	98.5%			
PFDA	(513.0 / 469.0) 1674769 (513.0 / 169.0) 186826	(7.58, 1.00) (0.00, N/A, 0.0)	2597.5 2162.2	0.1116 97.3 100.0	5.0698 [5.0000]	101.4%			
PFUnA	(563.0 / 519.0) 1450990 (563.0 / 169.0) 165187	(8.10, 1.00) (0.00, N/A, 0.2)	3337.5 4970.7	0.1138 96.3 100.0	4.5229 [5.0000]	90.5%			
PFDoA	(613.0 / 569.0) 1414139 (613.0 / 169.0) 208998	(8.57, 1.00) (0.01, N/A, 0.2)	3455.2 1239.1	0.1478 86.2 100.0	5.9185 [5.0000]	118.4%			
PFTTrDA	(663.0 / 619.0) 1019648 (663.0 / 169.0) 265000	(8.84, 1.03) (N/A, 0.00, 0.0)	2575.4 2190.8	0.2599 104.9 100.0	4.6838 [5.0000]	93.7%			
PFTeDA	(713.0 / 669.0) 1080005 (713.0 / 169.0) 214810	(9.03, 1.00) (0.00, N/A, 0.1)	2375.8 757.4	0.1989 98.7 100.0	5.0582 [5.0000]	101.2%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (3)
 Acquired: 2023/04/14 - 14:55

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
PFBS	(299.0 / 80.0) 1990624 (299.0 / 99.0) 1319463	(5.03, 1.00) (0.00, N/A, 0.0)	790646.7 9524.0	0.6628 103.1 100.0	4.2258 [4.4237]	95.5%			
PFPeS	(349.0 / 80.0) 3887383 (349.0 / 99.0) 1351134	(5.77, 0.89) (N/A, 0.00, 0.0)	2213778.1 6136.7	0.3476 102.5 100.0	4.7384 [4.6919]	101.0%			
PFHxS	(399.0 / 80.0) 3240899 (399.0 / 99.0) 1117261	(6.46, 1.00) (0.00, N/A, 0.0)	29334.1 716979.7	0.3447 99.5 100.0	4.6360 [4.5549]	101.8%			
PFHpS	(449.0 / 80.0) 3564229 (449.0 / 99.0) 986614	(7.13, 0.92) (N/A, 0.00, 0.0)	27959440.8 867463.6	0.2768 99.8 100.0	5.3227 [4.7570]	111.9%			
PFOS	(499.0 / 80.0) 4481063 (499.0 / 99.0) 1031937	(7.74, 1.00) (0.00, N/A, 0.1)	2063.0 9006.5	0.2303 102.9 100.0	4.7683 [4.6375]	102.8%			
PFNS	(549.0 / 80.0) 4427707 (549.0 / 99.0) 1074758	(8.29, 1.07) (N/A, 0.00, 0.0)	28852.9 10175136.4	0.2427 100.3 100.0	5.0417 [4.7994]	105.0%			
PFDS	(599.0 / 80.0) 4702035 (599.0 / 99.0) 1052398	(8.70, 1.12) (N/A, 0.00, 0.0)	6906.7 6823.7	0.2238 99.9 100.0	4.7361 [4.8155]	98.4%			
PFDoS	(699.0 / 80.0) 3388097 (699.0 / 99.0) 730544	(9.11, 1.18) (N/A, 0.00, 0.0)	2958.6 2705.3	0.2156 90.1 100.0	4.4364 [4.8478]	91.5%			
4:2FTS	(327.0 / 307.0) 3510678 (327.0 / 81.0) 2166696	(4.86, 1.00) (0.00, N/A, 0.0)	5354.7 2326.7	0.6172 90.8 100.0	19.7716 [18.6906]	105.8%			
6:2FTS	(427.0 / 407.0) 2411125 (427.0 / 81.0) 1741091	(6.14, 1.00) (0.00, N/A, 0.0)	3020.3 2777.2	0.7221 102.5 100.0	19.5103 [18.9808]	102.8%			
8:2FTS	(527.0 / 507.0) 2415410 (527.0 / 81.0) 1821702	(7.33, 1.00) (0.00, N/A, 0.0)	3188.8 3634.8	0.7542 111.6 100.0	18.4062 [19.1658]	96.0%			

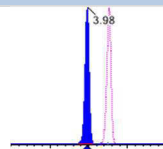
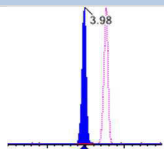
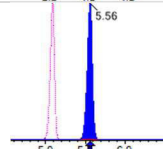
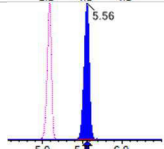
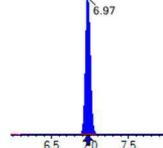
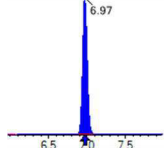
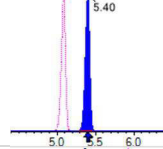
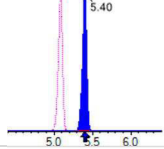
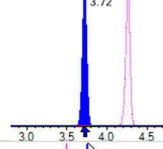
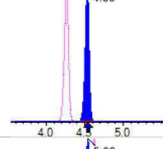
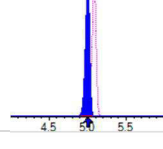
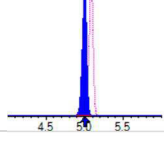
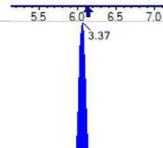
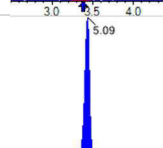
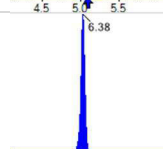


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (3)
 Acquired: 2023/04/14 - 14:55

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
PFOSA	(498.0 / 78.0) 5426961 (498.0 / 478.0) 120484	(9.72, 1.00) (0.00, N/A, 0.0)	3790.2 1074.3	0.0222 89.7 100.0	5.0600 [5.0000]	101.2%			
NMeFOSA	(512.0 / 219.0) 5514935 (512.0 / 169.0) 4655993	(10.37, 1.00) (0.00, N/A, 1.3)	5284.5 5120.1	0.8443 97.3 100.0	21.2072 [20.0000]	106.0%			
NEIFOSA	(526.0 / 219.0) 6356064 (526.0 / 169.0) 7920101	(10.54, 1.00) (-0.01, N/A, 1.0)	7424.6 8364.1	1.2461 99.7 100.0	21.6086 [20.0000]	108.0%			
NMeFOSAA	(570.0 / 419.0) 643930 (570.0 / 483.0) 343022	(7.72, 1.00) (0.00, N/A, -0.1)	2492.6 611.7	0.5327 115.0 100.0	4.6506 [5.0000]	93.0%			
NEIFOSAA	(584.0 / 419.0) 613867 (584.0 / 526.0) 351865	(7.97, 1.00) (0.01, N/A, 0.1)	16293.9 2557.6	0.5732 93.9 100.0	5.0075 [5.0000]	100.1%			
NMeFOSE	(616.0 / 59.0) 2264439	(10.31, 1.00) (0.01, N/A, 0.0)	1930.0	N/A 0.0 0.0	19.0861 [20.0000]	95.4%			
NEtFOSE	(630.0 / 59.0) 2941723	(10.49, 1.00) (0.01, N/A, 0.0)	1375.5	N/A 0.0 0.0	20.3991 [20.0000]	102.0%			
HFPO-DA	(285.0 / 169.0) 1442014 (285.0 / 185.0) 3751861	(5.35, 1.00) (0.00, N/A, 0.0)	3148.9 3863.7	2.6018 100.0 100.0	11.2636 [10.0000]	112.6%			
ADONA	(377.0 / 85.0) 5129372 (377.0 / 251.0) 521134	(5.99, 1.12) (N/A, 0.00, 0.0)	5662.4 2569.0	0.1016 102.4 100.0	11.2136 [9.4270]	119.0%			
9CI-Pf3ONS	(531.0 / 351.0) 13828833 (533.0 / 353.0) 4507107	(8.15, 1.52) (N/A, 0.00, 0.1)	3913.3 3433.9	0.3259 112.2 100.0	10.0414 [9.3325]	107.6%			
11CI-PF3OUDS	(631.0 / 451.0) 7831262 (633.0 / 453.0) 2650740	(8.89, 1.66) (N/A, 0.00, 0.0)	4262.2 5241.2	0.3385 101.0 100.0	9.6202 [9.4321]	102.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 170761 (241.0 / 117.0) 275647	(3.98, 0.93) (N/A, 0.00, 0.0)	51.4 56.9	1.6142 97.8 100.0	22.5540 [20.0000]	112.8%			
5:3FTCA	(341.0 / 236.7) 942754 (341.0 / 217.0) 1556545	(5.56, 1.09) (N/A, 0.00, 0.1)	1165.3 1338.2	1.6511 105.3 100.0	21.1956 [20.0000]	106.0%			
7:3FTCA	(441.0 / 317.0) 1624010 (441.0 / 337.0) 1374176	(6.97, 1.37) (N/A, 0.00, 0.0)	1678.0 2133.3	0.8462 98.2 100.0	20.8501 [20.0000]	104.3%			
PFEESA	(315.0 / 135.0) 3132678 (315.0 / 83.0) 759089	(5.40, 1.06) (N/A, 0.00, -0.1)	2364.5 1810.4	0.2423 99.3 100.0	8.8001 [8.9246]	98.6%			
PFMPA	(229.0 / 85.0) 511976	(3.72, 0.87) (N/A, 0.00, 0.0)	4119.2	N/A 0.0 0.0	11.6357 [10.0000]	116.4%			
PFMBA	(279.0 / 85.0) 1593277	(4.53, 1.06) (N/A, 0.00, 0.0)	5191.1	N/A 0.0 0.0	9.8895 [10.0000]	98.9%			
NFDHA	(295.0 / 201.0) 1378748 (295.0 / 85.0) 1317390	(5.00, 0.98) (N/A, 0.00, 0.0)	3744.2 3659.5	0.9555 97.6 100.0	9.5316 [10.0000]	95.3%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [5.0000]	N/A%			CV2,
13C3_PFBA_IIS	(216.0 / 172.0) 126174	(3.37, N/A) (N/A, 0.00, N/A)	1047.8	N/A	1.0350 [1.0000]	103.5% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 199732	(5.09, N/A) (N/A, 0.00, N/A)	36139.0	N/A	0.9848 [1.0000]	98.5% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 331194	(6.38, N/A) (N/A, 0.00, N/A)	2164.2	N/A	1.0422 [1.0000]	104.2% { 100.0% }			

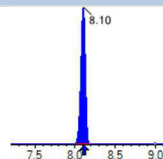
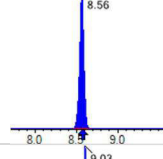
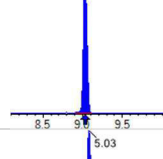
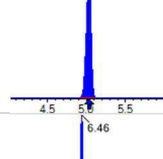
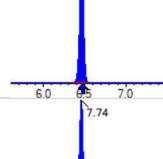
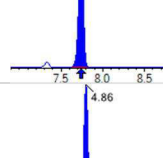
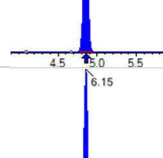
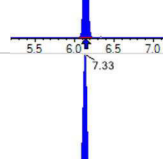
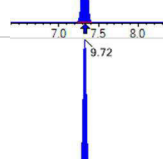
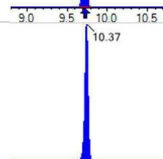
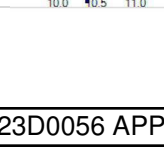


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (3)
 Acquired: 2023/04/14 - 14:55

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
13C5_PFNA_IIS	(468.0 / 423.0) 320860	(7.00, N/A) (N/A, 0.00, N/A)	3339.5	N/A	1.0572 [1.0000]	105.7% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 328605	(7.58, N/A) (N/A, 0.00, N/A)	5042.7	N/A	1.0127 [1.0000]	101.3% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 488091	(6.47, N/A) (N/A, 0.00, N/A)	27764.7	N/A	1.0898 [1.0000]	109.0% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 709566	(7.74, N/A) (N/A, 0.00, N/A)	2621.1	N/A	1.0434 [1.0000]	104.3% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1087026	(3.37, N/A) (N/A, 0.00, N/A)	4297.0	N/A	8.1257 [8.0000]	101.6% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 860018	(4.26, N/A) (N/A, 0.00, N/A)	3005.1	N/A	3.8441 [4.0000]	96.1% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 586725	(5.08, N/A) (N/A, 0.00, N/A)	2679.3	N/A	2.0725 [2.0000]	103.6% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 545701	(5.75, N/A) (N/A, 0.00, N/A)	5255.0	N/A	2.2068 [2.0000]	110.3% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 660232	(6.38, N/A) (N/A, 0.00, N/A)	3096.8	N/A	2.0197 [2.0000]	101.0% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 319280	(7.00, N/A) (N/A, 0.00, N/A)	8334.2	N/A	1.0591 [1.0000]	105.9% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 351449	(7.58, N/A) (N/A, 0.00, N/A)	1979.2	N/A	0.9534 [1.0000]	95.3% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 364614	(8.10, N/A) (N/A, 0.00, N/A)	5835.0	N/A	1.0655 [1.0000]	106.5% { 100.0% }			
13C2_PFDa_EIS	(615.0 / 570.0) 263444	(8.56, N/A) (N/A, 0.00, N/A)	6436.4	N/A	0.8991 [1.0000]	89.9% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 232972	(9.03, N/A) (N/A, 0.00, N/A)	1338.2	N/A	0.8432 [1.0000]	84.3% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1320830	(5.03, N/A) (N/A, 0.00, N/A)	3163.0	N/A	1.7237 [2.0000]	86.2% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 889273	(6.46, N/A) (N/A, 0.00, N/A)	4033.4	N/A	1.9766 [2.0000]	98.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1660880	(7.74, N/A) (N/A, 0.00, N/A)	2213.2	N/A	1.9321 [2.0000]	96.6% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 239181	(4.86, N/A) (N/A, 0.00, N/A)	1303.9	N/A	3.4655 [4.0000]	86.6% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 288862	(6.15, N/A) (N/A, 0.00, N/A)	1985.2	N/A	3.6670 [4.0000]	91.7% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 372044	(7.33, N/A) (N/A, 0.00, N/A)	1735.7	N/A	3.5675 [4.0000]	89.2% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2448216	(9.72, N/A) (N/A, 0.00, N/A)	3547.0	N/A	1.7543 [2.0000]	87.7% { 100.0% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 626824	(10.37, N/A) (N/A, 0.00, N/A)	2743.4	N/A	2.1049 [2.0000]	105.2% { 100.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (3)
 Acquired: 2023/04/14 - 14:55

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 559986	(10.55 , N/A) (N/A , 0.00 , N/A)	2757.9	N/A	2.2791 [2.0000]	114.0% { 100.0% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 651591	(7.72 , N/A) (N/A , 0.00 , N/A)	2102.1	N/A	3.5365 [4.0000]	88.4% { 100.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 554337	(7.97 , N/A) (N/A , 0.00 , N/A)	4325.8	N/A	3.6681 [4.0000]	91.7% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2173424	(10.30 , N/A) (N/A , 0.00 , N/A)	1176.9	N/A	21.9840 [20.0000]	109.9% { 100.0% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2928648	(10.48 , N/A) (N/A , 0.00 , N/A)	1360.5	N/A	22.4129 [20.0000]	112.1% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1212777	(5.35 , N/A) (N/A , 0.00 , N/A)	2971.9	N/A	7.5937 [8.0000]	94.9% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23C0362

Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Calibration: 2315014
 Sequence: SC01502

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV2	PFBA	20.0	20.0	99.9	ng/mL	+/- 30.00%
	PFPEA	10.0	10.0	100	ng/mL	+/- 30.00%
	PFHXA	5.00	4.95	99.0	ng/mL	+/- 30.00%
	PFHPA	5.00	5.04	101	ng/mL	+/- 30.00%
	PFOA	5.00	4.93	98.6	ng/mL	+/- 30.00%
	PFNA	5.00	5.31	106	ng/mL	+/- 30.00%
	PFDA	5.00	4.92	98.3	ng/mL	+/- 30.00%
	PFUnA	5.00	4.83	96.5	ng/mL	+/- 30.00%
	PFDOA	5.00	5.26	105	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.79	95.7	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.02	100	ng/mL	+/- 30.00%
	PFBS	4.42	4.62	104	ng/mL	+/- 30.00%
	PFPEs	4.70	4.88	104	ng/mL	+/- 30.00%
	PFHXS	4.58	4.98	109	ng/mL	+/- 30.00%
	PFHPS	4.78	5.62	118	ng/mL	+/- 30.00%
	PFOS	4.65	4.83	104	ng/mL	+/- 30.00%
	PFNS	4.80	5.09	106	ng/mL	+/- 30.00%
	PFDS	4.82	4.86	101	ng/mL	+/- 30.00%
	PFDOS	4.85	4.73	97.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.7	110	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.3	96.1	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.1	99.6	ng/mL	+/- 30.00%
	PFOSA	5.00	5.49	110	ng/mL	+/- 30.00%
	NMeFOSA	20.0	21.4	107	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.8	104	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.18	104	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.92	98.4	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.9	99.5	ng/mL	+/- 30.00%
	NEtFOSE	20.0	20.5	102	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.4	104	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC

Work Order: 23D0056

Client: AECOM

Project: Red Hill AFFF Assessment Sampling / 60697810

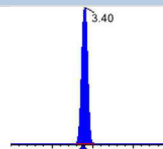
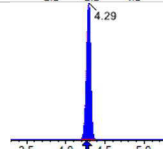
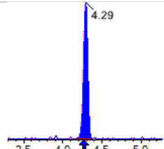
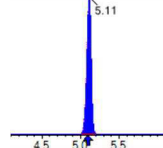
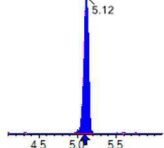
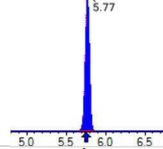
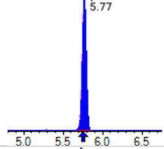
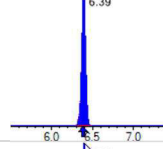
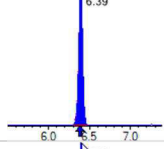
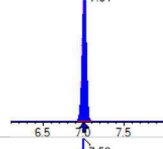
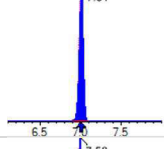
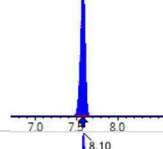
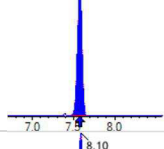
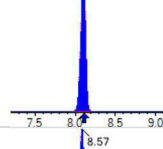
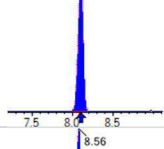
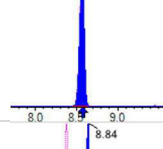
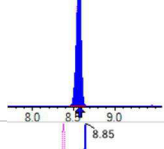
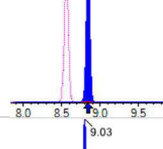
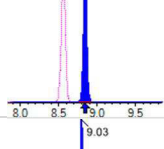
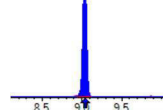
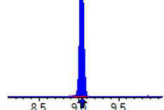
Instrument ID: Saphira

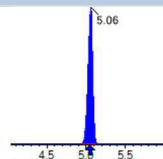
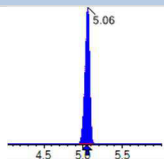
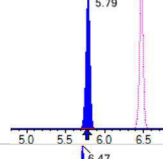
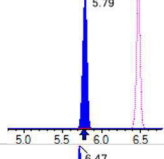
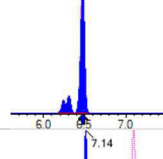
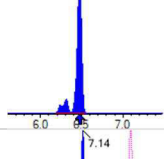
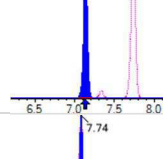
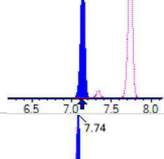
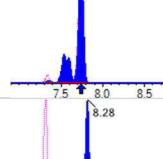
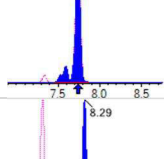
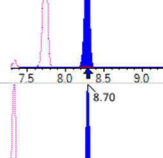
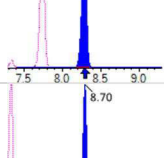
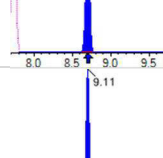
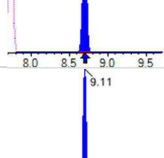
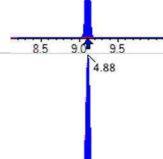
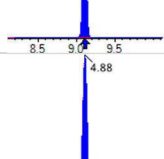
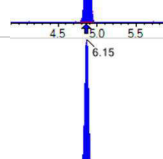
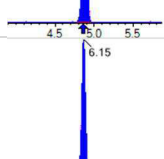
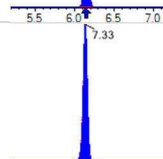
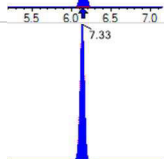
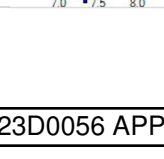
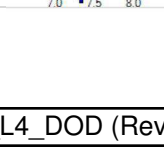
Calibration: 2315014

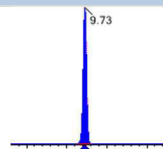
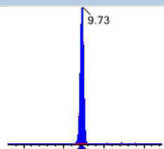
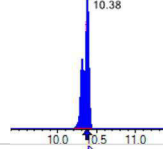
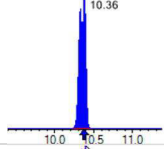
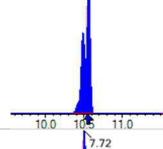
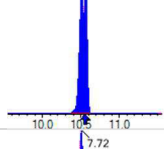
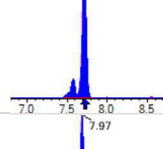
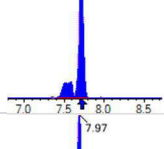
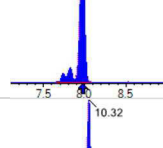
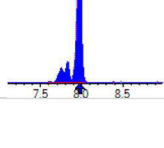
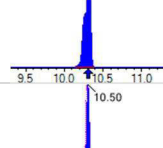
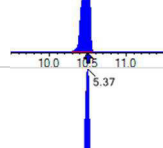
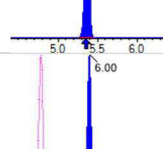
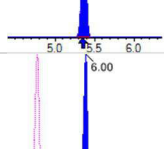
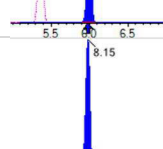
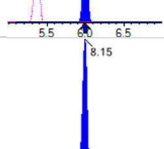
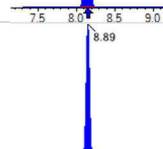
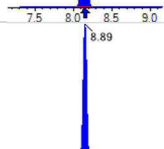
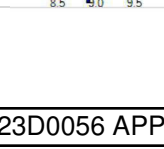
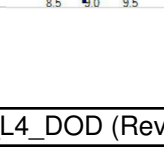
Standard ID: 23C0362

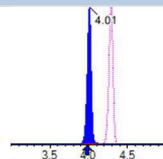
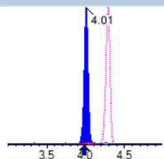
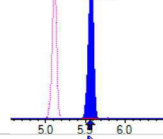
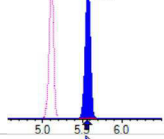
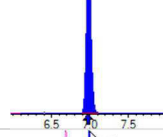
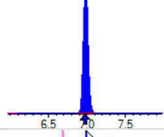
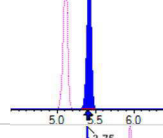
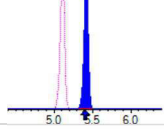
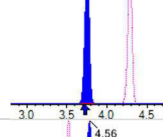
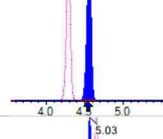
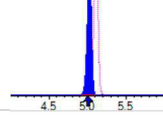
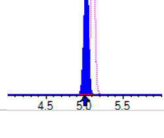
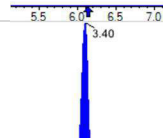
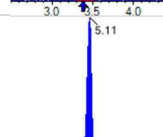
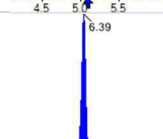
Sequence: SC01502

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV2	ADONA	9.45	10.8	114	ng/mL	+/- 30.00%
	PFEESA	8.90	8.93	100	ng/mL	+/- 30.00%
	PFMPA	10.0	10.9	109	ng/mL	+/- 30.00%
	PFMBA	10.0	9.14	91.4	ng/mL	+/- 30.00%
	NFDHA	10.0	10.1	101	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	10.3	110	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	10.1	106	ng/mL	+/- 30.00%
	3:3FTCA	20.0	22.1	111	ng/mL	+/- 30.00%
	5:3FTCA	20.0	22.3	112	ng/mL	+/- 30.00%
	7:3FTCA	20.0	20.8	104	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 2280771	(3.40, 1.00) (0.00, N/A, 0.0)	187.4	N/A 0.0 0.0	19.9895 [20.0000]	99.9%			
PFPeA	(263.0 / 219.0) 2008100 (263.0 / 69.0) 24386	(4.29, 1.00) (0.00, N/A, 0.0)	3102.9 397.0	0.0121 92.5 103.7	10.0128 [10.0000]	100.1%			
PFHxA	(313.0 / 269.0) 1289703 (313.0 / 119.0) 114645	(5.11, 1.00) (0.00, N/A, -0.3)	1553.1 21988.5	0.0889 81.5 91.3	4.9486 [5.0000]	99.0%			
PFHpA	(363.0 / 319.0) 1075891 (363.0 / 169.0) 318383	(5.77, 1.00) (0.00, N/A, 0.1)	3489.0 5563.7	0.2959 96.9 95.1	5.0361 [5.0000]	100.7%			
PFOA	(413.0 / 369.0) 1486289 (413.0 / 169.0) 482893	(6.39, 1.00) (0.00, N/A, -0.1)	3399.1 11111.6	0.3249 103.8 103.7	4.9293 [5.0000]	98.6%			
PFNA	(463.0 / 419.0) 1268398 (463.0 / 169.0) 272580	(7.01, 1.00) (0.00, N/A, 0.0)	32645.2 288288.7	0.2149 100.6 104.2	5.3119 [5.0000]	106.2%			
PFDA	(513.0 / 469.0) 1564218 (513.0 / 169.0) 174620	(7.58, 1.00) (0.00, N/A, 0.1)	2788.7 5014.4	0.1116 97.4 100.1	4.9152 [5.0000]	98.3%			
PFUnA	(563.0 / 519.0) 1419086 (563.0 / 169.0) 179695	(8.10, 1.00) (0.00, N/A, -0.1)	2728.0 1896.7	0.1266 107.2 111.2	4.8268 [5.0000]	96.5%			
PFDoA	(613.0 / 569.0) 1254017 (613.0 / 169.0) 198260	(8.57, 1.00) (0.00, N/A, 0.1)	2948.2 1482.6	0.1581 92.3 107.0	5.2577 [5.0000]	105.2%			
PFTrDA	(663.0 / 619.0) 1040103 (663.0 / 169.0) 274178	(8.84, 1.03) (N/A, 0.00, -0.1)	3165.6 2017.4	0.2636 106.4 101.4	4.7863 [5.0000]	95.7%			
PFTeDA	(713.0 / 669.0) 1075895 (713.0 / 169.0) 202359	(9.03, 1.00) (0.00, N/A, 0.0)	2363.6 1262.3	0.1881 93.3 94.6	5.0199 [5.0000]	100.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 2081464 (299.0 / 99.0) 1255916	(5.06, 1.00) (0.00, N/A, -0.1)	37521.0 18940.6	0.6034 93.9 91.0	4.6157 [4.4237]	104.3%			
PFPeS	(349.0 / 80.0) 3702598 (349.0 / 99.0) 1286129	(5.79, 0.89) (N/A, 0.02, 0.1)	5600.9 1735836.7	0.3474 102.4 99.9	4.8772 [4.6919]	103.9%			
PFHxS	(399.0 / 80.0) 3219128 (399.0 / 99.0) 1085379	(6.47, 1.00) (0.00, N/A, 0.1)	2584.8 11096208.9	0.3372 97.4 97.8	4.9763 [4.5549]	109.3%			
PFHpS	(449.0 / 80.0) 3401134 (449.0 / 99.0) 904422	(7.14, 0.92) (N/A, 0.01, -0.1)	7165.6 17223.4	0.2659 95.9 96.1	5.6228 [4.7570]	118.2%			
PFOS	(499.0 / 80.0) 4103256 (499.0 / 99.0) 924078	(7.74, 1.00) (0.00, N/A, 0.0)	2061.1 5006.7	0.2252 100.6 97.8	4.8336 [4.6375]	104.2%			
PFNS	(549.0 / 80.0) 4035593 (549.0 / 99.0) 977307	(8.28, 1.07) (N/A, 0.00, -0.1)	51554.9 4812.4	0.2422 100.1 99.8	5.0870 [4.7994]	106.0%			
PFDS	(599.0 / 80.0) 4362656 (599.0 / 99.0) 994334	(8.70, 1.12) (N/A, 0.00, -0.1)	9728.2 29395.1	0.2279 101.7 101.8	4.8646 [4.8155]	101.0%			
PFDoS	(699.0 / 80.0) 3261899 (699.0 / 99.0) 746746	(9.11, 1.18) (N/A, 0.00, 0.0)	5871.0 2399.1	0.2289 95.7 106.2	4.7283 [4.8478]	97.5%			
4:2FTS	(327.0 / 307.0) 3764374 (327.0 / 81.0) 2117149	(4.88, 1.00) (0.00, N/A, 0.0)	6173.5 2015.6	0.5624 82.7 91.1	20.7183 [18.6906]	110.8%			
6:2FTS	(427.0 / 407.0) 2446197 (427.0 / 81.0) 1731565	(6.15, 1.00) (0.00, N/A, 0.0)	2498.1 2273.5	0.7079 100.5 98.0	18.2552 [18.9808]	96.2%			
8:2FTS	(527.0 / 507.0) 2363062 (527.0 / 81.0) 1718781	(7.33, 1.00) (0.00, N/A, 0.0)	3089.1 3482.6	0.7274 107.6 96.4	19.1289 [19.1658]	99.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 5280276 (498.0 / 478.0) 113692	(9.73, 1.00) (0.00, N/A, -0.1)	4697.0 1000.8	0.0215 87.0 97.0	5.4909 [5.0000]	109.8%			
NMeFOSA	(512.0 / 219.0) 5655805 (512.0 / 169.0) 4734558	(10.38, 1.00) (0.00, N/A, 1.3)	5683.5 6358.3	0.8371 96.5 99.2	21.3993 [20.0000]	107.0%			
NEIFOSA	(526.0 / 219.0) 6562222 (526.0 / 169.0) 8148963	(10.55, 1.00) (0.00, N/A, 1.2)	7451.4 7450.0	1.2418 99.3 99.7	20.8491 [20.0000]	104.2%			
NMeFOSAA	(570.0 / 419.0) 656652 (570.0 / 483.0) 328692	(7.72, 1.00) (0.00, N/A, -0.1)	3919.8 523.2	0.5006 108.1 94.0	5.1793 [5.0000]	103.6%			
NEIFOSAA	(584.0 / 419.0) 544529 (584.0 / 526.0) 342152	(7.97, 1.00) (0.01, N/A, -0.1)	201371.0 4463753.5	0.6283 102.9 109.6	4.9189 [5.0000]	98.4%			
NMeFOSE	(616.0 / 59.0) 2365095	(10.32, 1.00) (0.01, N/A, 0.0)	2488.5	N/A 0.0 0.0	19.8921 [20.0000]	99.5%			
NEtFOSE	(630.0 / 59.0) 3048324	(10.50, 1.00) (0.01, N/A, 0.0)	1521.7	N/A 0.0 0.0	20.4844 [20.0000]	102.4%			
HFPO-DA	(285.0 / 169.0) 1297639 (285.0 / 185.0) 3621354	(5.37, 1.00) (0.00, N/A, 0.0)	2847.0 2943.2	2.7907 107.3 107.3	10.4206 [10.0000]	104.2%			
ADONA	(377.0 / 85.0) 4808175 (377.0 / 251.0) 475051	(6.00, 1.12) (N/A, 0.01, -0.1)	6571.5 2285.5	0.0988 99.5 97.2	10.8067 [9.4270]	114.6%			
9CI-Pf3ONS	(531.0 / 351.0) 13782168 (533.0 / 353.0) 4234547	(8.15, 1.52) (N/A, 0.00, 0.0)	5205.9 4522.0	0.3072 105.8 94.3	10.2886 [9.3325]	110.2%			
11CI-PF3OUDS	(631.0 / 451.0) 7966814 (633.0 / 453.0) 2721349	(8.89, 1.66) (N/A, 0.00, -0.1)	6254.9 5652.3	0.3416 101.9 100.9	10.0616 [9.4321]	106.7%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 162764 (241.0 / 117.0) 266924	(4.01, 0.93) (N/A, 0.03, 0.1)	68.6 67.4	1.6399 99.3 101.6	22.1483 [20.0000]	110.7%			
5:3FTCA	(341.0 / 236.7) 913981 (341.0 / 217.0) 1481978	(5.57, 1.09) (N/A, 0.01, 0.2)	1440.2 1609.2	1.6215 103.4 98.2	22.3127 [20.0000]	111.6%			
7:3FTCA	(441.0 / 317.0) 1493761 (441.0 / 337.0) 1356239	(6.98, 1.37) (N/A, 0.01, 0.0)	1591.5 1597.3	0.9079 105.4 107.3	20.8241 [20.0000]	104.1%			
PFEESA	(315.0 / 135.0) 2928185 (315.0 / 83.0) 707713	(5.42, 1.06) (N/A, 0.02, 0.0)	5258.0 1548.3	0.2417 99.0 99.7	8.9318 [8.9246]	100.1%			
PFMPA	(229.0 / 85.0) 463846	(3.75, 0.88) (N/A, 0.03, 0.0)	4212.9	N/A 0.0 0.0	10.8608 [10.0000]	108.6%			
PFMBA	(279.0 / 85.0) 1429656	(4.56, 1.06) (N/A, 0.02, 0.0)	4460.6	N/A 0.0 0.0	9.1424 [10.0000]	91.4%			
NFDHA	(295.0 / 201.0) 1340663 (295.0 / 85.0) 1269080	(5.03, 0.98) (N/A, 0.02, 0.1)	3320.8 3178.2	0.9466 96.6 99.1	10.0639 [10.0000]	100.6%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [5.0000]	N/A%			CV2,
13C3_PFBa_IIS	(216.0 / 172.0) 118900	(3.40, N/A) (N/A, 0.03, N/A)	999.5	N/A	0.9753 [1.0000]	97.5% { 94.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 187037	(5.11, N/A) (N/A, 0.03, N/A)	3548.2	N/A	0.9222 [1.0000]	92.2% { 93.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 341887	(6.39, N/A) (N/A, 0.01, N/A)	1797.2	N/A	1.0758 [1.0000]	107.6% { 103.2% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (32)
 Acquired: 2023/04/14 - 21:09

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
13C5_PFNA_IIS	(468.0 / 423.0) 286647	(7.01, N/A) (N/A, 0.01, N/A)	3979337.3	N/A	0.9445 [1.0000]	94.4% { 89.3% }			
13C2_PFDA_IIS	(515.0 / 470.1) 307672	(7.58, N/A) (N/A, 0.00, N/A)	6266.6	N/A	0.9482 [1.0000]	94.8% { 93.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 456567	(6.47, N/A) (N/A, 0.01, N/A)	48248.0	N/A	1.0194 [1.0000]	101.9% { 93.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 571451	(7.74, N/A) (N/A, -0.01, N/A)	1482.8	N/A	0.8403 [1.0000]	84.0% { 80.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1044591	(3.40, N/A) (N/A, 0.03, N/A)	5081.1	N/A	8.2862 [8.0000]	103.6% { 96.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 834761	(4.29, N/A) (N/A, 0.02, N/A)	3881.4	N/A	3.9845 [4.0000]	99.6% { 97.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 540340	(5.11, N/A) (N/A, 0.03, N/A)	1595.9	N/A	2.0382 [2.0000]	101.9% { 92.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 495673	(5.77, N/A) (N/A, 0.01, N/A)	2423.6	N/A	2.1405 [2.0000]	107.0% { 90.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 639576	(6.39, N/A) (N/A, 0.01, N/A)	4485.8	N/A	1.8953 [2.0000]	94.8% { 96.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 258880	(7.00, N/A) (N/A, 0.01, N/A)	3025.6	N/A	0.9613 [1.0000]	96.1% { 81.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 338577	(7.58, N/A) (N/A, 0.00, N/A)	8122.6	N/A	0.9809 [1.0000]	98.1% { 96.3% }			

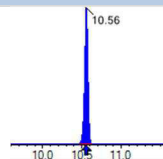
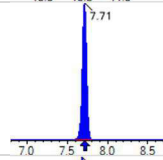
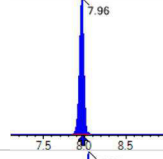
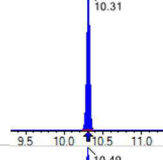
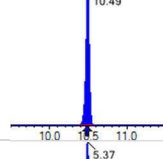
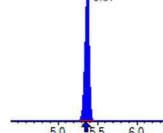


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (32)
 Acquired: 2023/04/14 - 21:09

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
13C7_PFUa_EIS	(570.0 / 525.0) 334150	(8.10, N/A) (N/A, 0.00, N/A)	2639.1	N/A	1.0429 [1.0000]	104.3% { 91.6% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 262973	(8.56, N/A) (N/A, 0.00, N/A)	5554.1	N/A	0.9586 [1.0000]	95.9% { 99.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 233857	(9.03, N/A) (N/A, 0.00, N/A)	1010.6	N/A	0.9040 [1.0000]	90.4% { 100.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1264441	(5.06, N/A) (N/A, 0.03, N/A)	2876.4	N/A	1.7640 [2.0000]	88.2% { 95.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 822898	(6.47, N/A) (N/A, 0.01, N/A)	2315.3	N/A	1.9554 [2.0000]	97.8% { 92.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1500291	(7.74, N/A) (N/A, 0.00, N/A)	1302.6	N/A	2.1671 [2.0000]	108.4% { 90.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 244747	(4.88, N/A) (N/A, 0.02, N/A)	1138.5	N/A	3.7910 [4.0000]	94.8% { 102.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 313211	(6.15, N/A) (N/A, 0.01, N/A)	2069.5	N/A	4.2507 [4.0000]	106.3% { 108.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 350229	(7.33, N/A) (N/A, 0.00, N/A)	2903.6	N/A	3.5902 [4.0000]	89.8% { 94.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2195079	(9.73, N/A) (N/A, 0.01, N/A)	3098.5	N/A	1.9531 [2.0000]	97.7% { 89.7% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 637066	(10.38, N/A) (N/A, 0.01, N/A)	2780.4	N/A	2.6564 [2.0000]	132.8% { 101.6% }			S2,

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 599211	(10.56 , N/A) (N/A , 0.01 , N/A)	3272.9	N/A	3.0282 [2.0000]	151.4% { 107.0% }			S2,
D3_MeFOSAA_EIS	(573.0 / 419.0) 596627	(7.71 , N/A) (N/A , 0.00 , N/A)	1598.5	N/A	4.0208 [4.0000]	100.5% { 91.6% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 500580	(7.96 , N/A) (N/A , 0.00 , N/A)	15726.4	N/A	4.1129 [4.0000]	102.8% { 90.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2178056	(10.31 , N/A) (N/A , 0.01 , N/A)	2021.8	N/A	27.3556 [20.0000]	136.8% { 100.2% }			S2,
D9_NEiFOSE_EIS	(639.0 / 58.9) 3022139	(10.49 , N/A) (N/A , 0.01 , N/A)	1334.6	N/A	28.7183 [20.0000]	143.6% { 103.2% }			S2,
13C3_HFPODA_EIS	(287.0 / 169.0) 1179646	(5.37 , N/A) (N/A , 0.02 , N/A)	2406.9	N/A	7.8875 [8.0000]	98.6% { 97.3% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23C0362

Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Calibration: 2315014
 Sequence: SC01502

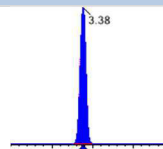
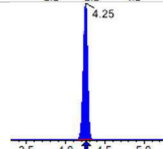
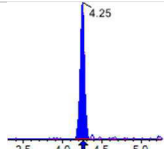
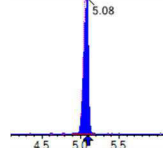
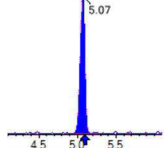
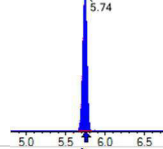
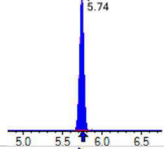
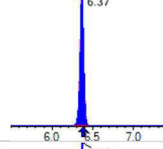
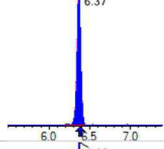
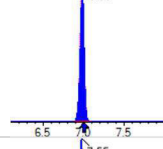
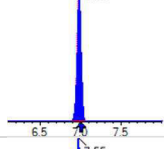
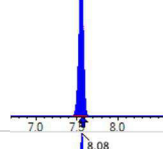
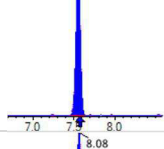
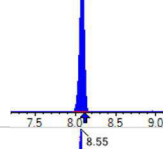
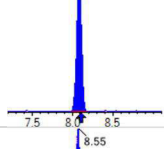
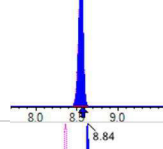
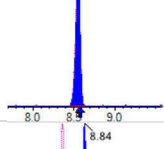
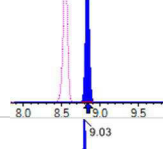
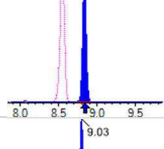
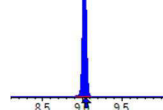
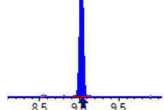
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV3	PFBA	20.0	21.6	108	ng/mL	+/- 30.00%
	PFPEA	10.0	10.3	103	ng/mL	+/- 30.00%
	PFHXA	5.00	5.24	105	ng/mL	+/- 30.00%
	PFHPA	5.00	5.00	100	ng/mL	+/- 30.00%
	PFOA	5.00	5.32	106	ng/mL	+/- 30.00%
	PFNA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFDA	5.00	4.87	97.4	ng/mL	+/- 30.00%
	PFUnA	5.00	4.88	97.6	ng/mL	+/- 30.00%
	PFDOA	5.00	5.30	106	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.96	99.2	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.84	96.7	ng/mL	+/- 30.00%
	PFBS	4.42	4.94	112	ng/mL	+/- 30.00%
	PFPEs	4.70	4.61	98.1	ng/mL	+/- 30.00%
	PFHXS	4.58	4.23	92.3	ng/mL	+/- 30.00%
	PFHPS	4.78	5.15	108	ng/mL	+/- 30.00%
	PFOS	4.65	4.32	93.0	ng/mL	+/- 30.00%
	PFNS	4.80	4.57	95.2	ng/mL	+/- 30.00%
	PFDS	4.82	4.21	87.4	ng/mL	+/- 30.00%
	PFDOS	4.85	4.29	88.4	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.4	108	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.8	99.1	ng/mL	+/- 30.00%
	8:2FTS	19.2	21.5	112	ng/mL	+/- 30.00%
	PFOSA	5.00	4.96	99.2	ng/mL	+/- 30.00%
	NMeFOSA	20.0	20.0	100	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.8	104	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.82	96.3	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.08	102	ng/mL	+/- 30.00%
	NMeFOSE	20.0	21.1	106	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.5	97.7	ng/mL	+/- 30.00%
	HFPO-DA	10.0	11.8	118	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Instrument ID:	Saphira	Calibration:	2315014
Standard ID:	23C0362	Sequence:	SC01502

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01502-CCV3	ADONA	9.45	12.7	134	ng/mL	+/- 30.00%
	PFEESA	8.90	9.63	108	ng/mL	+/- 30.00%
	PFMPA	10.0	12.0	120	ng/mL	+/- 30.00%
	PFMBA	10.0	10.4	104	ng/mL	+/- 30.00%
	NFDHA	10.0	9.40	94.0	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	11.4	122	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	11.8	125	ng/mL	+/- 30.00%
	3:3FTCA	20.0	23.0	115	ng/mL	+/- 30.00%
	5:3FTCA	20.0	22.8	114	ng/mL	+/- 30.00%
	7:3FTCA	20.0	21.9	110	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 2447159	(3.38, 1.00) (0.00, N/A, 0.0)	211.5	N/A 0.0 0.0	21.6316 [20.0000]	108.2%			
PFPeA	(263.0 / 219.0) 2192680 (263.0 / 69.0) 21377	(4.25, 1.00) (0.00, N/A, 0.1)	3072.3 348.4	0.0097 74.3 83.3	10.3372 [10.0000]	103.4%			
PFHxA	(313.0 / 269.0) 1582120 (313.0 / 119.0) 131183	(5.08, 1.00) (0.01, N/A, 0.5)	973.0 712.9	0.0829 76.0 85.2	5.2367 [5.0000]	104.7%			
PFHpA	(363.0 / 319.0) 1320869 (363.0 / 169.0) 404287	(5.74, 1.00) (0.00, N/A, 0.1)	2982.6 2221.5	0.3061 100.3 98.3	4.9981 [5.0000]	100.0%			
PFOA	(413.0 / 369.0) 1750723 (413.0 / 169.0) 566961	(6.37, 1.00) (0.00, N/A, 0.0)	1884.1 3246.8	0.3238 103.4 103.4	5.3219 [5.0000]	106.4%			
PFNA	(463.0 / 419.0) 1595019 (463.0 / 169.0) 335945	(6.98, 1.00) (0.00, N/A, 0.0)	6542.3 9006207.8	0.2106 98.6 102.1	5.1668 [5.0000]	103.3%			
PFDA	(513.0 / 469.0) 1992161 (513.0 / 169.0) 230881	(7.55, 1.00) (0.00, N/A, 0.0)	3110.6 747.5	0.1159 101.1 103.9	4.8724 [5.0000]	97.4%			
PFUnA	(563.0 / 519.0) 1754107 (563.0 / 169.0) 203537	(8.08, 1.00) (0.00, N/A, 0.2)	2970.6 1170.4	0.1160 98.2 101.9	4.8790 [5.0000]	97.6%			
PFDoA	(613.0 / 569.0) 1732846 (613.0 / 169.0) 286648	(8.55, 1.00) (0.00, N/A, 0.0)	3351.8 955.4	0.1654 96.5 111.9	5.2960 [5.0000]	105.9%			
PFTrDA	(663.0 / 619.0) 1478650 (663.0 / 169.0) 372944	(8.84, 1.03) (N/A, -0.01, 0.0)	3774.2 1868.2	0.2522 101.8 97.0	4.9600 [5.0000]	99.2%			
PFTeDA	(713.0 / 669.0) 1532485 (713.0 / 169.0) 308477	(9.03, 1.00) (0.00, N/A, 0.0)	2192.2 933.0	0.2013 99.9 101.2	4.8370 [5.0000]	96.7%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (52)
 Acquired: 2023/04/15 - 01:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 2163947 (299.0 / 99.0) 1368431	(5.01, 1.00) (0.00, N/A, 0.0)	7510.6 4856.7	0.6324 98.4 95.4	4.9434 [4.4237]	111.7%			
PFPeS	(349.0 / 80.0) 4248652 (349.0 / 99.0) 1516259	(5.76, 0.89) (N/A, -0.01, 0.1)	54500.5 14215.6	0.3569 105.3 102.7	4.6095 [4.6919]	98.2%			
PFHxS	(399.0 / 80.0) 3319375 (399.0 / 99.0) 1182728	(6.45, 1.00) (0.00, N/A, 0.0)	28928.2 2406.6	0.3563 102.9 103.4	4.2264 [4.5549]	92.8%			
PFHpS	(449.0 / 80.0) 4093769 (449.0 / 99.0) 1141578	(7.11, 0.92) (N/A, -0.02, 0.1)	59184.5 30782.5	0.2789 100.5 100.7	5.1491 [4.7570]	108.2%			
PFOS	(499.0 / 80.0) 4824988 (499.0 / 99.0) 1130074	(7.72, 1.00) (0.00, N/A, 0.0)	1913.2 3627.6	0.2342 104.7 101.7	4.3243 [4.6375]	93.2%			
PFNS	(549.0 / 80.0) 4766249 (549.0 / 99.0) 1167872	(8.27, 1.07) (N/A, -0.02, 0.0)	38777.3 7964.9	0.2450 101.2 100.9	4.5711 [4.7994]	95.2%			
PFDS	(599.0 / 80.0) 4967157 (599.0 / 99.0) 1169668	(8.69, 1.13) (N/A, -0.01, 0.0)	4327.3 3629.7	0.2355 105.1 105.2	4.2140 [4.8155]	87.5%			
PFDoS	(699.0 / 80.0) 3885759 (699.0 / 99.0) 849454	(9.10, 1.18) (N/A, 0.00, -0.1)	4059.6 2597.0	0.2186 91.3 101.4	4.2854 [4.8478]	88.4%			
4:2FTS	(327.0 / 307.0) 5008225 (327.0 / 81.0) 2823632	(4.84, 1.00) (0.00, N/A, 0.1)	5451.4 2168.7	0.5638 82.9 91.4	20.3726 [18.6906]	109.0%			
6:2FTS	(427.0 / 407.0) 3467150 (427.0 / 81.0) 2484832	(6.13, 1.00) (0.00, N/A, 0.1)	3198.1 2474.4	0.7167 101.8 99.2	18.8232 [18.9808]	99.2%			
8:2FTS	(527.0 / 507.0) 3634298 (527.0 / 81.0) 2970483	(7.31, 1.00) (0.00, N/A, 0.0)	4241.6 3117.4	0.8173 121.0 108.4	21.5274 [19.1658]	112.3%			

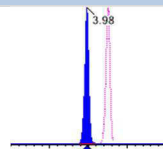
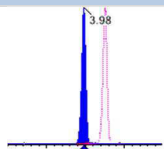
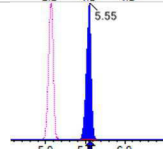
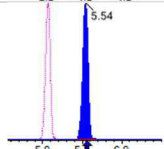
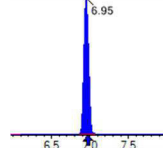
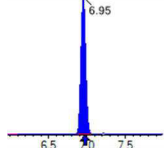
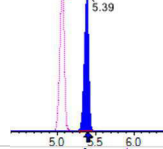
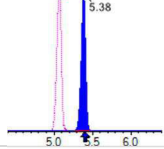
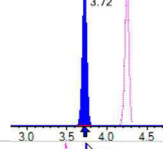
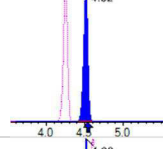
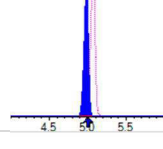
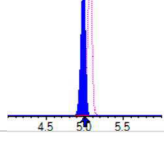
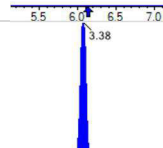
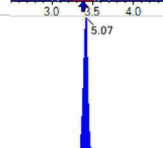
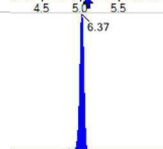


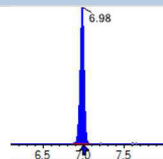
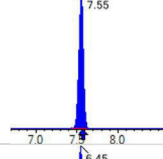
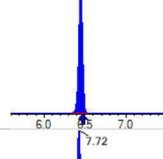
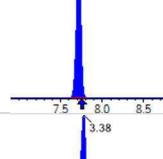
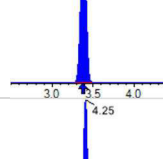
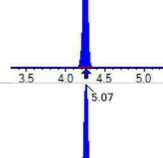
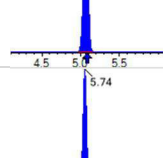
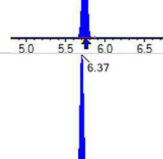
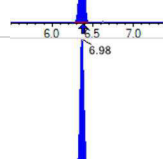
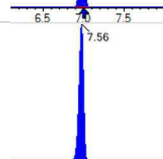

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV3
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
Path: S2023-04-14A (52)
Acquired: 2023/04/15 - 01:26

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
PFOSA	(498.0 / 78.0) 5417765 (498.0 / 478.0) 127849	(9.71, 1.00) (0.00, N/A, 0.0)	5389.7 720.3	0.0236 95.3 106.3	4.9605 [5.0000]	99.2%			
NMeFOSA	(512.0 / 219.0) 2528712 (512.0 / 169.0) 2185088	(10.36, 1.00) (0.00, N/A, 0.9)	3487.8 3498.5	0.8641 99.6 102.4	20.0324 [20.0000]	100.2%			
NEIFOSA	(526.0 / 219.0) 3873824 (526.0 / 169.0) 4878654	(10.54, 1.00) (0.00, N/A, 1.4)	4401.4 4970.5	1.2594 100.7 101.1	20.8132 [20.0000]	104.1%			
NMeFOSAA	(570.0 / 419.0) 977281 (570.0 / 483.0) 460336	(7.69, 1.00) (0.00, N/A, -0.1)	2516.3 577.5	0.4710 101.7 88.4	4.8165 [5.0000]	96.3%			
NEIFOSAA	(584.0 / 419.0) 922932 (584.0 / 526.0) 516133	(7.95, 1.00) (0.01, N/A, -0.1)	538896.4 1450.3	0.5592 91.6 97.6	5.0826 [5.0000]	101.7%			
NMeFOSE	(616.0 / 59.0) 681458	(10.31, 1.00) (0.01, N/A, 0.0)	489.9	N/A 0.0 0.0	21.1210 [20.0000]	105.6%			
NEtFOSE	(630.0 / 59.0) 1488202	(10.49, 1.00) (0.01, N/A, 0.0)	721.6	N/A 0.0 0.0	19.5401 [20.0000]	97.7%			
HFPO-DA	(285.0 / 169.0) 1456595 (285.0 / 185.0) 3901443	(5.33, 1.00) (0.00, N/A, 0.0)	2889.6 3784.9	2.6785 103.0 102.9	11.7664 [10.0000]	117.7%			
ADONA	(377.0 / 85.0) 5600757 (377.0 / 251.0) 525610	(5.97, 1.12) (N/A, -0.01, 0.0)	5108.7 1572.6	0.0938 94.5 92.4	12.6627 [9.4270]	134.3%			CV2.
9CI-Pf3ONS	(531.0 / 351.0) 15194003 (533.0 / 353.0) 4637708	(8.13, 1.53) (N/A, -0.02, 0.0)	4763.7 3124.6	0.3052 105.1 93.7	11.4098 [9.3325]	122.3%			
11CI-PF3OUDS	(631.0 / 451.0) 9292069 (633.0 / 453.0) 3350074	(8.88, 1.67) (N/A, -0.01, -0.1)	8443.8 4718.4	0.3605 107.6 106.5	11.8048 [9.4321]	125.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 179145 (241.0 / 117.0) 267739	(3.98, 0.94) (N/A, 0.00, 0.1)	54.7 59.0	1.4945 90.5 92.6	23.0485 [20.0000]	115.2%			
5:3FTCA	(341.0 / 236.7) 1084197 (341.0 / 217.0) 1687999	(5.55, 1.09) (N/A, -0.01, 0.3)	1423.3 1701.7	1.5569 99.3 94.3	22.8323 [20.0000]	114.2%			
7:3FTCA	(441.0 / 317.0) 1821518 (441.0 / 337.0) 1526941	(6.95, 1.37) (N/A, -0.02, 0.0)	1656.7 1974.8	0.8383 97.3 99.1	21.9051 [20.0000]	109.5%			
PFEESA	(315.0 / 135.0) 3658244 (315.0 / 83.0) 798107	(5.39, 1.06) (N/A, -0.01, 0.1)	5272.6 1247.6	0.2182 89.4 90.0	9.6258 [8.9246]	107.9%			
PFMPA	(229.0 / 85.0) 540352	(3.72, 0.88) (N/A, 0.00, 0.0)	4928.8	N/A 0.0 0.0	11.9624 [10.0000]	119.6%			
PFMBA	(279.0 / 85.0) 1714813	(4.52, 1.06) (N/A, -0.02, 0.0)	5316.8	N/A 0.0 0.0	10.3681 [10.0000]	103.7%			
NFDHA	(295.0 / 201.0) 1451418 (295.0 / 85.0) 1360781	(4.98, 0.98) (N/A, -0.02, 0.1)	2488.9 2628.3	0.9376 95.7 98.1	9.3987 [10.0000]	94.0%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [5.0000]	N/A%			CV2,
13C3_PFBA_IIS	(216.0 / 172.0) 109245	(3.38, N/A) (N/A, 0.01, N/A)	859.5	N/A	0.8961 [1.0000]	89.6% { 86.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 96909	(5.07, N/A) (N/A, -0.02, N/A)	1812.7	N/A	0.4778 [1.0000]	47.8% { 48.5% }			IS1,
13C4_PFOA_IIS	(417.0 / 372.0) 326892	(6.37, N/A) (N/A, -0.02, N/A)	2495.6	N/A	1.0286 [1.0000]	102.9% { 98.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 311328	(6.98, N/A) (N/A, -0.02, N/A)	1497.3	N/A	1.0258 [1.0000]	102.6% { 97.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 341162	(7.55, N/A) (N/A, -0.02, N/A)	3196.4	N/A	1.0514 [1.0000]	105.1% { 103.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 507129	(6.45, N/A) (N/A, -0.02, N/A)	2930.3	N/A	1.1323 [1.0000]	113.2% { 103.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 793213	(7.72, N/A) (N/A, -0.03, N/A)	1970.8	N/A	1.1664 [1.0000]	116.6% { 111.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1035712	(3.38, N/A) (N/A, 0.01, N/A)	4302.0	N/A	8.9419 [8.0000]	111.8% { 95.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 882890	(4.25, N/A) (N/A, -0.01, N/A)	2833.8	N/A	8.1335 [4.0000]	203.3% { 102.7% }			S2,
13C5_PFHxA_EIS	(318.0 / 273.0) 626385	(5.07, N/A) (N/A, -0.02, N/A)	1836.2	N/A	4.5601 [2.0000]	228.0% { 106.8% }			S2,
13C4_PFHpA_EIS	(367.0 / 322.0) 613174	(5.74, N/A) (N/A, -0.02, N/A)	1882.4	N/A	5.1107 [2.0000]	255.5% { 112.4% }			S2,
13C8_PFOA_EIS	(421.0 / 376.0) 697791	(6.37, N/A) (N/A, -0.01, N/A)	2197.3	N/A	2.1627 [2.0000]	108.1% { 105.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 334682	(6.98, N/A) (N/A, -0.02, N/A)	1262.8	N/A	1.1442 [1.0000]	114.4% { 104.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 434996	(7.56, N/A) (N/A, -0.02, N/A)	2814.1	N/A	1.1366 [1.0000]	113.7% { 123.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (52)
 Acquired: 2023/04/15 - 01:26

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
13C7_PFUa_EIS	(570.0 / 525.0) 408610	(8.08, N/A) (N/A, -0.02, N/A)	4221.9	N/A	1.1501 [1.0000]	115.0% { 112.1% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 360759	(8.55, N/A) (N/A, -0.02, N/A)	1760.4	N/A	1.1859 [1.0000]	118.6% { 136.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 345691	(9.03, N/A) (N/A, 0.00, N/A)	1174.7	N/A	1.2051 [1.0000]	120.5% { 148.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1227409	(5.01, N/A) (N/A, -0.02, N/A)	2243.0	N/A	1.5416 [2.0000]	77.1% { 92.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 999088	(6.45, N/A) (N/A, -0.02, N/A)	2739.2	N/A	2.1373 [2.0000]	106.9% { 112.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1971941	(7.72, N/A) (N/A, -0.03, N/A)	1538.3	N/A	2.0520 [2.0000]	102.6% { 118.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 331143	(4.84, N/A) (N/A, -0.02, N/A)	1455.9	N/A	4.6178 [4.0000]	115.4% { 138.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 430539	(6.13, N/A) (N/A, -0.01, N/A)	1504.0	N/A	5.2604 [4.0000]	131.5% { 149.0% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 478625	(7.31, N/A) (N/A, -0.02, N/A)	2303.4	N/A	4.4172 [4.0000]	110.4% { 128.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2493067	(9.72, N/A) (N/A, 0.00, N/A)	3693.5	N/A	1.5981 [2.0000]	79.9% { 101.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 304267	(10.36, N/A) (N/A, -0.01, N/A)	1237.6	N/A	0.9140 [2.0000]	45.7% { 48.5% }			S1,



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (52)
 Acquired: 2023/04/15 - 01:26

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 354337	(10.54 , N/A) (N/A , -0.01 , N/A)	1451.5	N/A	1.2901 [2.0000]	64.5% { 63.3% }			S1,
D3_MeFOSAA_EIS	(573.0 / 419.0) 954847	(7.69 , N/A) (N/A , -0.03 , N/A)	2876.1	N/A	4.6359 [4.0000]	115.9% { 146.5% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 821103	(7.94 , N/A) (N/A , -0.03 , N/A)	5104.8	N/A	4.8603 [4.0000]	121.5% { 148.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 591053	(10.30 , N/A) (N/A , -0.01 , N/A)	357.1	N/A	5.3480 [20.0000]	26.7% { 27.2% }			S1,
D9_NEiFOSE_EIS	(639.0 / 58.9) 1546718	(10.47 , N/A) (N/A , -0.01 , N/A)	664.0	N/A	10.5888 [20.0000]	52.9% { 52.8% }			S1,
13C3_HFPODA_EIS	(287.0 / 169.0) 1172696	(5.33 , N/A) (N/A , -0.02 , N/A)	2296.4	N/A	15.1334 [8.0000]	189.2% { 96.7% }			S2,

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23D0353

Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Calibration: 2316009
 Sequence: SC01534

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01534-CCV1	PFBA	20.0	18.8	94.0	ng/mL	+/- 30.00%
	PFPEA	10.0	9.30	93.0	ng/mL	+/- 30.00%
	PFHXA	5.00	4.85	97.1	ng/mL	+/- 30.00%
	PFHPA	5.00	4.72	94.4	ng/mL	+/- 30.00%
	PFOA	5.00	4.64	92.9	ng/mL	+/- 30.00%
	PFNA	5.00	4.84	96.7	ng/mL	+/- 30.00%
	PFDA	5.00	4.59	91.9	ng/mL	+/- 30.00%
	PFUnA	5.00	4.71	94.2	ng/mL	+/- 30.00%
	PFDOA	5.00	4.67	93.4	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.69	93.8	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.66	93.3	ng/mL	+/- 30.00%
	PFBS	4.42	4.08	92.2	ng/mL	+/- 30.00%
	PFPEs	4.70	4.45	94.7	ng/mL	+/- 30.00%
	PFHXS	4.58	4.07	88.9	ng/mL	+/- 30.00%
	PFHPS	4.78	3.63	75.8	ng/mL	+/- 30.00%
	PFOS	4.65	4.05	87.1	ng/mL	+/- 30.00%
	PFNS	4.80	3.67	76.5	ng/mL	+/- 30.00%
	PFDS	4.82	3.79	78.7	ng/mL	+/- 30.00%
	PFDOS	4.85	3.76	77.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.3	92.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.0	94.5	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.1	99.7	ng/mL	+/- 30.00%
	PFOSA	5.00	4.67	93.3	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.5	92.3	ng/mL	+/- 30.00%
	NEtFOSA	20.0	19.2	96.0	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.07	101	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.34	107	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.4	91.9	ng/mL	+/- 30.00%
	NEtFOSE	20.0	18.5	92.4	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.15	91.5	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Instrument ID:	Saphira	Calibration:	2316009
Standard ID:	23D0353	Sequence:	SC01534

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01534-CCV1	ADONA	9.45	9.56	101	ng/mL	+/- 30.00%
	PFEESA	8.90	8.64	97.1	ng/mL	+/- 30.00%
	PFMPA	10.0	9.00	90.0	ng/mL	+/- 30.00%
	PFMBA	10.0	9.49	94.9	ng/mL	+/- 30.00%
	NFDHA	10.0	9.98	99.8	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.84	105	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.44	99.9	ng/mL	+/- 30.00%
	3:3FTCA	20.0	17.8	89.0	ng/mL	+/- 30.00%
	5:3FTCA	20.0	20.2	101	ng/mL	+/- 30.00%
	7:3FTCA	20.0	20.0	99.8	ng/mL	+/- 30.00%

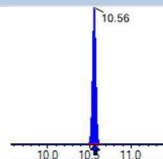
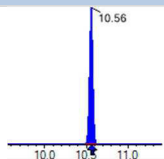
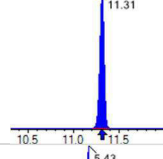
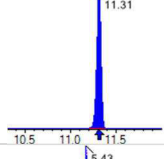
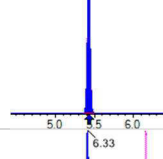
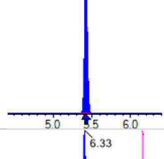
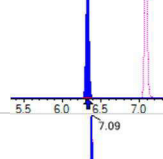
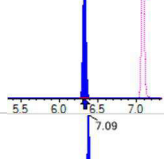
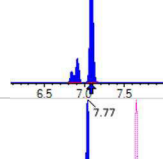
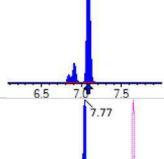
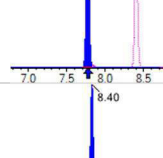
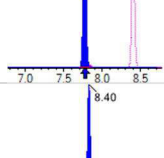
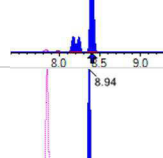
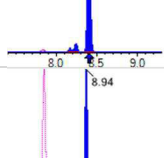
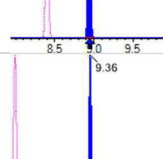
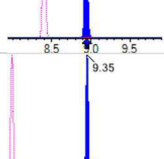
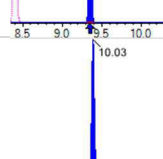
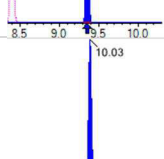
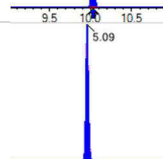
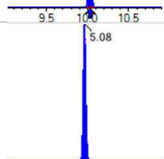
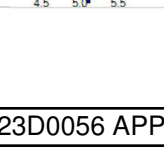
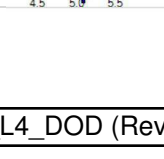


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (3)
 Acquired: 2023/04/18 - 21:52

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3276966	(3.22, 1.00) (0.00, N/A, 0.0)	8337.4	N/A 0.0 0.0	18.8066 [20.0000]	94.0%			
PFPeA	(263.0 / 219.0) 2396452 (263.0 / 69.0) 27912	(4.46, 1.00) (0.00, N/A, 0.0)	1189.8 321.0	0.0116 99.3 100.0	9.2986 [10.0000]	93.0%			
PFHxA	(313.0 / 269.0) 1517617 (313.0 / 119.0) 131218	(5.39, 1.00) (0.00, N/A, 0.0)	693.8 370.8	0.0865 103.6 100.0	4.8550 [5.0000]	97.1%			
PFHpA	(363.0 / 319.0) 1109954 (363.0 / 169.0) 305835	(6.18, 1.00) (0.00, N/A, -0.1)	989.1 661.6	0.2755 99.4 100.0	4.7215 [5.0000]	94.4%			
PFOA	(413.0 / 369.0) 1447276 (413.0 / 169.0) 424201	(6.88, 1.00) (0.00, N/A, 0.0)	516.2 411.8	0.2931 98.2 100.0	4.6443 [5.0000]	92.9%			
PFNA	(463.0 / 419.0) 1088092 (463.0 / 169.0) 215863	(7.52, 1.00) (0.00, N/A, 0.0)	735.3 465.7	0.1984 98.0 100.0	4.8355 [5.0000]	96.7%			
PFDA	(513.0 / 469.0) 1226114 (513.0 / 169.0) 113051	(8.14, 1.00) (0.00, N/A, 0.0)	605.1 377.1	0.0922 94.0 100.0	4.5947 [5.0000]	91.9%			
PFUnA	(563.0 / 519.0) 1078014 (563.0 / 169.0) 118054	(8.71, 1.00) (0.00, N/A, 0.0)	414.9 325.6	0.1095 108.5 100.0	4.7094 [5.0000]	94.2%			
PFDoA	(613.0 / 569.0) 918852 (613.0 / 169.0) 134468	(9.17, 1.00) (0.00, N/A, 0.2)	1223.6 262.4	0.1463 102.7 100.0	4.6693 [5.0000]	93.4%			
PFTrDA	(663.0 / 619.0) 983795 (663.0 / 169.0) 213256	(9.54, 1.04) (N/A, 0.00, 0.0)	1232.9 758.5	0.2168 105.2 100.0	4.6882 [5.0000]	93.8%			
PFTeDA	(713.0 / 669.0) 1157785 (713.0 / 169.0) 220195	(9.88, 1.00) (0.00, N/A, 0.1)	889.5 463.0	0.1902 96.4 100.0	4.6647 [5.0000]	93.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 8898876 (813.0 / 169.0) 1309944	(10.56 , 1.95) (N/A , 0.00 , 0.0)	1991.6 1125.3	0.1472 98.6 100.0	19.4832 [20.0000]	97.4%			
PFODA	(913.0 / 869.0) 5174035 (913.0 / 169.0) 1413608	(11.31 , 2.08) (N/A , 0.00 , 0.0)	1080.2 742.2	0.2732 103.7 100.0	17.6729 [20.0000]	88.4%			
PFBS	(299.0 / 80.0) 1785604 (299.0 / 99.0) 1335802	(5.43 , 1.00) (0.00 , N/A , 0.1)	12410.9 586.8	0.7481 108.8 100.0	4.0761 [4.4237]	92.1%			
PFPeS	(349.0 / 80.0) 3107717 (349.0 / 99.0) 1131832	(6.33 , 0.89) (N/A , 0.00 , 0.1)	971.0 938.6	0.3642 102.9 100.0	4.4497 [4.6919]	94.8%			
PFHxS	(399.0 / 80.0) 2364675 (399.0 / 99.0) 810270	(7.09 , 1.00) (0.00 , N/A , 0.0)	53214.7 164115.5	0.3427 96.8 100.0	4.0734 [4.5549]	89.4%			
PFHpS	(449.0 / 80.0) 2262769 (449.0 / 99.0) 644272	(7.77 , 0.92) (N/A , 0.00 , 0.0)	828.3 659.8	0.2847 101.9 100.0	3.6252 [4.7570]	76.2%			
PFOS	(499.0 / 80.0) 3629313 (499.0 / 99.0) 903364	(8.40 , 1.00) (0.00 , N/A , 0.0)	5228.4 6229.7	0.2489 108.1 100.0	4.0507 [4.6375]	87.3%			
PFNS	(549.0 / 80.0) 2592509 (549.0 / 99.0) 619384	(8.94 , 1.06) (N/A , 0.00 , 0.0)	1306.1 771.6	0.2389 96.9 100.0	3.6697 [4.7994]	76.5%			
PFDS	(599.0 / 80.0) 3083725 (599.0 / 99.0) 683478	(9.36 , 1.11) (N/A , 0.00 , 0.0)	1172.1 698.1	0.2216 96.7 100.0	3.7946 [4.8155]	78.8%			
PFDoS	(699.0 / 80.0) 3449138 (699.0 / 99.0) 804543	(10.03 , 1.19) (N/A , 0.00 , 0.0)	1393.8 966.4	0.2333 102.3 100.0	3.7585 [4.8478]	77.5%			
4:2FTS	(327.0 / 307.0) 1939081 (327.0 / 81.0) 1237154	(5.09 , 1.00) (0.00 , N/A , 0.1)	1109.8 984.8	0.6380 98.1 100.0	17.3494 [18.6906]	92.8%			



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18C (3)
Acquired: 2023/04/18 - 21:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 1135131 (427.0 / 81.0) 829333	(6.57, 1.00) (0.00, N/A, 0.0)	750.7 624.3	0.7306 99.0 100.0	17.9608 [18.9808]	94.6%			
8:2FTS	(527.0 / 507.0) 1133289 (527.0 / 81.0) 771639	(7.83, 1.00) (0.00, N/A, 0.0)	510.8 499.0	0.6809 100.6 100.0	19.1474 [19.1658]	99.9%			
PFSBA	(297.9 / 78.0) 14571208 (297.9 / 278.0) 21377	(5.68, 0.64) (N/A, 0.00, 0.0)	920.1 170.9	0.0015 91.8 100.0	18.7663 [20.0000]	93.8%			
PFHxSA	(397.9 / 78.0) 10317381 (397.9 / 378.0) 38740	(7.55, 0.85) (N/A, 0.00, 0.0)	947.1 154.9	0.0038 88.8 100.0	18.1260 [20.0000]	90.6%			
PFOSA	(498.0 / 78.0) 2595541 (498.0 / 478.0) 63809	(8.90, 1.00) (0.00, N/A, 0.1)	791.9 211.8	0.0246 99.0 100.0	4.6659 [5.0000]	93.3%			
NMeFOSA	(512.0 / 219.0) 3685053 (512.0 / 169.0) 2818162	(9.85, 1.00) (0.00, N/A, 1.0)	3969.6 4069.6	0.7648 102.1 100.0	18.4641 [20.0000]	92.3%			
NEtFOSA	(526.0 / 219.0) 4074529 (526.0 / 169.0) 4972971	(10.07, 1.00) (0.00, N/A, 1.4)	9288.8 9564.7	1.2205 104.4 100.0	19.2090 [20.0000]	96.0%			
NMeFOSAA	(570.0 / 419.0) 548134 (570.0 / 483.0) 280001	(8.09, 1.00) (0.00, N/A, 0.0)	474094.7 5933094.9	0.5108 107.4 100.0	5.0697 [5.0000]	101.4%			
NEtFOSAA	(584.0 / 419.0) 470833 (584.0 / 526.0) 254014	(8.36, 1.00) (0.01, N/A, 0.1)	17726.8 7572.7	0.5395 90.6 100.0	5.3381 [5.0000]	106.8%			
NMeFOSE	(616.0 / 59.0) 1285616	(9.77, 1.00) (0.01, N/A, 0.0)	31824304.9	N/A 0.0 0.0	18.3745 [20.0000]	91.9%			
NEtFOSE	(630.0 / 59.0) 1463446	(10.00, 1.00) (0.01, N/A, 0.0)	213612.2	N/A 0.0 0.0	18.4751 [20.0000]	92.4%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (3)
 Acquired: 2023/04/18 - 21:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 724144 (285.0 / 185.0) 3625367	(5.72, 1.00) (0.00, N/A, 0.0)	789.8 1219.0	5.0064 106.2 100.0	9.1458 [10.0000]	91.5%			
ADONA	(377.0 / 85.0) 4462615 (377.0 / 251.0) 480461	(6.44, 1.13) (N/A, 0.00, 0.0)	705.5 303.0	0.1077 99.3 100.0	9.5638 [9.4270]	101.5%			
9CI-PF3ONS	(531.0 / 351.0) 8976936 (533.0 / 353.0) 2871093	(8.82, 1.54) (N/A, 0.00, 0.0)	773.9 582.7	0.3198 98.0 100.0	9.8414 [9.3325]	105.5%			
11CI-PF3OUDS	(631.0 / 451.0) 7592266 (633.0 / 453.0) 2720798	(9.63, 1.68) (N/A, 0.00, 0.0)	1833.1 1721.8	0.3584 97.5 100.0	9.4420 [9.4321]	100.1%			
PFECHS	(461.0 / 98.9) 10218837 (461.0 / 381.2) 3688200	(7.69, 0.92) (N/A, 0.00, 0.1)	648.6 594.1	0.3609 94.6 100.0	15.9362 [18.4771]	86.2%			
3:3FTCA	(241.0 / 177.0) 168643 (241.0 / 117.0) 286846	(3.86, 0.87) (N/A, 0.00, 0.0)	949.0 1154.4	1.7009 102.3 100.0	17.8027 [20.0000]	89.0%			
5:3FTCA	(341.0 / 236.7) 808779 (341.0 / 217.0) 1429963	(5.70, 1.06) (N/A, 0.00, 0.0)	794.1 780.5	1.7681 98.2 100.0	20.1577 [20.0000]	100.8%			
7:3FTCA	(441.0 / 317.0) 950952 (441.0 / 337.0) 1104853	(7.10, 1.32) (N/A, 0.00, 0.0)	756.6 692.7	1.1618 97.0 100.0	19.9525 [20.0000]	99.8%			
PFEESA	(315.0 / 135.0) 2583435 (315.0 / 83.0) 763980	(5.87, 1.09) (N/A, 0.00, -0.1)	793.0 1060.5	0.2957 104.0 100.0	8.6429 [8.9246]	96.8%			
PFMPA	(229.0 / 85.0) 593561	(3.71, 0.83) (N/A, 0.00, 0.0)	1163.5	N/A 0.0 0.0	9.0034 [10.0000]	90.0%			
PFMBA	(279.0 / 85.0) 1763439	(4.78, 1.07) (N/A, 0.00, 0.0)	1381.6	N/A 0.0 0.0	9.4948 [10.0000]	94.9%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (3)
 Acquired: 2023/04/18 - 21:52

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 1663252 (295.0 / 85.0) 1555869	(5.30, 0.98) (N/A, 0.00, 0.0)	1395.9 1048.9	0.9354 96.2 100.0	9.9788 [10.0000]	99.8%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [5.0000]	N/A%			CV2.
13C3_PFBA_IIS	(216.0 / 172.0) 194489	(3.22, N/A) (N/A, 0.00, N/A)	578.2	N/A	0.9438 [1.0000]	94.4% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 140557	(5.40, N/A) (N/A, 0.00, N/A)	413.3	N/A	0.9695 [1.0000]	97.0% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 275704	(6.88, N/A) (N/A, 0.00, N/A)	422.2	N/A	1.0111 [1.0000]	101.1% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 237750	(7.53, N/A) (N/A, 0.00, N/A)	413.7	N/A	0.9498 [1.0000]	95.0% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 243043	(8.14, N/A) (N/A, 0.00, N/A)	144.6	N/A	1.0236 [1.0000]	102.4% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 372165	(7.09, N/A) (N/A, 0.00, N/A)	475.9	N/A	0.9745 [1.0000]	97.5% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 588721	(8.40, N/A) (N/A, 0.00, N/A)	563.1	N/A	1.2347 [1.0000]	123.5% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1615929	(3.22, N/A) (N/A, 0.00, N/A)	1053.1	N/A	7.7560 [8.0000]	97.0% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1111440	(4.45, N/A) (N/A, 0.00, N/A)	1017.0	N/A	3.9992 [4.0000]	100.0% { 100.0% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (3)
 Acquired: 2023/04/18 - 21:52

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 594993	(5.39, N/A) (N/A, 0.00, N/A)	527.1	N/A	1.8906 [2.0000]	94.5% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 443015	(6.18, N/A) (N/A, 0.00, N/A)	986.0	N/A	1.7835 [2.0000]	89.2% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 624436	(6.88, N/A) (N/A, 0.00, N/A)	452.3	N/A	1.9033 [2.0000]	95.2% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 238501	(7.53, N/A) (N/A, 0.00, N/A)	275.6	N/A	0.9664 [1.0000]	96.6% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 275902	(8.14, N/A) (N/A, 0.00, N/A)	425.9	N/A	0.9569 [1.0000]	95.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 252472	(8.71, N/A) (N/A, 0.00, N/A)	328.3	N/A	0.9101 [1.0000]	91.0% { 100.0% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 211838	(9.17, N/A) (N/A, 0.00, N/A)	427.6	N/A	0.9003 [1.0000]	90.0% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 268964	(9.88, N/A) (N/A, 0.00, N/A)	410.7	N/A	0.9268 [1.0000]	92.7% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1435906	(5.43, N/A) (N/A, 0.00, N/A)	310.6	N/A	2.0279 [2.0000]	101.4% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 607758	(7.09, N/A) (N/A, 0.00, N/A)	644.7	N/A	2.0357 [2.0000]	101.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1418227	(8.40, N/A) (N/A, 0.00, N/A)	680.5	N/A	1.9287 [2.0000]	96.4% { 100.0% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (3)
 Acquired: 2023/04/18 - 21:52

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 139664	(5.09, N/A) (N/A, 0.00, N/A)	422.6	N/A	4.0925 [4.0000]	102.3% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 170145	(6.57, N/A) (N/A, 0.00, N/A)	525.3	N/A	4.0190 [4.0000]	100.5% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 171466	(7.83, N/A) (N/A, 0.00, N/A)	463.4	N/A	3.5855 [4.0000]	89.6% { 100.0% }			
13C8_PFOA_EIS	(506.0 / 78.0) 1332554	(8.91, N/A) (N/A, 0.00, N/A)	796.4	N/A	1.6147 [2.0000]	80.7% { 100.0% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 409068	(9.85, N/A) (N/A, 0.00, N/A)	417.1	N/A	1.6010 [2.0000]	80.1% { 100.0% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 394126	(10.07, N/A) (N/A, 0.00, N/A)	839.5	N/A	1.5703 [2.0000]	78.5% { 100.0% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 485825	(8.09, N/A) (N/A, 0.00, N/A)	515.2	N/A	3.1641 [4.0000]	79.1% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 393153	(8.35, N/A) (N/A, 0.00, N/A)	519.0	N/A	3.2061 [4.0000]	80.2% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1227227	(9.76, N/A) (N/A, 0.00, N/A)	1139.7	N/A	15.1604 [20.0000]	75.8% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 1561744	(9.98, N/A) (N/A, 0.00, N/A)	1486.7	N/A	15.5644 [20.0000]	77.8% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1257723	(5.72, N/A) (N/A, 0.00, N/A)	910.5	N/A	7.7650 [8.0000]	97.1% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23D0353

Work Order: 23D0056
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Calibration: 2316009
 Sequence: SC01534

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01534-CCV2	PFBA	20.0	19.0	94.9	ng/mL	+/- 30.00%
	PFPEA	10.0	9.44	94.4	ng/mL	+/- 30.00%
	PFHXA	5.00	4.60	91.9	ng/mL	+/- 30.00%
	PFHPA	5.00	4.38	87.7	ng/mL	+/- 30.00%
	PFOA	5.00	4.41	88.3	ng/mL	+/- 30.00%
	PFNA	5.00	4.97	99.4	ng/mL	+/- 30.00%
	PFDA	5.00	4.87	97.4	ng/mL	+/- 30.00%
	PFUnA	5.00	5.04	101	ng/mL	+/- 30.00%
	PFDOA	5.00	4.44	88.7	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.47	89.5	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.62	92.4	ng/mL	+/- 30.00%
	PFBS	4.42	4.10	92.7	ng/mL	+/- 30.00%
	PFPEs	4.70	4.66	99.1	ng/mL	+/- 30.00%
	PFHXS	4.58	4.23	92.4	ng/mL	+/- 30.00%
	PFHPS	4.78	5.20	109	ng/mL	+/- 30.00%
	PFOS	4.65	4.56	98.1	ng/mL	+/- 30.00%
	PFNS	4.80	5.45	113	ng/mL	+/- 30.00%
	PFDS	4.82	5.12	106	ng/mL	+/- 30.00%
	PFDOS	4.85	4.96	102	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.6	88.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.0	94.5	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.5	96.6	ng/mL	+/- 30.00%
	PFOSA	5.00	4.83	96.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	17.8	88.9	ng/mL	+/- 30.00%
	NEtFOSA	20.0	18.1	90.7	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.54	90.8	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.92	98.3	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.3	91.3	ng/mL	+/- 30.00%
	NEtFOSE	20.0	18.5	92.5	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.51	95.1	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Instrument ID:	Saphira	Calibration:	2316009
Standard ID:	23D0353	Sequence:	SC01534

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01534-CCV2	ADONA	9.45	9.39	99.4	ng/mL	+/- 30.00%
	PFEESA	8.90	7.69	86.4	ng/mL	+/- 30.00%
	PFMPA	10.0	8.94	89.4	ng/mL	+/- 30.00%
	PFMBA	10.0	9.20	92.0	ng/mL	+/- 30.00%
	NFDHA	10.0	9.22	92.2	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.75	104	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.64	91.5	ng/mL	+/- 30.00%
	3:3FTCA	20.0	18.1	90.4	ng/mL	+/- 30.00%
	5:3FTCA	20.0	18.5	92.3	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.4	87.1	ng/mL	+/- 30.00%



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (22)
 Acquired: 2023/04/19 - 02:54

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3253390	(3.19, 1.00) (0.00, N/A, 0.0)	10277.8	N/A 0.0 0.0	18.9832 [20.0000]	94.9%			
PFPeA	(263.0 / 219.0) 2412845 (263.0 / 69.0) 27283	(4.42, 1.00) (0.00, N/A, 0.1)	996.1 502.7	0.0113 96.4 97.1	9.4418 [10.0000]	94.4%			
PFHxA	(313.0 / 269.0) 1549499 (313.0 / 119.0) 133217	(5.36, 1.00) (0.00, N/A, 0.1)	819.9 617.2	0.0860 103.0 99.4	4.5972 [5.0000]	91.9%			
PFHpA	(363.0 / 319.0) 1124261 (363.0 / 169.0) 310434	(6.14, 1.00) (0.00, N/A, 0.0)	1036.0 786.3	0.2761 99.6 100.2	4.3834 [5.0000]	87.7%			
PFOA	(413.0 / 369.0) 1342283 (413.0 / 169.0) 404811	(6.83, 1.00) (0.00, N/A, 0.1)	416.5 347.2	0.3016 101.0 102.9	4.4138 [5.0000]	88.3%			
PFNA	(463.0 / 419.0) 1094670 (463.0 / 169.0) 221668	(7.47, 1.00) (0.00, N/A, -0.1)	961.4 464.3	0.2025 100.0 102.1	4.9692 [5.0000]	99.4%			
PFDA	(513.0 / 469.0) 1272945 (513.0 / 169.0) 117830	(8.07, 1.00) (0.00, N/A, 0.2)	514.3 225.3	0.0926 94.3 100.4	4.8705 [5.0000]	97.4%			
PFUnA	(563.0 / 519.0) 1143403 (563.0 / 169.0) 122463	(8.64, 1.00) (0.00, N/A, 0.0)	728.3 298.6	0.1071 106.2 97.8	5.0371 [5.0000]	100.7%			
PFDoA	(613.0 / 569.0) 858517 (613.0 / 169.0) 132822	(9.10, 1.00) (0.00, N/A, 0.1)	1715.7 526.5	0.1547 108.6 105.7	4.4357 [5.0000]	88.7%			
PFTrDA	(663.0 / 619.0) 923210 (663.0 / 169.0) 214761	(9.48, 1.04) (N/A, -0.07, 0.0)	917.2 672.5	0.2326 112.9 107.3	4.4730 [5.0000]	89.5%			
PFTeDA	(713.0 / 669.0) 1138707 (713.0 / 169.0) 212205	(9.80, 1.00) (0.00, N/A, 0.1)	648.2 640.7	0.1864 94.5 98.0	4.6187 [5.0000]	92.4%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (22)
 Acquired: 2023/04/19 - 02:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 7617348 (813.0 / 169.0) 1170124	(10.40 , 1.93) (N/A , -0.16 , 0.0)	4160.0 2415.0	0.1536 102.9 104.4	17.0394 [20.0000]	85.2%			
PFODA	(913.0 / 869.0) 6172659 (913.0 / 169.0) 1573295	(11.02 , 2.05) (N/A , -0.29 , 0.1)	2157.7 1740.8	0.2549 96.8 93.3	21.5414 [20.0000]	107.7%			
PFBS	(299.0 / 80.0) 1756038 (299.0 / 99.0) 1258012	(5.38 , 1.00) (0.00 , N/A , 0.0)	512.1 584.6	0.7164 104.2 95.8	4.0956 [4.4237]	92.6%			
PFPeS	(349.0 / 80.0) 3124203 (349.0 / 99.0) 1121377	(6.27 , 0.89) (N/A , -0.05 , 0.0)	750.2 1070.2	0.3589 101.4 98.6	4.6562 [4.6919]	99.2%			
PFHxS	(399.0 / 80.0) 2358928 (399.0 / 99.0) 805304	(7.02 , 1.00) (0.00 , N/A , 0.0)	7472.4 34427.3	0.3414 96.5 99.6	4.2296 [4.5549]	92.9%			
PFHpS	(449.0 / 80.0) 2213082 (449.0 / 99.0) 630366	(7.70 , 0.92) (N/A , -0.07 , 0.0)	947.2 590.9	0.2848 101.9 100.0	5.1957 [4.7570]	109.2%			
PFOS	(499.0 / 80.0) 2787912 (499.0 / 99.0) 646943	(8.32 , 1.00) (0.00 , N/A , 0.1)	11436.2 19472.0	0.2321 100.8 93.2	4.5597 [4.6375]	98.3%			
PFNS	(549.0 / 80.0) 2626050 (549.0 / 99.0) 633691	(8.87 , 1.07) (N/A , -0.07 , 0.0)	1470.5 715.0	0.2413 97.8 101.0	5.4471 [4.7994]	113.5%			
PFDS	(599.0 / 80.0) 2837707 (599.0 / 99.0) 647998	(9.29 , 1.12) (N/A , -0.07 , 0.0)	1388.5 1095.9	0.2284 99.7 103.0	5.1170 [4.8155]	106.3%			
PFDoS	(699.0 / 80.0) 3104486 (699.0 / 99.0) 695202	(9.94 , 1.19) (N/A , -0.09 , 0.1)	990.2 710.6	0.2239 98.2 96.0	4.9573 [4.8478]	102.3%			
4:2FTS	(327.0 / 307.0) 1919669 (327.0 / 81.0) 1262681	(5.05 , 1.00) (0.00 , N/A , 0.1)	732.1 967.7	0.6578 101.1 103.1	16.6077 [18.6906]	88.9%			

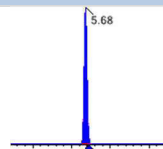
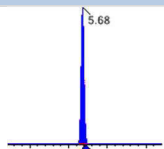
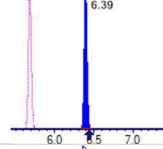
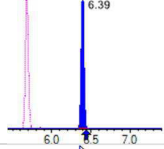
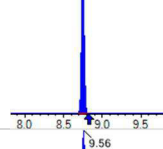
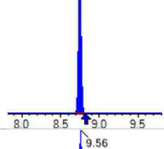
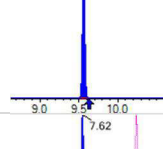
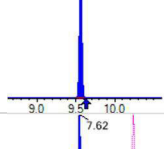
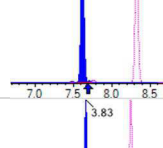
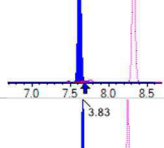
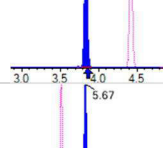
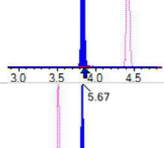
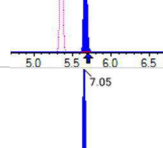
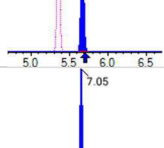
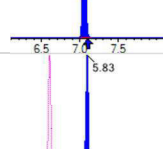
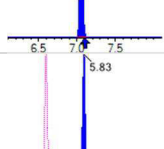
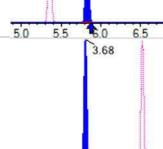
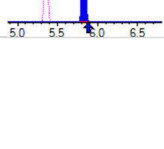
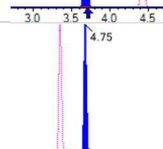
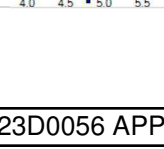


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (22)
 Acquired: 2023/04/19 - 02:54

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 1089788 (427.0 / 81.0) 832016	(6.52 , 1.00) (0.00 , N/A , 0.0)	525.0 628.0	0.7635 103.4 104.5	17.9625 [18.9808]	94.6%			
8:2FTS	(527.0 / 507.0) 1189636 (527.0 / 81.0) 789331	(7.77 , 1.00) (0.00 , N/A , 0.1)	846.7 622.1	0.6635 98.1 97.4	18.5454 [19.1658]	96.8%			
PFSBA	(297.9 / 78.0) 14295178 (297.9 / 278.0) 23033	(5.65 , 0.64) (N/A , -0.02 , -0.1)	735.3 150.6	0.0016 100.8 109.8	18.9362 [20.0000]	94.7%			
PFHxSA	(397.9 / 78.0) 10574996 (397.9 / 378.0) 42811	(7.52 , 0.85) (N/A , -0.03 , 0.1)	823.1 210.8	0.0040 95.7 107.8	19.1088 [20.0000]	95.5%			
PFOSA	(498.0 / 78.0) 2610597 (498.0 / 478.0) 69070	(8.88 , 1.00) (0.00 , N/A , 0.0)	931.4 486.5	0.0265 106.5 107.6	4.8269 [5.0000]	96.5%			
NMeFOSA	(512.0 / 219.0) 3492972 (512.0 / 169.0) 2783959	(9.85 , 1.00) (0.00 , N/A , 1.4)	5396.7 3945.1	0.7970 106.4 104.2	17.7773 [20.0000]	88.9%			
NEtFOSA	(526.0 / 219.0) 3966772 (526.0 / 169.0) 4912691	(10.07 , 1.00) (0.00 , N/A , 1.9)	8899.6 9831.6	1.2385 105.9 101.5	18.1495 [20.0000]	90.7%			
NMeFOSAA	(570.0 / 419.0) 528904 (570.0 / 483.0) 237571	(8.03 , 1.00) (0.00 , N/A , -0.2)	36884.8 44005.0	0.4492 94.4 87.9	4.5401 [5.0000]	90.8%			
NEtFOSAA	(584.0 / 419.0) 419995 (584.0 / 526.0) 239440	(8.29 , 1.00) (0.00 , N/A , -0.1)	53745.9 35671.4	0.5701 95.8 105.7	4.9165 [5.0000]	98.3%			
NMeFOSE	(616.0 / 59.0) 1306462	(9.77 , 1.00) (0.01 , N/A , 0.0)	4669.2	N/A 0.0 0.0	18.2688 [20.0000]	91.3%			
NEtFOSE	(630.0 / 59.0) 1449866	(9.99 , 1.00) (0.01 , N/A , 0.0)	214481.1	N/A 0.0 0.0	18.4975 [20.0000]	92.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 756841 (285.0 / 185.0) 3683460	(5.68, 1.00) (0.00, N/A, 0.0)	672.7 987.4	4.8669 103.3 97.2	9.5119 [10.0000]	95.1%			
ADONA	(377.0 / 85.0) 4405329 (377.0 / 251.0) 461014	(6.39, 1.13) (N/A, -0.05, 0.0)	695.6 369.9	0.1046 96.6 97.2	9.3947 [9.4270]	99.7%			
9CI-PF3ONS	(531.0 / 351.0) 8933146 (533.0 / 353.0) 2856803	(8.75, 1.54) (N/A, -0.07, 0.0)	622.9 600.9	0.3198 98.0 100.0	9.7454 [9.3325]	104.4%			
11CI-PF3OUDS	(631.0 / 451.0) 6984752 (633.0 / 453.0) 2506823	(9.56, 1.68) (N/A, -0.07, 0.0)	2164.4 1140.4	0.3589 97.6 100.1	8.6439 [9.4321]	91.6%			
PFECHS	(461.0 / 98.9) 10062088 (461.0 / 381.2) 3541489	(7.62, 0.92) (N/A, -0.07, 0.0)	614.5 374.0	0.3520 92.3 97.5	22.9945 [18.4771]	124.4%			
3:3FTCA	(241.0 / 177.0) 169887 (241.0 / 117.0) 280793	(3.83, 0.87) (N/A, -0.03, 0.1)	1001.6 1191.7	1.6528 99.4 97.2	18.0865 [20.0000]	90.4%			
5:3FTCA	(341.0 / 236.7) 798883 (341.0 / 217.0) 1392759	(5.67, 1.06) (N/A, -0.03, 0.1)	609.4 620.4	1.7434 96.8 98.6	18.4660 [20.0000]	92.3%			
7:3FTCA	(441.0 / 317.0) 895667 (441.0 / 337.0) 1085140	(7.05, 1.32) (N/A, -0.04, 0.0)	534.8 544.5	1.2115 101.1 104.3	17.4287 [20.0000]	87.1%			
PFEESA	(315.0 / 135.0) 2477092 (315.0 / 83.0) 728384	(5.83, 1.09) (N/A, -0.05, -0.1)	751.4 656.7	0.2940 103.4 99.4	7.6857 [8.9246]	86.1%			
PFMPA	(229.0 / 85.0) 584333	(3.68, 0.83) (N/A, -0.03, 0.0)	1195.7	N/A 0.0 0.0	8.9388 [10.0000]	89.4%			
PFMBA	(279.0 / 85.0) 1693509	(4.75, 1.07) (N/A, -0.04, 0.0)	1796.0	N/A 0.0 0.0	9.1958 [10.0000]	92.0%			

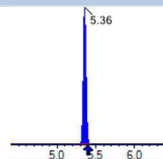
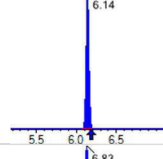
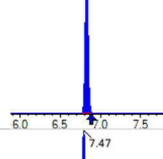
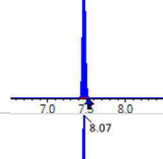
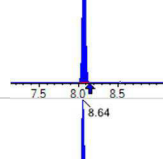
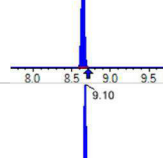
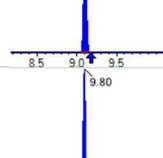
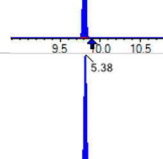
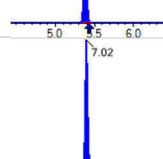
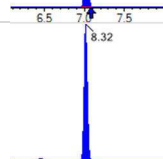
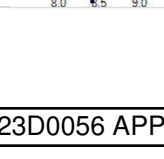


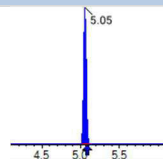
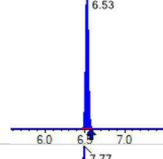
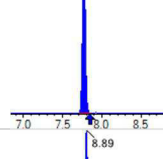
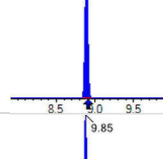
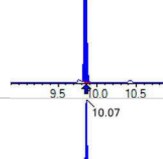
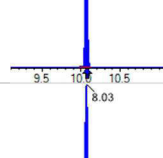
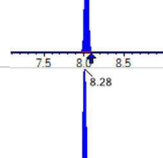
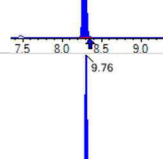
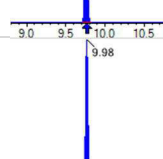
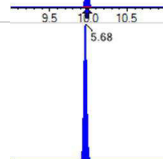
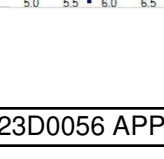
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (22)
 Acquired: 2023/04/19 - 02:54

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 1656620 (295.0 / 85.0) 1509016	(5.26, 0.98) (N/A, -0.04, 0.1)	734.3 1192.3	0.9109 93.7 97.4	9.2177 [10.0000]	92.2%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [5.0000]	N/A%			CV2.
13C3_PFDA_IIS	(216.0 / 172.0) 190572	(3.19, N/A) (N/A, -0.03, N/A)	503.8	N/A	0.9248 [1.0000]	92.5% { 98.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 146988	(5.35, N/A) (N/A, -0.04, N/A)	649.1	N/A	1.0139 [1.0000]	101.4% { 104.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 279649	(6.83, N/A) (N/A, -0.06, N/A)	352.9	N/A	1.0256 [1.0000]	102.6% { 101.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 238009	(7.47, N/A) (N/A, -0.06, N/A)	574.2	N/A	0.9508 [1.0000]	95.1% { 100.1% }			
13C2_PFDA_IIS	(515.0 / 470.1) 234408	(8.07, N/A) (N/A, -0.07, N/A)	241.3	N/A	0.9873 [1.0000]	98.7% { 96.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 378657	(7.03, N/A) (N/A, -0.06, N/A)	451.2	N/A	0.9915 [1.0000]	99.2% { 101.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 396691	(8.33, N/A) (N/A, -0.07, N/A)	440.5	N/A	0.8320 [1.0000]	83.2% { 67.4% }			
13C4_PFDA_EIS	(217.0 / 172.0) 1589376	(3.19, N/A) (N/A, -0.02, N/A)	1207.1	N/A	7.7854 [8.0000]	97.3% { 98.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1102069	(4.42, N/A) (N/A, -0.03, N/A)	917.4	N/A	3.7920 [4.0000]	94.8% { 99.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 641553	(5.36, N/A) (N/A, -0.04, N/A)	836.8	N/A	1.9494 [2.0000]	97.5% { 107.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 483332	(6.14, N/A) (N/A, -0.04, N/A)	331.3	N/A	1.8607 [2.0000]	93.0% { 109.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 609384	(6.83, N/A) (N/A, -0.05, N/A)	344.5	N/A	1.8312 [2.0000]	91.6% { 97.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 233487	(7.47, N/A) (N/A, -0.06, N/A)	454.1	N/A	0.9450 [1.0000]	94.5% { 97.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 270221	(8.07, N/A) (N/A, -0.07, N/A)	396.9	N/A	0.9717 [1.0000]	97.2% { 97.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 250363	(8.64, N/A) (N/A, -0.07, N/A)	461.7	N/A	0.9357 [1.0000]	93.6% { 99.2% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 208354	(9.10, N/A) (N/A, -0.06, N/A)	855.5	N/A	0.9181 [1.0000]	91.8% { 98.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 267169	(9.80, N/A) (N/A, -0.08, N/A)	810.6	N/A	0.9545 [1.0000]	95.5% { 99.3% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1405407	(5.38, N/A) (N/A, -0.04, N/A)	629.6	N/A	1.9508 [2.0000]	97.5% { 97.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 583892	(7.02, N/A) (N/A, -0.06, N/A)	457.3	N/A	1.9222 [2.0000]	96.1% { 96.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 967818	(8.32, N/A) (N/A, -0.08, N/A)	412.8	N/A	1.9533 [2.0000]	97.7% { 68.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 144441	(5.05, N/A) (N/A, -0.03, N/A)	554.5	N/A	4.1599 [4.0000]	104.0% {103.4%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 163334	(6.53, N/A) (N/A, -0.04, N/A)	383.2	N/A	3.7920 [4.0000]	94.8% {96.0%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 185834	(7.77, N/A) (N/A, -0.06, N/A)	391.0	N/A	3.8193 [4.0000]	95.5% {108.4%}			
13C8_PFOA_EIS	(506.0 / 78.0) 1295583	(8.89, N/A) (N/A, -0.02, N/A)	694.0	N/A	2.3298 [2.0000]	116.5% {97.2%}			
D3_NMeFOA_EIS	(515.0 / 169.0) 402726	(9.85, N/A) (N/A, 0.00, N/A)	414.0	N/A	2.3392 [2.0000]	117.0% {98.4%}			
D5_NEtFOA_EIS	(531.0 / 169.0) 406102	(10.07, N/A) (N/A, 0.00, N/A)	790.7	N/A	2.4012 [2.0000]	120.1% {103.0%}			
D3_MeFOA_EIS	(573.0 / 419.0) 522589	(8.03, N/A) (N/A, -0.06, N/A)	477.0	N/A	5.0511 [4.0000]	126.3% {107.6%}			
D5_EtFOA_EIS	(589.0 / 419.0) 380838	(8.28, N/A) (N/A, -0.06, N/A)	418.4	N/A	4.6091 [4.0000]	115.2% {96.9%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1254338	(9.76, N/A) (N/A, 0.00, N/A)	1042.3	N/A	22.9962 [20.0000]	115.0% {102.2%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 1545377	(9.98, N/A) (N/A, 0.00, N/A)	1355.5	N/A	22.8567 [20.0000]	114.3% {99.0%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1263920	(5.68, N/A) (N/A, -0.04, N/A)	616.6	N/A	7.4619 [8.0000]	93.3% {100.5%}			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01442
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01442-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	0.00	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	0.0159	ng/mL	0.10	U
	NEtFOSAA	0.0160	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: SC01442
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01442-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	8.08	ng/mL		
	13C5-PFPEA	4.33	ng/mL		
	13C5-PFHXA	2.22	ng/mL		
	13C4-PFHPA	2.17	ng/mL		
	13C8-PFOA	2.09	ng/mL		
	13C9-PFNA	1.01	ng/mL		
	13C6-PFDA	0.986	ng/mL		
	13C7-PFUnA	1.01	ng/mL		
	13C2-PFDOA	0.989	ng/mL		
	13C2-PFTEDA	1.01	ng/mL		
	13C3-PFBS	2.07	ng/mL		
	13C3-PFHXS	2.08	ng/mL		
	13C8-PFOS	1.91	ng/mL		
	13C2-4:2FTS	4.35	ng/mL		
	13C2-6:2FTS	4.23	ng/mL		
	13C2-8:2FTS	3.77	ng/mL		
	13C8-PFOSA	2.05	ng/mL		
	D3-NMEFOSA	1.93	ng/mL		
	D5-NETFOSA	2.07	ng/mL		
	D3-NMEFOSAA	3.66	ng/mL		
	D5-NETFOSAA	3.88	ng/mL		
	D7-NMEFOSE	20.9	ng/mL		
	D9-NETFOSE	20.2	ng/mL		
	13C3-HFPO-DA	9.42	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (9)
 Acquired: 2023/04/12 - 11:55

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			

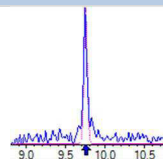
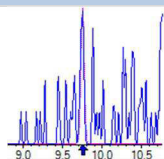
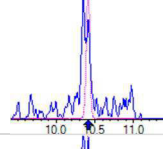
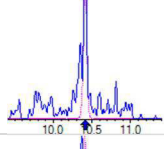
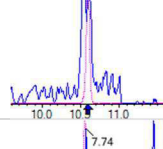
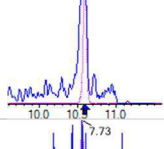
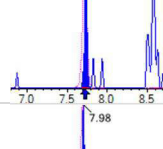
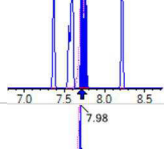
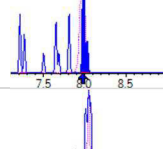
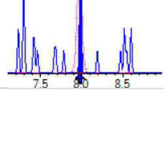
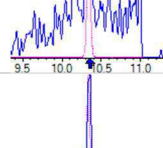
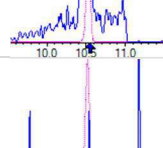
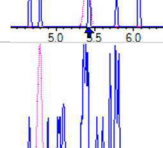
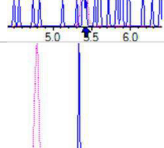
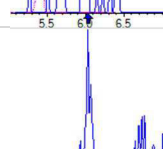
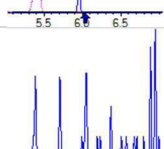
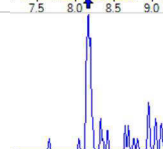
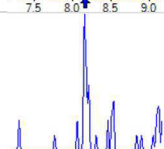
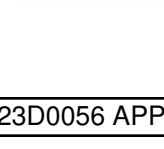
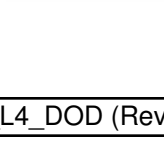


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (9)
 Acquired: 2023/04/12 - 11:55

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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	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	(512.0 / 219.0) N/A (512.0 / 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			
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) 2313 (570.0 / 483.0) 890	(7.74, 1.00) (0.01, N/A, 0.1)	144070.0 349.0	0.3846 83.0 83.0	0.0159	N/A			
NEtFOSAA	(584.0 / 419.0) 2106 (584.0 / 526.0) 1334	(7.98, 1.00) (0.01, N/A, 0.0)	198812.7 787.7	0.6336 103.8 103.8	0.0160	N/A			
NMeFOSE	(616.0 / 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			
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			

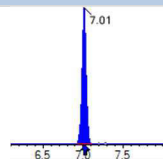
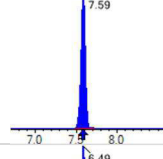
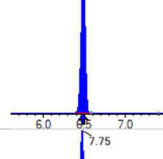
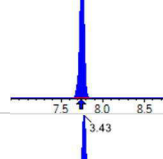
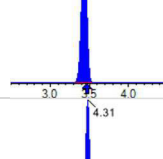
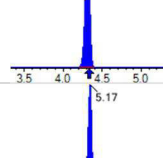
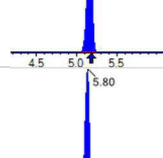
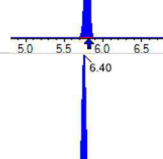
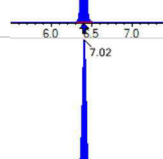
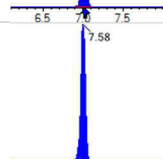
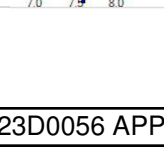


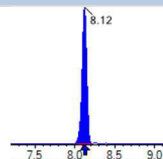
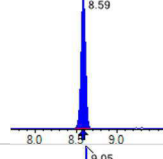
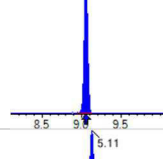
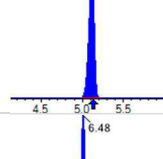
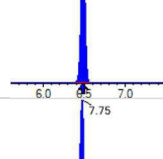
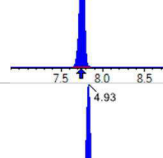
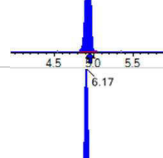
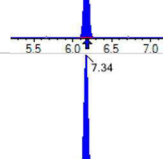
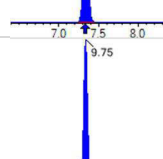
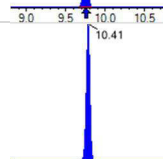
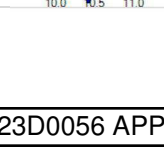
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01442-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-12A (9)
 Acquired: 2023/04/12 - 11:55

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
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 131235	(3.43, N/A) (N/A, -0.03, N/A)	1628.2	N/A	1.0765 [1.0000]	107.7% { 109.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 185679	(5.17, N/A) (N/A, 0.00, N/A)	5681.7	N/A	0.9155 [1.0000]	91.5% { 94.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 304308	(6.40, N/A) (N/A, 0.00, N/A)	4393.1	N/A	0.9576 [1.0000]	95.8% { 94.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 308904	(7.01, N/A) (N/A, 0.00, N/A)	3567.6	N/A	1.0178 [1.0000]	101.8% { 100.6% }			
13C2_PFDA_IIS	(515.0 / 470.1) 327675	(7.59, N/A) (N/A, 0.01, N/A)	5568.3	N/A	1.0099 [1.0000]	101.0% { 107.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 436121	(6.49, N/A) (N/A, 0.00, N/A)	6535.2	N/A	0.9738 [1.0000]	97.4% { 105.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 722040	(7.75, N/A) (N/A, 0.01, N/A)	2474.0	N/A	1.0617 [1.0000]	106.2% { 111.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1124775	(3.43, N/A) (N/A, -0.03, N/A)	4934.8	N/A	8.0837 [8.0000]	101.0% { 107.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 900156	(4.31, N/A) (N/A, -0.02, N/A)	3084.4	N/A	4.3281 [4.0000]	108.2% { 100.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 584169	(5.17, N/A) (N/A, -0.01, N/A)	1994.3	N/A	2.2196 [2.0000]	111.0% { 99.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 498435	(5.80, N/A) (N/A, -0.01, N/A)	5963.9	N/A	2.1682 [2.0000]	108.4% { 101.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 626445	(6.40, N/A) (N/A, 0.00, N/A)	12440.6	N/A	2.0857 [2.0000]	104.3% { 102.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 293038	(7.02, N/A) (N/A, 0.00, N/A)	331.5	N/A	1.0097 [1.0000]	101.0% { 97.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 362434	(7.58, N/A) (N/A, 0.00, N/A)	2783444.1	N/A	0.9859 [1.0000]	98.6% { 100.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 346095	(8.12, N/A) (N/A, 0.01, N/A)	3509.0	N/A	1.0142 [1.0000]	101.4% { 95.9% }			
13C2_PFDa_EIS	(615.0 / 570.0) 288939	(8.59, N/A) (N/A, 0.00, N/A)	1242.0	N/A	0.9889 [1.0000]	98.9% { 100.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 278849	(9.05, N/A) (N/A, 0.00, N/A)	1703.7	N/A	1.0121 [1.0000]	101.2% { 92.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1415839	(5.11, N/A) (N/A, -0.01, N/A)	2202.9	N/A	2.0678 [2.0000]	103.4% { 101.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 834657	(6.48, N/A) (N/A, 0.00, N/A)	2982.0	N/A	2.0763 [2.0000]	103.8% { 103.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1668953	(7.75, N/A) (N/A, 0.01, N/A)	3037.3	N/A	1.9079 [2.0000]	95.4% { 100.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 268025	(4.93, N/A) (N/A, -0.01, N/A)	1129.5	N/A	4.3462 [4.0000]	108.7% { 107.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 297714	(6.17, N/A) (N/A, 0.00, N/A)	1565.5	N/A	4.2298 [4.0000]	105.7% { 101.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 351386	(7.34, N/A) (N/A, 0.01, N/A)	1633.2	N/A	3.7710 [4.0000]	94.3% { 97.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2910258	(9.75, N/A) (N/A, 0.00, N/A)	3517.8	N/A	2.0494 [2.0000]	102.5% { 112.0% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 584406	(10.41, N/A) (N/A, 0.00, N/A)	2601.8	N/A	1.9286 [2.0000]	96.4% { 112.4% }			



Chemist: DAG
Instrument: Saphira

Sample I.D.: SC01442-ICB1
DF, IV: 1, 10.0µL

Quant Method: 1633 - S2023-04-12A
Path: S2023-04-12A (9)

Type: Sciex Q3 5500

Acquisition Method: 1633 2023-03-28.dam

Acquired: 2023/04/12 - 11:55

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 516706	(10.59 , N/A) (N/A , 0.00 , N/A)	2770.3	N/A	2.0667 [2.0000]	103.3% { 112.3% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 685329	(7.72 , N/A) (N/A , 0.01 , N/A)	2916.8	N/A	3.6554 [4.0000]	91.4% { 101.9% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 597006	(7.97 , N/A) (N/A , 0.01 , N/A)	105443.5	N/A	3.8822 [4.0000]	97.1% { 111.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2103430	(10.34 , N/A) (N/A , 0.00 , N/A)	1611.6	N/A	20.9085 [20.0000]	104.5% { 110.1% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2683494	(10.53 , N/A) (N/A , 0.00 , N/A)	1830.2	N/A	20.1820 [20.0000]	100.9% { 106.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1398112	(5.40 , N/A) (N/A , -0.01 , N/A)	2742.0	N/A	9.4167 [8.0000]	117.7% { 108.3% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	8.03	ng/mL		
	13C5-PFPEA	3.92	ng/mL		
	13C5-PFHXA	2.00	ng/mL		
	13C4-PFHPA	2.29	ng/mL		
	13C8-PFOA	2.03	ng/mL		
	13C9-PFNA	1.09	ng/mL		
	13C6-PFDA	1.05	ng/mL		
	13C7-PFUnA	1.12	ng/mL		
	13C2-PFDOA	0.999	ng/mL		
	13C2-PFTEDA	0.916	ng/mL		
	13C3-PFBS	1.60	ng/mL		
	13C3-PFHXS	2.00	ng/mL		
	13C8-PFOS	1.95	ng/mL		
	13C2-4:2FTS	3.46	ng/mL		
	13C2-6:2FTS	4.33	ng/mL		
	13C2-8:2FTS	3.11	ng/mL		
	13C8-PFOSA	1.81	ng/mL		
	D3-NMEFOSA	2.01	ng/mL		
	D5-NETFOSA	2.18	ng/mL		
	D3-NMEFOSAA	3.30	ng/mL		
	D5-NETFOSAA	3.44	ng/mL		
	D7-NMEFOSE	21.6	ng/mL		
	D9-NETFOSSE	22.2	ng/mL		
	13C3-HFPO-DA	7.64	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

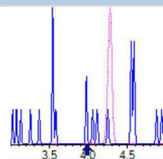
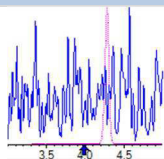
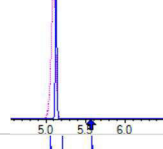
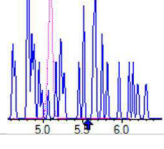
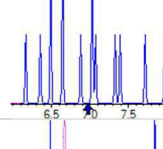
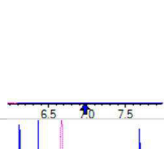
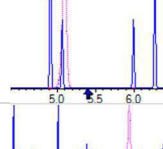
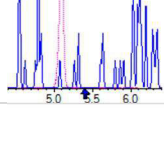
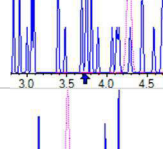
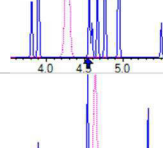
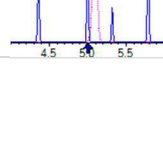
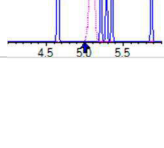
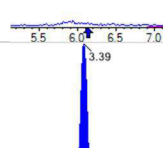
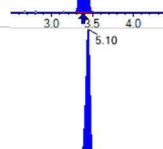
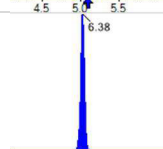
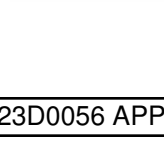
Sample I.D.: SC01502-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (1)
 Acquired: 2023/04/14 - 14:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 150736	(3.39, N/A) (N/A, 0.02, N/A)	1008.2	N/A	1.2365 [1.0000]	123.6% {119.5%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 217609	(5.10, N/A) (N/A, 0.01, N/A)	31582.0	N/A	1.0729 [1.0000]	107.3% {109.0%}			
13C4_PFOA_IIS	(417.0 / 372.0) 348240	(6.38, N/A) (N/A, -0.01, N/A)	2088.5	N/A	1.0958 [1.0000]	109.6% {105.1%}			

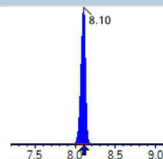
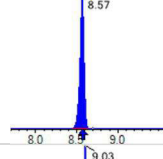
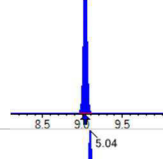
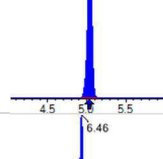
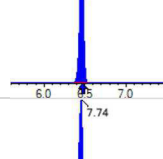
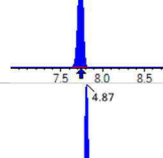
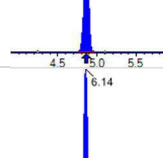
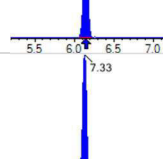
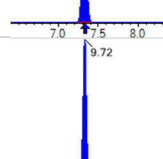
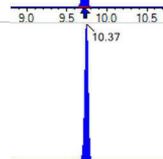
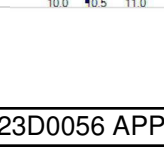


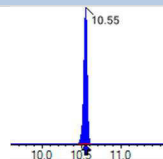
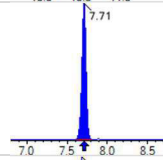
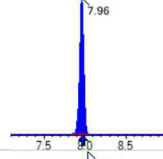
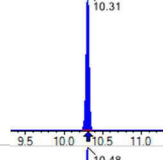
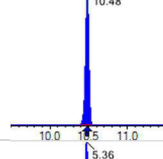
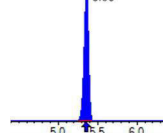
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (1)
 Acquired: 2023/04/14 - 14:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], 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
13C5_PFNA_IIS	(468.0 / 423.0) 333671	(6.99, N/A) (N/A, 0.00, N/A)	10645.0	N/A	1.0994 [1.0000]	109.9% {104.0%}			
13C2_PFDA_IIS	(515.0 / 470.1) 334406	(7.57, N/A) (N/A, -0.01, N/A)	356694.2	N/A	1.0306 [1.0000]	103.1% {101.8%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 551942	(6.46, N/A) (N/A, -0.01, N/A)	3507.3	N/A	1.2324 [1.0000]	123.2% {113.1%}			
13C4_PFOS_IIS	(503.0 / 79.9) 794243	(7.74, N/A) (N/A, -0.01, N/A)	2274.2	N/A	1.1679 [1.0000]	116.8% {111.9%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1283801	(3.39, N/A) (N/A, 0.02, N/A)	5810.4	N/A	8.0329 [8.0000]	100.4% {118.1%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 954487	(4.28, N/A) (N/A, 0.01, N/A)	2891.0	N/A	3.9159 [4.0000]	97.9% {111.0%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 616508	(5.10, N/A) (N/A, 0.01, N/A)	1802.0	N/A	1.9988 [2.0000]	99.9% {105.1%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 616383	(5.76, N/A) (N/A, 0.00, N/A)	2252.3	N/A	2.2879 [2.0000]	114.4% {113.0%}			
13C8_PFOA_EIS	(421.0 / 376.0) 698970	(6.38, N/A) (N/A, 0.00, N/A)	5108.6	N/A	2.0336 [2.0000]	101.7% {105.9%}			
13C9_PFNA_EIS	(472.0 / 427.0) 341321	(6.99, N/A) (N/A, 0.00, N/A)	3230.4	N/A	1.0888 [1.0000]	108.9% {106.9%}			
13C6_PFDA_EIS	(519.0 / 474.0) 393787	(7.57, N/A) (N/A, 0.00, N/A)	5932040.0	N/A	1.0497 [1.0000]	105.0% {112.0%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 390486	(8.10, N/A) (N/A, 0.00, N/A)	2537.5	N/A	1.1213 [1.0000]	112.1% {107.1%}			
13C2_PFDa_EIS	(615.0 / 570.0) 298009	(8.57, N/A) (N/A, 0.00, N/A)	1778.9	N/A	0.9994 [1.0000]	99.9% {113.1%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 257429	(9.03, N/A) (N/A, 0.00, N/A)	1120.5	N/A	0.9156 [1.0000]	91.6% {110.5%}			
13C3_PFBs_EIS	(302.0 / 80.0) 1382929	(5.04, N/A) (N/A, 0.01, N/A)	2634.2	N/A	1.5959 [2.0000]	79.8% {104.7%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 1019002	(6.46, N/A) (N/A, -0.01, N/A)	2911.0	N/A	2.0029 [2.0000]	100.1% {114.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1873365	(7.74, N/A) (N/A, 0.00, N/A)	3650.9	N/A	1.9469 [2.0000]	97.3% {112.8%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 270419	(4.87, N/A) (N/A, 0.01, N/A)	914.7	N/A	3.4648 [4.0000]	86.6% {113.1%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 385988	(6.14, N/A) (N/A, 0.00, N/A)	2211.4	N/A	4.3332 [4.0000]	108.3% {133.6%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 367052	(7.33, N/A) (N/A, 0.00, N/A)	2222.7	N/A	3.1125 [4.0000]	77.8% {98.7%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 2825875	(9.72, N/A) (N/A, 0.00, N/A)	3408.4	N/A	1.8091 [2.0000]	90.5% {115.4%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 668840	(10.37, N/A) (N/A, 0.00, N/A)	2467.3	N/A	2.0066 [2.0000]	100.3% {106.7%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT- CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D5_NEiFOSA_EIS	(531.0 / 169.0) 599643	(10.55, N/A) (N/A, 0.00, N/A)	2786.6	N/A	2.1804 [2.0000]	109.0% {107.1%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 680360	(7.71, N/A) (N/A, -0.01, N/A)	1997.6	N/A	3.2990 [4.0000]	82.5% {104.4%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 581148	(7.96, N/A) (N/A, 0.00, N/A)	5859.4	N/A	3.4355 [4.0000]	85.9% {104.8%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2391623	(10.31, N/A) (N/A, 0.00, N/A)	2116.8	N/A	21.6120 [20.0000]	108.1% {110.0%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 3241999	(10.48, N/A) (N/A, 0.00, N/A)	1962.4	N/A	22.1658 [20.0000]	110.8% {110.7%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1329566	(5.36, N/A) (N/A, 0.01, N/A)	2824.9	N/A	7.6410 [8.0000]	95.5% {109.6%}			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	7.84	ng/mL		
	13C5-PFPEA	4.10	ng/mL		
	13C5-PFHXA	2.14	ng/mL		
	13C4-PFHPA	2.44	ng/mL		
	13C8-PFOA	1.96	ng/mL		
	13C9-PFNA	0.998	ng/mL		
	13C6-PFDA	0.960	ng/mL		
	13C7-PFUnA	1.21	ng/mL		
	13C2-PFDOA	1.11	ng/mL		
	13C2-PFTEDA	0.931	ng/mL		
	13C3-PFBS	1.74	ng/mL		
	13C3-PFHXS	2.11	ng/mL		
	13C8-PFOS	1.91	ng/mL		
	13C2-4:2FTS	3.68	ng/mL		
	13C2-6:2FTS	4.08	ng/mL		
	13C2-8:2FTS	3.85	ng/mL		
	13C8-PFOSA	1.79	ng/mL		
	D3-NMEFOSA	1.99	ng/mL		
	D5-NETFOSA	2.29	ng/mL		
	D3-NMEFOSAA	3.41	ng/mL		
	D5-NETFOSAA	3.60	ng/mL		
	D7-NMEFOSE	21.8	ng/mL		
	D9-NETFOSSE	22.2	ng/mL		
	13C3-HFPO-DA	8.57	ng/mL		

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (6)
 Acquired: 2023/04/14 - 15:34

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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

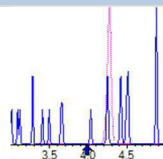
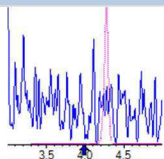
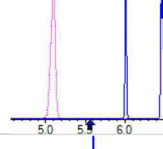
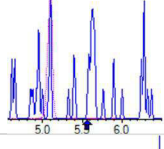
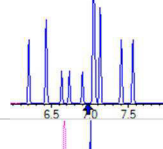
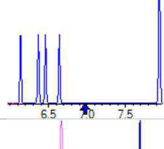
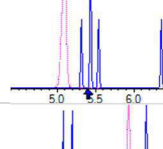
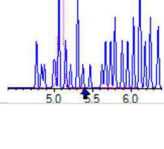
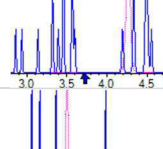
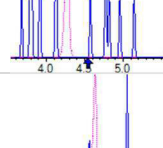
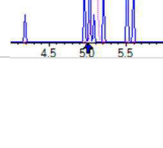
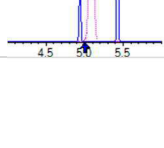
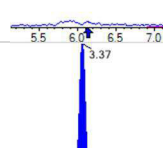
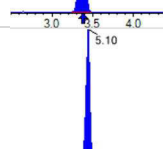
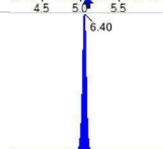
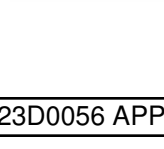


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (6)
 Acquired: 2023/04/14 - 15:34

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
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 151135	(3.37, N/A) (N/A, 0.00, N/A)	1255.3	N/A	1.2397 [1.0000]	124.0% { 119.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 208618	(5.10, N/A) (N/A, 0.01, N/A)	24385.4	N/A	1.0286 [1.0000]	102.9% { 104.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 375197	(6.40, N/A) (N/A, 0.01, N/A)	7115.7	N/A	1.1806 [1.0000]	118.1% { 113.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (6)
 Acquired: 2023/04/14 - 15:34

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
13C5_PFNA_IIS	(468.0 / 423.0) 376337	(7.01, N/A) (N/A, 0.02, N/A)	7110.1	N/A	1.2400 [1.0000]	124.0% { 117.3% }			
13C2_PFDA_IIS	(515.0 / 470.1) 341388	(7.59, N/A) (N/A, 0.01, N/A)	188011.5	N/A	1.0521 [1.0000]	105.2% { 103.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 521402	(6.48, N/A) (N/A, 0.01, N/A)	14705.6	N/A	1.1642 [1.0000]	116.4% { 106.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 808657	(7.75, N/A) (N/A, 0.01, N/A)	1940.8	N/A	1.1891 [1.0000]	118.9% { 114.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1255685	(3.37, N/A) (N/A, 0.00, N/A)	5259.7	N/A	7.8362 [8.0000]	98.0% { 115.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 958230	(4.27, N/A) (N/A, 0.01, N/A)	3097.1	N/A	4.1007 [4.0000]	102.5% { 111.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 633157	(5.09, N/A) (N/A, 0.01, N/A)	3179.3	N/A	2.1412 [2.0000]	107.1% { 107.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 630768	(5.76, N/A) (N/A, 0.01, N/A)	2667.2	N/A	2.4422 [2.0000]	122.1% { 115.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 725020	(6.39, N/A) (N/A, 0.01, N/A)	5071.5	N/A	1.9578 [2.0000]	97.9% { 109.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 352842	(7.01, N/A) (N/A, 0.02, N/A)	2995.1	N/A	0.9979 [1.0000]	99.8% { 110.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 367510	(7.58, N/A) (N/A, 0.01, N/A)	208533.1	N/A	0.9596 [1.0000]	96.0% { 104.6% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (6)
 Acquired: 2023/04/14 - 15:34

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
13C7_PFUa_EIS	(570.0 / 525.0) 428693	(8.12, N/A) (N/A, 0.02, N/A)	3008.9	N/A	1.2058 [1.0000]	120.6% { 117.6% }			
13C2_PFDa_EIS	(615.0 / 570.0) 338129	(8.58, N/A) (N/A, 0.02, N/A)	2026.8	N/A	1.1108 [1.0000]	111.1% { 128.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 267329	(9.04, N/A) (N/A, 0.01, N/A)	1203.2	N/A	0.9313 [1.0000]	93.1% { 114.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1424615	(5.04, N/A) (N/A, 0.01, N/A)	3215.8	N/A	1.7403 [2.0000]	87.0% { 107.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1011696	(6.48, N/A) (N/A, 0.01, N/A)	2731.7	N/A	2.1050 [2.0000]	105.3% { 113.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1866713	(7.76, N/A) (N/A, 0.01, N/A)	2647.3	N/A	1.9054 [2.0000]	95.3% { 112.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 271149	(4.87, N/A) (N/A, 0.01, N/A)	1237.0	N/A	3.6777 [4.0000]	91.9% { 113.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 343302	(6.16, N/A) (N/A, 0.01, N/A)	1892.0	N/A	4.0797 [4.0000]	102.0% { 118.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 428558	(7.34, N/A) (N/A, 0.01, N/A)	2122.6	N/A	3.8469 [4.0000]	96.2% { 115.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2844073	(9.73, N/A) (N/A, 0.01, N/A)	3539.7	N/A	1.7883 [2.0000]	89.4% { 116.2% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 675174	(10.37, N/A) (N/A, 0.00, N/A)	2407.6	N/A	1.9894 [2.0000]	99.5% { 107.7% }			

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 641100	(10.55 , N/A) (N/A , 0.00 , N/A)	2483.5	N/A	2.2895 [2.0000]	114.5% { 114.5% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 717049	(7.73 , N/A) (N/A , 0.01 , N/A)	1794.6	N/A	3.4149 [4.0000]	85.4% { 110.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 620030	(7.98 , N/A) (N/A , 0.01 , N/A)	13756.0	N/A	3.6000 [4.0000]	90.0% { 111.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2459881	(10.30 , N/A) (N/A , 0.00 , N/A)	1723.2	N/A	21.8326 [20.0000]	109.2% { 113.2% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 3298830	(10.48 , N/A) (N/A , 0.00 , N/A)	1536.3	N/A	22.1523 [20.0000]	110.8% { 112.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1429392	(5.35 , N/A) (N/A , 0.00 , N/A)	2515.7	N/A	8.5688 [8.0000]	107.1% { 117.9% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	0.00	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: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	8.11	ng/mL		
	13C5-PFPEA	3.51	ng/mL		
	13C5-PFHXA	1.95	ng/mL		
	13C4-PFHPA	2.06	ng/mL		
	13C8-PFOA	1.88	ng/mL		
	13C9-PFNA	1.12	ng/mL		
	13C6-PFDA	0.975	ng/mL		
	13C7-PFUnA	1.13	ng/mL		
	13C2-PFDOA	1.07	ng/mL		
	13C2-PFTEDA	0.903	ng/mL		
	13C3-PFBS	1.75	ng/mL		
	13C3-PFHXS	1.84	ng/mL		
	13C8-PFOS	1.96	ng/mL		
	13C2-4:2FTS	3.91	ng/mL		
	13C2-6:2FTS	4.07	ng/mL		
	13C2-8:2FTS	3.57	ng/mL		
	13C8-PFOSA	1.79	ng/mL		
	D3-NMEFOSA	2.12	ng/mL		
	D5-NETFOSA	2.47	ng/mL		
	D3-NMEFOSAA	3.55	ng/mL		
	D5-NETFOSAA	3.61	ng/mL		
	D7-NMEFOSE	22.6	ng/mL		
	D9-NETFOSE	23.6	ng/mL		
	13C3-HFPO-DA	7.07	ng/mL		

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			

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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			



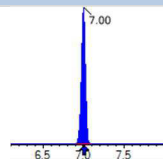
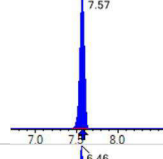
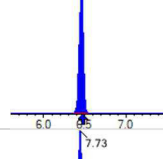
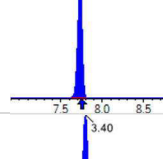
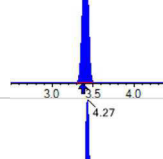
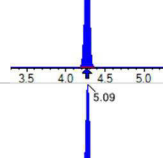
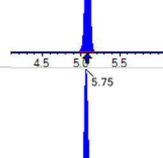
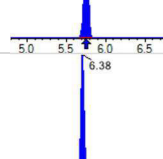
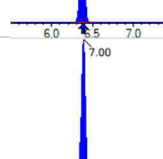
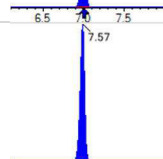
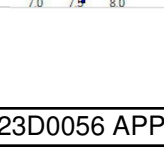
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 Instrument: Saphira
 Type: Sciex Q3 5500

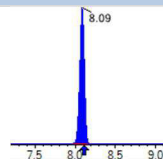
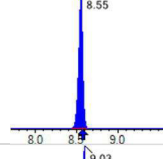
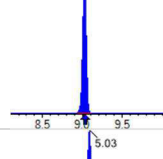
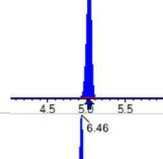
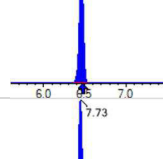
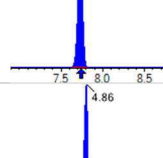
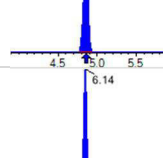
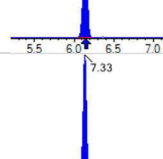
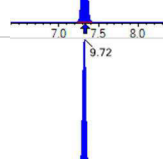
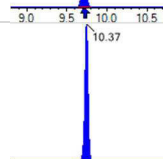
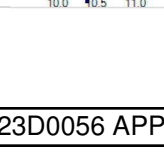
Sample I.D.: SC01502-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (33)
 Acquired: 2023/04/14 - 21:22

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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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.) (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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 145745	(3.40, N/A) (N/A, 0.03, N/A)	1210.8	N/A	1.1955 [1.0000]	119.6% { 115.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 228070	(5.09, N/A) (N/A, 0.00, N/A)	1547.5	N/A	1.1245 [1.0000]	112.4% { 114.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 350745	(6.38, N/A) (N/A, -0.01, N/A)	4422.5	N/A	1.1037 [1.0000]	110.4% { 105.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 317805	(7.00, N/A) (N/A, 0.00, N/A)	5769014.6	N/A	1.0471 [1.0000]	104.7% { 99.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 334090	(7.57, N/A) (N/A, -0.01, N/A)	8451.4	N/A	1.0296 [1.0000]	103.0% { 101.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 533426	(6.46, N/A) (N/A, -0.01, N/A)	4107.6	N/A	1.1911 [1.0000]	119.1% { 109.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 769732	(7.73, N/A) (N/A, -0.01, N/A)	1973.4	N/A	1.1318 [1.0000]	113.2% { 108.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1253270	(3.40, N/A) (N/A, 0.04, N/A)	4509.8	N/A	8.1104 [8.0000]	101.4% { 115.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 896864	(4.27, N/A) (N/A, 0.01, N/A)	3131.0	N/A	3.5107 [4.0000]	87.8% { 104.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 628898	(5.09, N/A) (N/A, 0.00, N/A)	2737.2	N/A	1.9454 [2.0000]	97.3% { 107.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 582113	(5.75, N/A) (N/A, 0.00, N/A)	2452.2	N/A	2.0616 [2.0000]	103.1% { 106.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 652309	(6.38, N/A) (N/A, -0.01, N/A)	1079.0	N/A	1.8843 [2.0000]	94.2% { 98.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 333597	(7.00, N/A) (N/A, 0.00, N/A)	3032.3	N/A	1.1173 [1.0000]	111.7% { 104.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 365379	(7.57, N/A) (N/A, 0.00, N/A)	16369.2	N/A	0.9749 [1.0000]	97.5% { 104.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 394203	(8.09, N/A) (N/A, -0.01, N/A)	3555.6	N/A	1.1331 [1.0000]	113.3% { 108.1% }			
13C2_PFDa_EIS	(615.0 / 570.0) 317401	(8.55, N/A) (N/A, -0.01, N/A)	1139.0	N/A	1.0655 [1.0000]	106.5% { 120.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 253759	(9.03, N/A) (N/A, -0.01, N/A)	888.3	N/A	0.9034 [1.0000]	90.3% { 108.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1464534	(5.03, N/A) (N/A, 0.00, N/A)	2622.3	N/A	1.7488 [2.0000]	87.4% { 110.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 903655	(6.46, N/A) (N/A, -0.01, N/A)	1334.8	N/A	1.8379 [2.0000]	91.9% { 101.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1826679	(7.73, N/A) (N/A, -0.01, N/A)	2881.4	N/A	1.9588 [2.0000]	97.9% { 110.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 295050	(4.86, N/A) (N/A, 0.00, N/A)	1375.2	N/A	3.9117 [4.0000]	97.8% { 123.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 350692	(6.14, N/A) (N/A, -0.01, N/A)	2175.5	N/A	4.0736 [4.0000]	101.8% { 121.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 406320	(7.33, N/A) (N/A, 0.00, N/A)	2136.3	N/A	3.5651 [4.0000]	89.1% { 109.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2711956	(9.72, N/A) (N/A, 0.00, N/A)	3099.9	N/A	1.7914 [2.0000]	89.6% { 110.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 684107	(10.37, N/A) (N/A, 0.00, N/A)	2764.4	N/A	2.1177 [2.0000]	105.9% { 109.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (33)
 Acquired: 2023/04/14 - 21:22

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 658218	(10.55 , N/A) (N/A , 0.00 , N/A)	3088.9	N/A	2.4696 [2.0000]	123.5% { 117.5% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 709951	(7.71 , N/A) (N/A , -0.01 , N/A)	2393.2	N/A	3.5521 [4.0000]	88.8% { 109.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 592340	(7.95 , N/A) (N/A , -0.02 , N/A)	15352.8	N/A	3.6132 [4.0000]	90.3% { 106.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2421685	(10.30 , N/A) (N/A , 0.00 , N/A)	2304.7	N/A	22.5805 [20.0000]	112.9% { 111.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 3341174	(10.48 , N/A) (N/A , 0.00 , N/A)	1875.1	N/A	23.5713 [20.0000]	117.9% { 114.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1289483	(5.35 , N/A) (N/A , 0.00 , N/A)	3444.4	N/A	7.0708 [8.0000]	88.4% { 106.3% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	0.00	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: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01502-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	8.94	ng/mL		
	13C5-PFPEA	9.58	ng/mL		
	13C5-PFHXA	4.16	ng/mL		
	13C4-PFHPA	5.79	ng/mL		
	13C8-PFOA	2.18	ng/mL		
	13C9-PFNA	1.06	ng/mL		
	13C6-PFDA	1.01	ng/mL		
	13C7-PFUnA	1.17	ng/mL		
	13C2-PFDOA	1.17	ng/mL		
	13C2-PFTEDA	1.03	ng/mL		
	13C3-PFBS	1.62	ng/mL		
	13C3-PFHXS	2.08	ng/mL		
	13C8-PFOS	1.98	ng/mL		
	13C2-4:2FTS	4.59	ng/mL		
	13C2-6:2FTS	4.94	ng/mL		
	13C2-8:2FTS	4.79	ng/mL		
	13C8-PFOSA	1.61	ng/mL		
	D3-NMEFOSA	1.40	ng/mL		
	D5-NETFOSA	1.79	ng/mL		
	D3-NMEFOSAA	4.29	ng/mL		
	D5-NETFOSAA	4.22	ng/mL		
	D7-NMEFOSE	17.5	ng/mL		
	D9-NETFOSSE	16.4	ng/mL		
	13C3-HFPO-DA	16.8	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (53)
 Acquired: 2023/04/15 - 01:39

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			

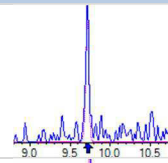
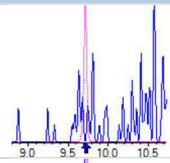
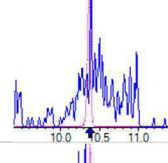
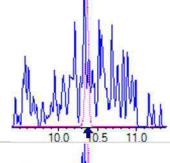
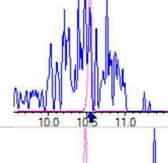
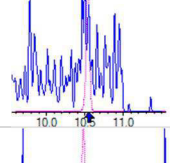
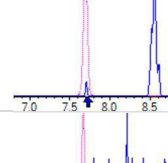
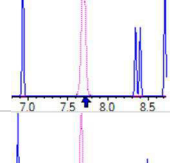
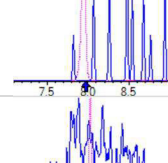
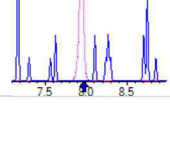
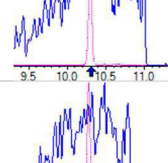
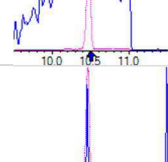
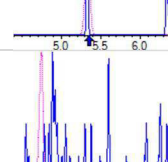
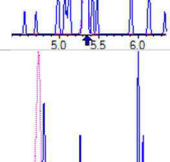
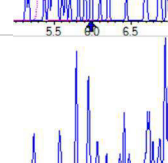
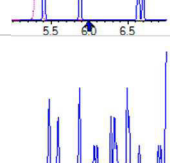
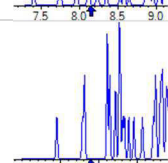
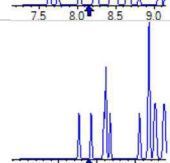
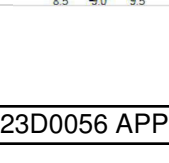
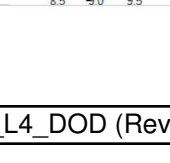


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (53)
 Acquired: 2023/04/15 - 01:39

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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (53)
 Acquired: 2023/04/15 - 01:39

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
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 129152	(3.37, N/A) (N/A, 0.00, N/A)	1096.8	N/A	1.0594 [1.0000]	105.9% { 102.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 91753	(5.07, N/A) (N/A, -0.02, N/A)	6161.1	N/A	0.4524 [1.0000]	45.2% { 45.9% }			IS1,
13C4_PFOA_IIS	(417.0 / 372.0) 355692	(6.37, N/A) (N/A, -0.01, N/A)	45741.1	N/A	1.1193 [1.0000]	111.9% { 107.4% }			

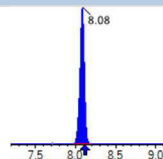
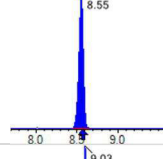
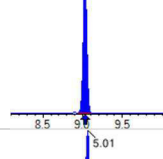
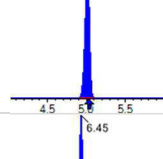
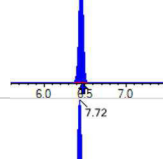
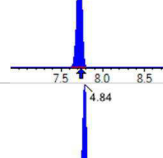
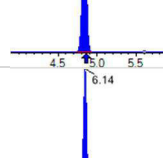
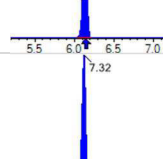
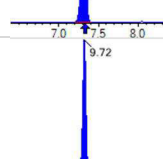
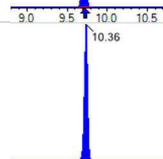
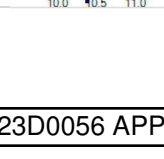


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (53)
 Acquired: 2023/04/15 - 01:39

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
13C5_PFNA_IIS	(468.0 / 423.0) 351689	(6.99, N/A) (N/A, -0.01, N/A)	8396.0	N/A	1.1588 [1.0000]	115.9% { 109.6% }			
13C2_PFDA_IIS	(515.0 / 470.1) 372731	(7.56, N/A) (N/A, -0.02, N/A)	1745.5	N/A	1.1487 [1.0000]	114.9% { 113.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 535337	(6.45, N/A) (N/A, -0.01, N/A)	1984.8	N/A	1.1953 [1.0000]	119.5% { 109.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 867760	(7.72, N/A) (N/A, -0.02, N/A)	1893.6	N/A	1.2760 [1.0000]	127.6% { 122.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1224414	(3.37, N/A) (N/A, 0.00, N/A)	4428.1	N/A	8.9416 [8.0000]	111.8% { 112.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 985082	(4.25, N/A) (N/A, -0.01, N/A)	2806.5	N/A	9.5850 [4.0000]	239.6% { 114.5% }			S2,
13C5_PFHxA_EIS	(318.0 / 273.0) 540786	(5.07, N/A) (N/A, -0.01, N/A)	1869.4	N/A	4.1582 [2.0000]	207.9% { 92.2% }			S2,
13C4_PFHpA_EIS	(367.0 / 322.0) 657795	(5.75, N/A) (N/A, -0.01, N/A)	15492.9	N/A	5.7907 [2.0000]	289.5% { 120.5% }			S2,
13C8_PFOA_EIS	(421.0 / 376.0) 766664	(6.37, N/A) (N/A, -0.01, N/A)	1804.3	N/A	2.1838 [2.0000]	109.2% { 116.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 350618	(6.99, N/A) (N/A, -0.01, N/A)	11948.3	N/A	1.0611 [1.0000]	106.1% { 109.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 420507	(7.56, N/A) (N/A, -0.02, N/A)	4018.0	N/A	1.0056 [1.0000]	100.6% { 119.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 453838	(8.08, N/A) (N/A, -0.02, N/A)	19976.9	N/A	1.1692 [1.0000]	116.9% { 124.5% }			
13C2_PFDa_EIS	(615.0 / 570.0) 387525	(8.55, N/A) (N/A, -0.01, N/A)	1766.3	N/A	1.1660 [1.0000]	116.6% { 147.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 322246	(9.03, N/A) (N/A, 0.00, N/A)	1611.3	N/A	1.0283 [1.0000]	102.8% { 138.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1357576	(5.01, N/A) (N/A, -0.02, N/A)	3106.4	N/A	1.6153 [2.0000]	80.8% { 102.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1028190	(6.45, N/A) (N/A, -0.01, N/A)	2686.2	N/A	2.0837 [2.0000]	104.2% { 115.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2077384	(7.72, N/A) (N/A, -0.02, N/A)	3852.2	N/A	1.9760 [2.0000]	98.8% { 125.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 347785	(4.84, N/A) (N/A, -0.02, N/A)	1116.8	N/A	4.5943 [4.0000]	114.9% { 145.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 426456	(6.14, N/A) (N/A, -0.01, N/A)	2342.7	N/A	4.9360 [4.0000]	123.4% { 147.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 547509	(7.32, N/A) (N/A, -0.01, N/A)	1539.7	N/A	4.7867 [4.0000]	119.7% { 147.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2754441	(9.72, N/A) (N/A, 0.00, N/A)	4098.0	N/A	1.6139 [2.0000]	80.7% { 112.5% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 508655	(10.36, N/A) (N/A, 0.00, N/A)	1973.6	N/A	1.3967 [2.0000]	69.8% { 81.1% }			S1,



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (53)
 Acquired: 2023/04/15 - 01:39

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 538681	(10.54 , N/A) (N/A , -0.01 , N/A)	2400.5	N/A	1.7928 [2.0000]	89.6% { 96.2% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 967324	(7.69 , N/A) (N/A , -0.02 , N/A)	2788.1	N/A	4.2930 [4.0000]	107.3% { 148.5% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 779931	(7.94 , N/A) (N/A , -0.02 , N/A)	5970.0	N/A	4.2200 [4.0000]	105.5% { 140.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2117042	(10.30 , N/A) (N/A , -0.01 , N/A)	1203.5	N/A	17.5100 [20.0000]	87.5% { 97.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2626442	(10.47 , N/A) (N/A , -0.01 , N/A)	883.6	N/A	16.4358 [20.0000]	82.2% { 89.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1236166	(5.34 , N/A) (N/A , -0.01 , N/A)	2334.9	N/A	16.8491 [8.0000]	210.6% { 101.9% }			S2,

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01530
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01530-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	0.00	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: SC01530
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01530-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	7.96	ng/mL		
	13C5-PFPEA	4.34	ng/mL		
	13C5-PFHXA	1.85	ng/mL		
	13C4-PFHPA	2.11	ng/mL		
	13C8-PFOA	2.06	ng/mL		
	13C9-PFNA	0.919	ng/mL		
	13C6-PFDA	0.974	ng/mL		
	13C7-PFUnA	0.885	ng/mL		
	13C2-PFDOA	0.980	ng/mL		
	13C2-PFTEDA	0.973	ng/mL		
	13C3-PFBS	1.68	ng/mL		
	13C3-PFHXS	1.98	ng/mL		
	13C8-PFOS	1.95	ng/mL		
	13C2-4:2FTS	3.93	ng/mL		
	13C2-6:2FTS	3.89	ng/mL		
	13C2-8:2FTS	3.59	ng/mL		
	13C8-PFOSA	2.06	ng/mL		
	D3-NMEFOSA	2.32	ng/mL		
	D5-NETFOSA	2.37	ng/mL		
	D3-NMEFOSAA	4.50	ng/mL		
	D5-NETFOSAA	4.58	ng/mL		
	D7-NMEFOSE	23.8	ng/mL		
	D9-NETFOSSE	22.1	ng/mL		
	13C3-HFPO-DA	7.69	ng/mL		

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (9)
 Acquired: 2023/04/18 - 18:59

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) 37108 (813.0 / 169.0) 5369	(10.43 , 1.93) (N/A , -0.02 , 0.1)	248.2 101.3	0.1447 96.9 96.9	0.0998	N/A			
PFODA	(913.0 / 869.0) 38426 (913.0 / 169.0) 9998	(11.07 , 2.05) (N/A , -0.04 , 0.0)	229.9 137.6	0.2602 98.8 98.8	0.1613	N/A			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01530-ICB1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18B (9)
Acquired: 2023/04/18 - 18:59

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (9)
 Acquired: 2023/04/18 - 18:59

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 196476	(3.20, N/A) (N/A, 0.00, N/A)	543.5	N/A	0.9534 [1.0000]	95.3% { 95.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 130198	(5.37, N/A) (N/A, 0.00, N/A)	581.4	N/A	0.8981 [1.0000]	89.8% { 86.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 253584	(6.85, N/A) (N/A, 0.00, N/A)	239.3	N/A	0.9300 [1.0000]	93.0% { 91.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 234571	(7.49, N/A) (N/A, 0.00, N/A)	531.0	N/A	0.9371 [1.0000]	93.7% { 93.2% }			
13C2_PFDA_IIS	(515.0 / 470.1) 238093	(8.10, N/A) (N/A, 0.00, N/A)	296.8	N/A	1.0028 [1.0000]	100.3% { 90.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 366093	(7.05, N/A) (N/A, -0.01, N/A)	286.3	N/A	0.9586 [1.0000]	95.9% { 91.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 388331	(8.36, N/A) (N/A, 0.00, N/A)	395.3	N/A	0.8144 [1.0000]	81.4% { 85.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1674556	(3.20, N/A) (N/A, 0.00, N/A)	1208.0	N/A	7.9562 [8.0000]	99.5% { 95.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1118156	(4.43, N/A) (N/A, 0.00, N/A)	1074.4	N/A	4.3435 [4.0000]	108.6% { 95.6% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (9)
 Acquired: 2023/04/18 - 18:59

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 540122	(5.37, N/A) (N/A, 0.00, N/A)	631.4	N/A	1.8528 [2.0000]	92.6% {80.7%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 485609	(6.16, N/A) (N/A, 0.00, N/A)	722.9	N/A	2.1105 [2.0000]	105.5% {91.1%}			
13C8_PFOA_EIS	(421.0 / 376.0) 620535	(6.85, N/A) (N/A, 0.00, N/A)	489.7	N/A	2.0564 [2.0000]	102.8% {96.8%}			
13C9_PFNA_EIS	(472.0 / 427.0) 223850	(7.49, N/A) (N/A, 0.00, N/A)	417.3	N/A	0.9193 [1.0000]	91.9% {83.5%}			
13C6_PFDA_EIS	(519.0 / 474.0) 275147	(8.10, N/A) (N/A, 0.00, N/A)	420.5	N/A	0.9741 [1.0000]	97.4% {98.6%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 240400	(8.67, N/A) (N/A, 0.00, N/A)	348.8	N/A	0.8846 [1.0000]	88.5% {88.5%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 225896	(9.13, N/A) (N/A, 0.00, N/A)	665.2	N/A	0.9800 [1.0000]	98.0% {99.3%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 276619	(9.82, N/A) (N/A, -0.01, N/A)	602.1	N/A	0.9730 [1.0000]	97.3% {97.7%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1168555	(5.40, N/A) (N/A, 0.00, N/A)	442.5	N/A	1.6777 [2.0000]	83.9% {80.6%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 581311	(7.05, N/A) (N/A, -0.01, N/A)	408.6	N/A	1.9794 [2.0000]	99.0% {100.2%}			
13C8_PFOS_EIS	(507.0 / 80.0) 947916	(8.36, N/A) (N/A, 0.00, N/A)	446.7	N/A	1.9543 [2.0000]	97.7% {85.3%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01530-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18B (9)
 Acquired: 2023/04/18 - 18:59

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 131820	(5.07, N/A) (N/A, 0.00, N/A)	678.3	N/A	3.9267 [4.0000]	98.2% { 93.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 161844	(6.55, N/A) (N/A, 0.00, N/A)	465.3	N/A	3.8864 [4.0000]	97.2% { 96.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 168724	(7.80, N/A) (N/A, 0.00, N/A)	574.0	N/A	3.5867 [4.0000]	89.7% { 93.9% }			
13C8_PFOA_EIS	(506.0 / 78.0) 1121157	(8.91, N/A) (N/A, 0.00, N/A)	681.3	N/A	2.0596 [2.0000]	103.0% { 82.8% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 390228	(9.86, N/A) (N/A, 0.00, N/A)	487.1	N/A	2.3154 [2.0000]	115.8% { 93.0% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 391781	(10.08, N/A) (N/A, 0.00, N/A)	1063.8	N/A	2.3664 [2.0000]	118.3% { 95.5% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 456155	(8.06, N/A) (N/A, 0.00, N/A)	508.2	N/A	4.5039 [4.0000]	112.6% { 85.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 370469	(8.31, N/A) (N/A, 0.00, N/A)	399.8	N/A	4.5802 [4.0000]	114.5% { 93.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1270165	(9.77, N/A) (N/A, 0.00, N/A)	1174.5	N/A	23.7877 [20.0000]	118.9% { 93.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 1463616	(9.99, N/A) (N/A, 0.00, N/A)	1859.4	N/A	22.1135 [20.0000]	110.6% { 91.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1153651	(5.70, N/A) (N/A, -0.01, N/A)	634.4	N/A	7.6892 [8.0000]	96.1% { 84.9% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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	7.83	ng/mL		
	13C5-PFPEA	4.09	ng/mL		
	13C5-PFHXA	1.85	ng/mL		
	13C4-PFHPA	1.89	ng/mL		
	13C8-PFOA	1.98	ng/mL		
	13C9-PFNA	0.941	ng/mL		
	13C6-PFDA	0.973	ng/mL		
	13C7-PFUnA	0.999	ng/mL		
	13C2-PFDOA	1.13	ng/mL		
	13C2-PFTEDA	1.22	ng/mL		
	13C3-PFBS	2.16	ng/mL		
	13C3-PFHXS	1.91	ng/mL		
	13C8-PFOS	2.05	ng/mL		
	13C2-4:2FTS	4.03	ng/mL		
	13C2-6:2FTS	3.84	ng/mL		
	13C2-8:2FTS	3.85	ng/mL		
	13C8-PFOSA	2.43	ng/mL		
	D3-NMEFOSA	2.54	ng/mL		
	D5-NETFOSA	2.62	ng/mL		
	D3-NMEFOSAA	4.76	ng/mL		
	D5-NETFOSAA	5.64	ng/mL		
	D7-NMEFOSE	25.5	ng/mL		
	D9-NETFOSSE	25.3	ng/mL		
	13C3-HFPO-DA	7.89	ng/mL		



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (1)
 Acquired: 2023/04/18 - 21:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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.: SC01534-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (1)
 Acquired: 2023/04/18 - 21:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (1)
 Acquired: 2023/04/18 - 21:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

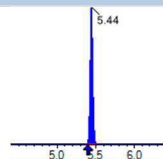
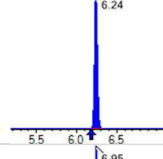
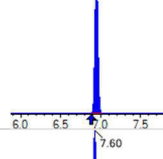
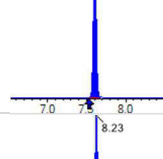
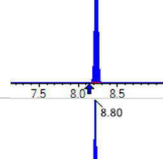
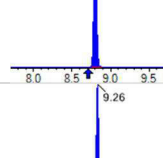
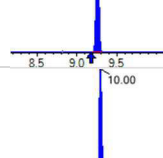
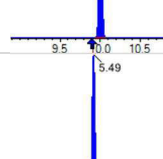
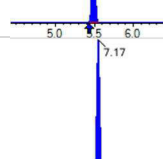
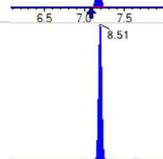
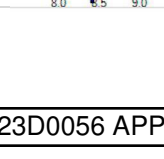


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (1)
 Acquired: 2023/04/18 - 21:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 204316	(3.25, N/A) (N/A, 0.03, N/A)	599.8	N/A	0.9915 [1.0000]	99.1% {105.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 144256	(5.44, N/A) (N/A, 0.05, N/A)	310.0	N/A	0.9950 [1.0000]	99.5% {102.6%}			
13C4_PFOA_IIS	(417.0 / 372.0) 282297	(6.95, N/A) (N/A, 0.06, N/A)	331.8	N/A	1.0353 [1.0000]	103.5% {102.4%}			
13C5_PFNA_IIS	(468.0 / 423.0) 261928	(7.61, N/A) (N/A, 0.08, N/A)	399.1	N/A	1.0464 [1.0000]	104.6% {110.2%}			
13C2_PFDA_IIS	(515.0 / 470.1) 246567	(8.23, N/A) (N/A, 0.09, N/A)	244.0	N/A	1.0385 [1.0000]	103.8% {101.5%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 368825	(7.17, N/A) (N/A, 0.08, N/A)	382.9	N/A	0.9658 [1.0000]	96.6% {99.1%}			
13C4_PFOS_IIS	(503.0 / 79.9) 390855	(8.51, N/A) (N/A, 0.10, N/A)	347.6	N/A	0.8197 [1.0000]	82.0% {66.4%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1712840	(3.25, N/A) (N/A, 0.03, N/A)	1272.4	N/A	7.8258 [8.0000]	97.8% {106.0%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 1166144	(4.50, N/A) (N/A, 0.04, N/A)	1342.2	N/A	4.0884 [4.0000]	102.2% {104.9%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 598296	(5.44, N/A) (N/A, 0.05, N/A)	381.4	N/A	1.8524 [2.0000]	92.6% {100.6%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 481665	(6.24, N/A) (N/A, 0.06, N/A)	490.7	N/A	1.8894 [2.0000]	94.5% {108.7%}			
13C8_PFOA_EIS	(421.0 / 376.0) 666431	(6.95, N/A) (N/A, 0.07, N/A)	355.1	N/A	1.9839 [2.0000]	99.2% {106.7%}			
13C9_PFNA_EIS	(472.0 / 427.0) 255787	(7.60, N/A) (N/A, 0.08, N/A)	460.1	N/A	0.9407 [1.0000]	94.1% {107.2%}			
13C6_PFDA_EIS	(519.0 / 474.0) 284491	(8.23, N/A) (N/A, 0.09, N/A)	549.6	N/A	0.9725 [1.0000]	97.3% {103.1%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 281289	(8.80, N/A) (N/A, 0.09, N/A)	352.3	N/A	0.9995 [1.0000]	99.9% {111.4%}			
13C2_PFDaA_EIS	(615.0 / 570.0) 269196	(9.26, N/A) (N/A, 0.09, N/A)	905.0	N/A	1.1277 [1.0000]	112.8% {127.1%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 359408	(10.00, N/A) (N/A, 0.12, N/A)	441.8	N/A	1.2207 [1.0000]	122.1% {133.6%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1514573	(5.49, N/A) (N/A, 0.06, N/A)	599.2	N/A	2.1584 [2.0000]	107.9% {105.5%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 563778	(7.17, N/A) (N/A, 0.08, N/A)	399.0	N/A	1.9055 [2.0000]	95.3% {92.8%}			
13C8_PFOS_EIS	(507.0 / 80.0) 999765	(8.51, N/A) (N/A, 0.10, N/A)	613.7	N/A	2.0479 [2.0000]	102.4% {70.5%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (1)
 Acquired: 2023/04/18 - 21:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 136415	(5.13, N/A) (N/A, 0.04, N/A)	613.3	N/A	4.0334 [4.0000]	100.8% {97.7%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 161145	(6.63, N/A) (N/A, 0.06, N/A)	430.8	N/A	3.8409 [4.0000]	96.0% {94.7%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 182501	(7.91, N/A) (N/A, 0.08, N/A)	526.7	N/A	3.8508 [4.0000]	96.3% {106.4%}			
13C8_PFOSA_EIS	(506.0 / 78.0) 1333833	(8.93, N/A) (N/A, 0.02, N/A)	917.3	N/A	2.4344 [2.0000]	121.7% {100.1%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 430245	(9.86, N/A) (N/A, 0.00, N/A)	462.5	N/A	2.5363 [2.0000]	126.8% {105.2%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 436486	(10.07, N/A) (N/A, 0.00, N/A)	930.3	N/A	2.6194 [2.0000]	131.0% {110.7%}			S2,
D3_MeFOSAA_EIS	(573.0 / 419.0) 485330	(8.17, N/A) (N/A, 0.08, N/A)	390.2	N/A	4.7610 [4.0000]	119.0% {99.9%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 459280	(8.43, N/A) (N/A, 0.08, N/A)	440.3	N/A	5.6415 [4.0000]	141.0% {116.8%}			S2,
D7_NMeFOSE_EIS	(623.0 / 58.9) 1371508	(9.76, N/A) (N/A, 0.00, N/A)	1281.7	N/A	25.5198 [20.0000]	127.6% {111.8%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1687730	(9.98, N/A) (N/A, 0.00, N/A)	1552.4	N/A	25.3349 [20.0000]	126.7% {108.1%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1311873	(5.78, N/A) (N/A, 0.06, N/A)	1345.5	N/A	7.8917 [8.0000]	98.6% {104.3%}			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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	7.83	ng/mL		
	13C5-PFPEA	3.96	ng/mL		
	13C5-PFHXA	1.94	ng/mL		
	13C4-PFHPA	1.93	ng/mL		
	13C8-PFOA	2.02	ng/mL		
	13C9-PFNA	1.00	ng/mL		
	13C6-PFDA	0.941	ng/mL		
	13C7-PFUnA	0.983	ng/mL		
	13C2-PFDOA	0.919	ng/mL		
	13C2-PFTEDA	1.03	ng/mL		
	13C3-PFBS	2.15	ng/mL		
	13C3-PFHXS	2.02	ng/mL		
	13C8-PFOS	1.94	ng/mL		
	13C2-4:2FTS	4.31	ng/mL		
	13C2-6:2FTS	4.17	ng/mL		
	13C2-8:2FTS	4.10	ng/mL		
	13C8-PFOSA	1.95	ng/mL		
	D3-NMEFOSA	1.81	ng/mL		
	D5-NETFOSA	1.99	ng/mL		
	D3-NMEFOSAA	3.64	ng/mL		
	D5-NETFOSAA	3.49	ng/mL		
	D7-NMEFOSE	18.7	ng/mL		
	D9-NETFOSSE	18.8	ng/mL		
	13C3-HFPO-DA	7.73	ng/mL		



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (6)
 Acquired: 2023/04/18 - 22:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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.: SC01534-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (6)
 Acquired: 2023/04/18 - 22:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

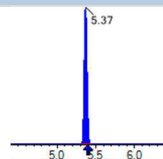
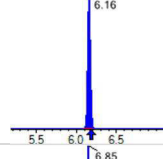
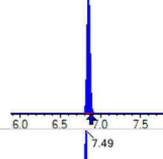
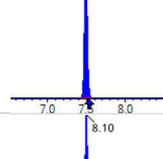
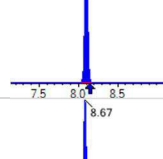
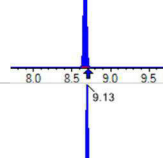
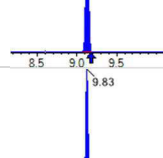
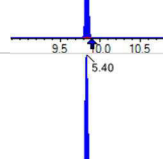
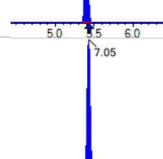
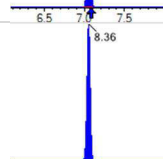
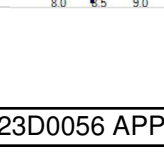


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (6)
 Acquired: 2023/04/18 - 22:40

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 205452	(3.20, N/A) (N/A, -0.02, N/A)	484.2	N/A	0.9970 [1.0000]	99.7% { 105.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 148909	(5.37, N/A) (N/A, -0.03, N/A)	460.4	N/A	1.0271 [1.0000]	102.7% { 105.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 258643	(6.85, N/A) (N/A, -0.03, N/A)	282.5	N/A	0.9485 [1.0000]	94.9% { 93.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 244157	(7.49, N/A) (N/A, -0.04, N/A)	538.6	N/A	0.9754 [1.0000]	97.5% { 102.7% }			
13C2_PFDA_IIS	(515.0 / 470.1) 231573	(8.10, N/A) (N/A, -0.04, N/A)	422.0	N/A	0.9753 [1.0000]	97.5% { 95.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 362505	(7.05, N/A) (N/A, -0.04, N/A)	392.2	N/A	0.9492 [1.0000]	94.9% { 97.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 504231	(8.36, N/A) (N/A, -0.04, N/A)	469.2	N/A	1.0575 [1.0000]	105.8% { 85.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1723421	(3.20, N/A) (N/A, -0.02, N/A)	1182.4	N/A	7.8306 [8.0000]	97.9% { 106.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1165118	(4.43, N/A) (N/A, -0.02, N/A)	928.6	N/A	3.9572 [4.0000]	98.9% { 104.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 645891	(5.37, N/A) (N/A, -0.02, N/A)	492.0	N/A	1.9372 [2.0000]	96.9% { 108.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 507222	(6.16, N/A) (N/A, -0.03, N/A)	949.7	N/A	1.9275 [2.0000]	96.4% { 114.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 623173	(6.85, N/A) (N/A, -0.03, N/A)	522.8	N/A	2.0247 [2.0000]	101.2% { 99.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 254302	(7.49, N/A) (N/A, -0.04, N/A)	278.4	N/A	1.0034 [1.0000]	100.3% { 106.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 258531	(8.10, N/A) (N/A, -0.04, N/A)	223.1	N/A	0.9410 [1.0000]	94.1% { 93.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 259868	(8.67, N/A) (N/A, -0.04, N/A)	105.0	N/A	0.9831 [1.0000]	98.3% { 102.9% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 206095	(9.13, N/A) (N/A, -0.04, N/A)	630.7	N/A	0.9193 [1.0000]	91.9% { 97.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 284728	(9.83, N/A) (N/A, -0.05, N/A)	664.2	N/A	1.0297 [1.0000]	103.0% { 105.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1485902	(5.40, N/A) (N/A, -0.03, N/A)	795.7	N/A	2.1544 [2.0000]	107.7% { 103.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 587370	(7.05, N/A) (N/A, -0.04, N/A)	272.8	N/A	2.0198 [2.0000]	101.0% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1222897	(8.36, N/A) (N/A, -0.04, N/A)	548.8	N/A	1.9417 [2.0000]	97.1% { 86.2% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (6)
 Acquired: 2023/04/18 - 22:40

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 143300	(5.07, N/A) (N/A, -0.02, N/A)	460.7	N/A	4.3109 [4.0000]	107.8% { 102.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 172123	(6.54, N/A) (N/A, -0.03, N/A)	368.3	N/A	4.1741 [4.0000]	104.4% { 101.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 190790	(7.80, N/A) (N/A, -0.04, N/A)	689.3	N/A	4.0959 [4.0000]	102.4% { 111.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1378204	(8.89, N/A) (N/A, -0.02, N/A)	963.6	N/A	1.9498 [2.0000]	97.5% { 103.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 396898	(9.85, N/A) (N/A, 0.00, N/A)	357.4	N/A	1.8137 [2.0000]	90.7% { 97.0% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 427149	(10.07, N/A) (N/A, 0.00, N/A)	1015.7	N/A	1.9870 [2.0000]	99.4% { 108.4% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 478045	(8.05, N/A) (N/A, -0.04, N/A)	378.0	N/A	3.6351 [4.0000]	90.9% { 98.4% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 366385	(8.31, N/A) (N/A, -0.04, N/A)	329.0	N/A	3.4885 [4.0000]	87.2% { 93.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1298433	(9.76, N/A) (N/A, 0.00, N/A)	1014.4	N/A	18.7277 [20.0000]	93.6% { 105.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1615548	(9.98, N/A) (N/A, 0.00, N/A)	1604.3	N/A	18.7984 [20.0000]	94.0% { 103.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1327056	(5.70, N/A) (N/A, -0.03, N/A)	926.7	N/A	7.7335 [8.0000]	96.7% { 105.5% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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	0.00	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: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC01534-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	7.87	ng/mL		
	13C5-PFPEA	4.09	ng/mL		
	13C5-PFHXA	1.91	ng/mL		
	13C4-PFHPA	1.91	ng/mL		
	13C8-PFOA	1.79	ng/mL		
	13C9-PFNA	0.951	ng/mL		
	13C6-PFDA	0.926	ng/mL		
	13C7-PFUnA	0.973	ng/mL		
	13C2-PFDOA	0.907	ng/mL		
	13C2-PFTEDA	0.942	ng/mL		
	13C3-PFBS	2.03	ng/mL		
	13C3-PFHXS	2.05	ng/mL		
	13C8-PFOS	2.04	ng/mL		
	13C2-4:2FTS	4.21	ng/mL		
	13C2-6:2FTS	4.03	ng/mL		
	13C2-8:2FTS	4.25	ng/mL		
	13C8-PFOSA	2.46	ng/mL		
	D3-NMEFOSA	2.46	ng/mL		
	D5-NETFOSA	2.54	ng/mL		
	D3-NMEFOSAA	4.80	ng/mL		
	D5-NETFOSAA	4.56	ng/mL		
	D7-NMEFOSE	25.5	ng/mL		
	D9-NETFOSE	23.9	ng/mL		
	13C3-HFPO-DA	7.88	ng/mL		

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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			

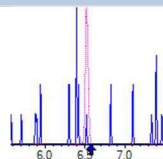
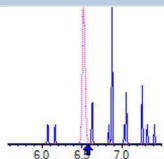
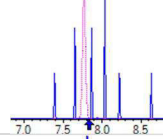
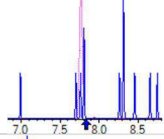
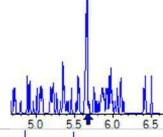
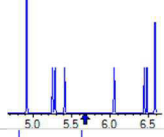
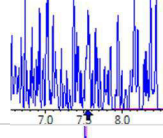
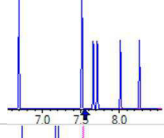
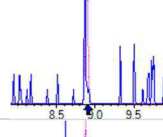
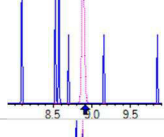
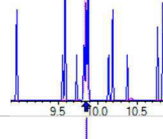
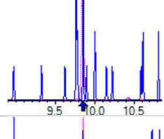
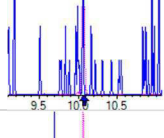
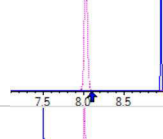
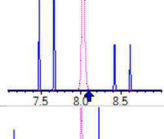
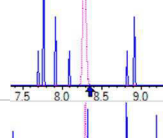
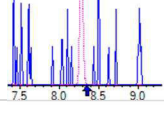
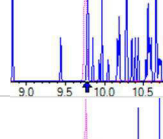
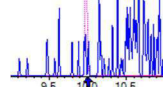


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (23)
 Acquired: 2023/04/19 - 03:10

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

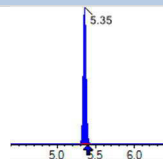
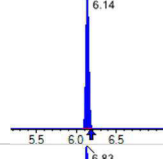
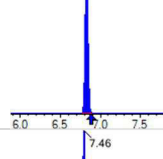
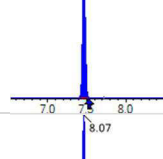
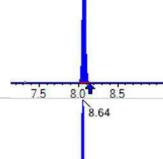
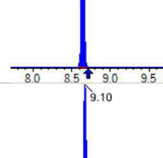
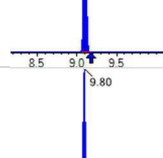
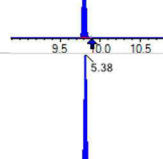
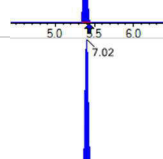
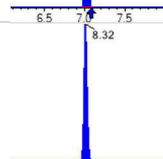
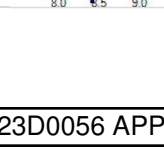


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (23)
 Acquired: 2023/04/19 - 03:10

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 196780	(3.19, N/A) (N/A, -0.03, N/A)	521.3	N/A	0.9549 [1.0000]	95.5% { 101.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 139063	(5.36, N/A) (N/A, -0.04, N/A)	559.6	N/A	0.9592 [1.0000]	95.9% { 98.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 275095	(6.83, N/A) (N/A, -0.06, N/A)	514.1	N/A	1.0089 [1.0000]	100.9% { 99.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 237798	(7.47, N/A) (N/A, -0.06, N/A)	522.6	N/A	0.9500 [1.0000]	95.0% { 100.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 233206	(8.07, N/A) (N/A, -0.07, N/A)	306.5	N/A	0.9822 [1.0000]	98.2% { 96.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 351307	(7.02, N/A) (N/A, -0.06, N/A)	283.7	N/A	0.9199 [1.0000]	92.0% { 94.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 368782	(8.32, N/A) (N/A, -0.08, N/A)	222.1	N/A	0.7734 [1.0000]	77.3% { 62.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1658845	(3.19, N/A) (N/A, -0.03, N/A)	1034.2	N/A	7.8693 [8.0000]	98.4% { 102.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1125579	(4.42, N/A) (N/A, -0.03, N/A)	978.7	N/A	4.0936 [4.0000]	102.3% { 101.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 596158	(5.35, N/A) (N/A, -0.04, N/A)	704.6	N/A	1.9147 [2.0000]	95.7% { 100.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 469593	(6.14, N/A) (N/A, -0.05, N/A)	1463.7	N/A	1.9108 [2.0000]	95.5% { 106.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 586077	(6.83, N/A) (N/A, -0.05, N/A)	350.0	N/A	1.7903 [2.0000]	89.5% { 93.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 234794	(7.46, N/A) (N/A, -0.06, N/A)	563.6	N/A	0.9512 [1.0000]	95.1% { 98.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 256225	(8.07, N/A) (N/A, -0.07, N/A)	393.7	N/A	0.9261 [1.0000]	92.6% { 92.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 258987	(8.64, N/A) (N/A, -0.07, N/A)	166.7	N/A	0.9729 [1.0000]	97.3% { 102.6% }			
13C2_PFDaA_EIS	(615.0 / 570.0) 204795	(9.10, N/A) (N/A, -0.07, N/A)	828.5	N/A	0.9071 [1.0000]	90.7% { 96.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 262213	(9.80, N/A) (N/A, -0.08, N/A)	667.6	N/A	0.9416 [1.0000]	94.2% { 97.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1355266	(5.38, N/A) (N/A, -0.04, N/A)	753.5	N/A	2.0277 [2.0000]	101.4% { 94.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 578909	(7.02, N/A) (N/A, -0.06, N/A)	434.1	N/A	2.0542 [2.0000]	102.7% { 95.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 940018	(8.32, N/A) (N/A, -0.08, N/A)	528.4	N/A	2.0408 [2.0000]	102.0% { 66.3% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (23)
 Acquired: 2023/04/19 - 03:10

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 135578	(5.05, N/A) (N/A, -0.03, N/A)	383.0	N/A	4.2086 [4.0000]	105.2% { 97.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 160991	(6.52, N/A) (N/A, -0.05, N/A)	290.2	N/A	4.0286 [4.0000]	100.7% { 94.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 191786	(7.77, N/A) (N/A, -0.06, N/A)	477.0	N/A	4.2485 [4.0000]	106.2% { 111.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1274268	(8.88, N/A) (N/A, -0.02, N/A)	533.1	N/A	2.4649 [2.0000]	123.2% { 95.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 394367	(9.85, N/A) (N/A, -0.01, N/A)	546.8	N/A	2.4640 [2.0000]	123.2% { 96.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 399397	(10.06, N/A) (N/A, -0.01, N/A)	892.6	N/A	2.5403 [2.0000]	127.0% { 101.3% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 461755	(8.03, N/A) (N/A, -0.06, N/A)	471.9	N/A	4.8009 [4.0000]	120.0% { 95.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 350513	(8.28, N/A) (N/A, -0.07, N/A)	382.5	N/A	4.5631 [4.0000]	114.1% { 89.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1295490	(9.76, N/A) (N/A, -0.01, N/A)	1199.9	N/A	25.5481 [20.0000]	127.7% { 105.6% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1501803	(9.98, N/A) (N/A, -0.01, N/A)	1094.9	N/A	23.8932 [20.0000]	119.5% { 96.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1262082	(5.68, N/A) (N/A, -0.04, N/A)	981.4	N/A	7.8757 [8.0000]	98.4% { 100.3% }			

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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) 3000770 (413.0 / 169.0) 1037247	(6.39, 1.00) (0.00, N/A, -0.1)	2342.2 4230.9	0.3457 110.4 110.4	8.5921	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (4)
 Acquired: 2023/04/14 - 15:08

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	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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) 11218136 (498.0 / 478.0) 278838	(9.72, 1.00) (0.00, N/A, 0.0)	3710.2 1009.3	0.0249 100.4 112.0	10.2358	N/A			
NMeFOSA	(512.0 / 219.0) 2756812 (512.0 / 169.0) 2322923	(10.37, 1.00) (0.00, N/A, 1.2)	5548.4 4765.8	0.8426 97.1 99.8	9.5216	N/A			
NEtFOSA	(526.0 / 219.0) 3185816 (526.0 / 169.0) 3996285	(10.54, 1.00) (-0.01, N/A, 0.9)	5629.7 5149.9	1.2544 100.3 100.7	9.0562	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	(616.0 / 59.0) 1271352	(10.31, 1.00) (0.01, N/A, 0.0)	1494.3	N/A 0.0 0.0	9.5872	N/A			
NEtFOSE	(630.0 / 59.0) 1625076	(10.49, 1.00) (0.01, N/A, 0.0)	1341.6	N/A 0.0 0.0	9.7351	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (4)
 Acquired: 2023/04/14 - 15:08

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
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 155588	(3.38, N/A) (N/A, 0.01, N/A)	1153.8	N/A	1.2763 [1.0000]	127.6% { 123.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 234924	(5.09, N/A) (N/A, 0.01, N/A)	1915.8	N/A	1.1583 [1.0000]	115.8% { 117.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 377451	(6.39, N/A) (N/A, 0.00, N/A)	6154.9	N/A	1.1877 [1.0000]	118.8% { 114.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (4)
 Acquired: 2023/04/14 - 15:08

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
13C5_PFNA_IIS	(468.0 / 423.0) 385099	(6.99, N/A) (N/A, -0.01, N/A)	6087.5	N/A	1.2689 [1.0000]	126.9% { 120.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 372359	(7.57, N/A) (N/A, -0.01, N/A)	2426.8	N/A	1.1476 [1.0000]	114.8% { 113.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 573402	(6.47, N/A) (N/A, 0.00, N/A)	13213.1	N/A	1.2803 [1.0000]	128.0% { 117.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 890138	(7.74, N/A) (N/A, -0.01, N/A)	1810.2	N/A	1.3089 [1.0000]	130.9% { 125.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1318470	(3.38, N/A) (N/A, 0.01, N/A)	4669.5	N/A	7.9925 [8.0000]	99.9% { 121.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 978090	(4.27, N/A) (N/A, 0.00, N/A)	3419.5	N/A	3.7170 [4.0000]	92.9% { 113.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 690199	(5.09, N/A) (N/A, 0.01, N/A)	2493.7	N/A	2.0728 [2.0000]	103.6% { 117.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 652060	(5.76, N/A) (N/A, 0.01, N/A)	2265.8	N/A	2.2419 [2.0000]	112.1% { 119.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 740809	(6.38, N/A) (N/A, 0.00, N/A)	16745.3	N/A	1.9885 [2.0000]	99.4% { 112.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 352878	(6.99, N/A) (N/A, 0.00, N/A)	3123.4	N/A	0.9753 [1.0000]	97.5% { 110.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 406921	(7.57, N/A) (N/A, -0.01, N/A)	11078.4	N/A	0.9741 [1.0000]	97.4% { 115.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (4)
 Acquired: 2023/04/14 - 15:08

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
13C7_PFUa_EIS	(570.0 / 525.0) 414961	(8.10, N/A) (N/A, 0.00, N/A)	2423.4	N/A	1.0701 [1.0000]	107.0% { 113.8% }			
13C2_PFDa_EIS	(615.0 / 570.0) 354312	(8.57, N/A) (N/A, 0.01, N/A)	1954.8	N/A	1.0672 [1.0000]	106.7% { 134.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 289073	(9.04, N/A) (N/A, 0.01, N/A)	1294.9	N/A	0.9233 [1.0000]	92.3% { 124.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1509552	(5.04, N/A) (N/A, 0.01, N/A)	3510.6	N/A	1.6769 [2.0000]	83.8% { 114.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1022440	(6.47, N/A) (N/A, 0.00, N/A)	2939.2	N/A	1.9345 [2.0000]	96.7% { 115.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2001234	(7.74, N/A) (N/A, -0.01, N/A)	3884.6	N/A	1.8557 [2.0000]	92.8% { 120.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 293320	(4.86, N/A) (N/A, 0.01, N/A)	1427.6	N/A	3.6176 [4.0000]	90.4% { 122.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 369067	(6.15, N/A) (N/A, 0.00, N/A)	1868.7	N/A	3.9882 [4.0000]	99.7% { 127.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 418745	(7.33, N/A) (N/A, 0.00, N/A)	3563.3	N/A	3.4179 [4.0000]	85.4% { 112.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2501724	(9.72, N/A) (N/A, 0.00, N/A)	4032.0	N/A	1.4290 [2.0000]	71.5% { 102.2% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 697891	(10.37, N/A) (N/A, 0.00, N/A)	2417.3	N/A	1.8682 [2.0000]	93.4% { 111.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (4)
 Acquired: 2023/04/14 - 15:08

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 669715	(10.54 , N/A) (N/A , 0.00 , N/A)	3264.6	N/A	2.1728 [2.0000]	108.6% { 119.6% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 750869	(7.71 , N/A) (N/A , -0.01 , N/A)	2101.8	N/A	3.2486 [4.0000]	81.2% { 115.2% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 624999	(7.97 , N/A) (N/A , 0.00 , N/A)	5306.8	N/A	3.2967 [4.0000]	82.4% { 112.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2429255	(10.30 , N/A) (N/A , 0.00 , N/A)	1814.7	N/A	19.5872 [20.0000]	97.9% { 111.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 3390063	(10.48 , N/A) (N/A , 0.00 , N/A)	1931.7	N/A	20.6811 [20.0000]	103.4% { 115.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1378925	(5.36 , N/A) (N/A , 0.01 , N/A)	2456.6	N/A	7.3406 [8.0000]	91.8% { 113.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01502-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (5)
 Acquired: 2023/04/14 - 15:21

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
PFOS	(499.0 / 80.0) 29967 (499.0 / 99.0) N/A	(7.36 , 0.95) (-0.39 , N/A , #Value!)	6.8	N/A 0.0 0.0	0.0266	N/A			
TDCA	(499.0 / 80.0) 8202132	(6.13 , 0.79) (N/A , #Value! , 0.0)	14849.0	N/A 0.0 0.0	8.4717	N/A			

R.T.PFOS – R.T.TDCA > 1 minute

7.36 - 6.13 = 1.23 Pass



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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) 23418 (363.0 / 169.0) 4452	(6.17, 1.00) (0.00, N/A, 0.1)	47.3 44.2	0.1901 68.6 69.0	0.0814	N/A			
PFOA	(413.0 / 369.0) 2915309 (413.0 / 169.0) 902567	(6.86, 1.00) (0.00, N/A, -0.1)	12715.2 8650.9	0.3096 103.7 105.6	8.0281	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.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOSA	(498.0 / 78.0) 6177629 (498.0 / 478.0) 161658	(8.89, 1.00) (-0.01, N/A, -0.2)	38991.4 642.0	0.0262 105.4 106.4	10.1503	N/A			
NMeFOSA	(512.0 / 219.0) 2001207 (512.0 / 169.0) 1541904	(9.85, 1.00) (0.00, N/A, 1.2)	40087977.5 9776.1	0.7705 102.9 100.7	8.7527	N/A			
NEtFOSA	(526.0 / 219.0) 2167774 (526.0 / 169.0) 2663468	(10.07, 1.00) (0.00, N/A, 1.7)	13171.7 8722.2	1.2287 105.1 100.7	8.3941	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	(616.0 / 59.0) 816149	(9.77, 1.00) (0.01, N/A, 0.0)	2938.9	N/A 0.0 0.0	9.4519	N/A			
NEtFOSE	(630.0 / 59.0) 891641	(9.99, 1.00) (0.01, N/A, 0.0)	2495.7	N/A 0.0 0.0	9.8416	N/A			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

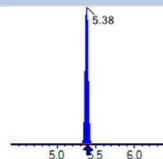
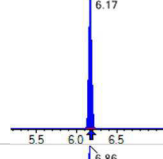
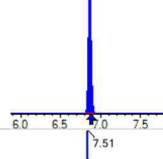
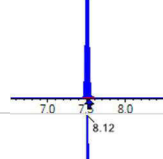
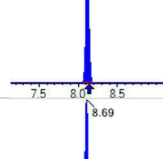
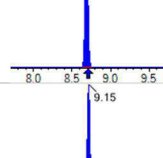
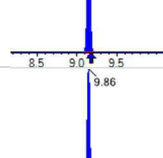
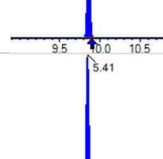
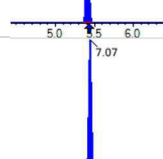
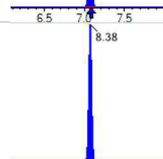
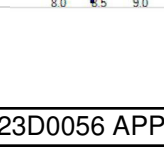


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 239133	(3.21, N/A) (N/A, -0.01, N/A)	545.0	N/A	1.1604 [1.0000]	116.0% { 123.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 178978	(5.38, N/A) (N/A, -0.02, N/A)	525.5	N/A	1.2345 [1.0000]	123.5% { 127.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 298694	(6.86, N/A) (N/A, -0.02, N/A)	487.1	N/A	1.0954 [1.0000]	109.5% { 108.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 292369	(7.51, N/A) (N/A, -0.02, N/A)	548.8	N/A	1.1680 [1.0000]	116.8% { 123.0% }			
13C2_PFDA_IIS	(515.0 / 470.1) 274711	(8.12, N/A) (N/A, -0.02, N/A)	342.1	N/A	1.1570 [1.0000]	115.7% { 113.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 431190	(7.07, N/A) (N/A, -0.02, N/A)	515.1	N/A	1.1291 [1.0000]	112.9% { 115.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 713552	(8.38, N/A) (N/A, -0.02, N/A)	661.5	N/A	1.4965 [1.0000]	149.7% { 121.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1963110	(3.21, N/A) (N/A, 0.00, N/A)	1173.4	N/A	7.6633 [8.0000]	95.8% { 121.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1297693	(4.44, N/A) (N/A, -0.01, N/A)	1149.7	N/A	3.6670 [4.0000]	91.7% { 116.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 712300	(5.38, N/A) (N/A, -0.01, N/A)	890.2	N/A	1.7775 [2.0000]	88.9% {119.7%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 541874	(6.17, N/A) (N/A, -0.01, N/A)	663.6	N/A	1.7132 [2.0000]	85.7% {122.3%}			
13C8_PFOA_EIS	(421.0 / 376.0) 727666	(6.86, N/A) (N/A, -0.02, N/A)	447.3	N/A	2.0472 [2.0000]	102.4% {116.5%}			
13C9_PFNA_EIS	(472.0 / 427.0) 272769	(7.51, N/A) (N/A, -0.02, N/A)	589.8	N/A	0.8987 [1.0000]	89.9% {114.4%}			
13C6_PFDA_EIS	(519.0 / 474.0) 314945	(8.12, N/A) (N/A, -0.02, N/A)	452.7	N/A	0.9663 [1.0000]	96.6% {114.2%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 302027	(8.69, N/A) (N/A, -0.02, N/A)	264.5	N/A	0.9632 [1.0000]	96.3% {119.6%}			
13C2_PFDoA_EIS	(615.0 / 570.0) 248546	(9.15, N/A) (N/A, -0.02, N/A)	948.6	N/A	0.9346 [1.0000]	93.5% {117.3%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 305451	(9.86, N/A) (N/A, -0.03, N/A)	459.8	N/A	0.9312 [1.0000]	93.1% {113.6%}			
13C3_PFBS_EIS	(302.0 / 80.0) 1658965	(5.41, N/A) (N/A, -0.01, N/A)	526.7	N/A	2.0222 [2.0000]	101.1% {115.5%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 661952	(7.07, N/A) (N/A, -0.02, N/A)	374.9	N/A	1.9137 [2.0000]	95.7% {108.9%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1684882	(8.38, N/A) (N/A, -0.02, N/A)	637.0	N/A	1.8905 [2.0000]	94.5% {118.8%}			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01534-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (4)
 Acquired: 2023/04/18 - 22:08

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 155241	(5.08, N/A) (N/A, -0.01, N/A)	608.4	N/A	3.9262 [4.0000]	98.2% { 111.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 184400	(6.56, N/A) (N/A, -0.01, N/A)	793.0	N/A	3.7595 [4.0000]	94.0% { 108.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 218713	(7.81, N/A) (N/A, -0.02, N/A)	378.7	N/A	3.9474 [4.0000]	98.7% { 127.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1457939	(8.90, N/A) (N/A, -0.01, N/A)	901.8	N/A	1.4575 [2.0000]	72.9% { 109.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 468631	(9.85, N/A) (N/A, 0.00, N/A)	458.8	N/A	1.5133 [2.0000]	75.7% { 114.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 479844	(10.07, N/A) (N/A, 0.00, N/A)	1029.0	N/A	1.5773 [2.0000]	78.9% { 121.7% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 524642	(8.07, N/A) (N/A, -0.02, N/A)	538.0	N/A	2.8191 [4.0000]	70.5% { 108.0% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 430376	(8.33, N/A) (N/A, -0.02, N/A)	145.2	N/A	2.8957 [4.0000]	72.4% { 109.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1514534	(9.76, N/A) (N/A, 0.00, N/A)	1101.6	N/A	15.4365 [20.0000]	77.2% { 123.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1786250	(9.98, N/A) (N/A, 0.00, N/A)	1282.4	N/A	14.6875 [20.0000]	73.4% { 114.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1543164	(5.71, N/A) (N/A, -0.01, N/A)	1166.9	N/A	7.4821 [8.0000]	93.5% { 122.7% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC01541-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-19A (5)
 Acquired: 2023/04/19 - 13:25

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
PFOS	(499.0 / 80.0) 34980 (499.0 / 99.0) 1542314	(7.94 , 0.95) (-0.42 , N/A , -24.9)	66.4	44.0910 19147.1 18151.3	0.0534	N/A			
TDCA	(499.0 / 80.0) 2365910	(6.38 , 0.76) (N/A , #Value! , 0.0)	36666.6	N/A 0.0 0.0	3.8591	N/A			

R.T.PFOS – R.T.TDCA > 1 minute

7.94 - 6.38 = 1.57 Pass

QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BLK1
Sampled:		Prepared:	04/10/23 08:18
Solids:		Preparation:	EPA 1633
Batch:	BCD0119	Sequence:	SC01502
Column:	1	Calibration:	2315014
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.30 U	0.40	0.30	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.30 U	0.40	0.30	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPEs	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.166 J	0.40	0.20	0.064	MI2, J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.30 U	0.40	0.30	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U	0.80	0.40	0.17	U

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BLK1
Sampled:		Prepared:	04/10/23 08:18
Solids:		Preparation:	EPA 1633
Batch:	BCD0119	Sequence:	SC01502
Column:	1	Calibration:	2315014
			Instrument: Saphira
			File ID: S2023-04-14A (7)
			Analyzed: 04/14/23 15:47
			Dilution: 1

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80 U	1.6	0.80	0.44	U
7:3FTCA	0.80 U	1.6	0.80	0.55	U



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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	(299.0 / 80.0) N/A (299.0 / 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			
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) 41435 (499.0 / 99.0) 6227	(7.75, 1.00) (0.00, N/A, 0.4)	79.0 15140.7	0.1503 67.2 65.3	0.0416	N/A			M12 ABK 4/16/23
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 164463	(3.43, N/A) (N/A, 0.06, N/A)	1442.8	N/A	1.3491 [1.0000]	134.9% { 130.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 248123	(5.12, N/A) (N/A, 0.03, N/A)	2665.5	N/A	1.2233 [1.0000]	122.3% { 124.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 402328	(6.40, N/A) (N/A, 0.02, N/A)	2727.4	N/A	1.2660 [1.0000]	126.6% { 121.5% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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
13C5_PFNA_IIS	(468.0 / 423.0) 386203	(7.01, N/A) (N/A, 0.02, N/A)	2651.1	N/A	1.2725 [1.0000]	127.3% { 120.4% }			
13C2_PFDA_IIS	(515.0 / 470.1) 399435	(7.58, N/A) (N/A, 0.01, N/A)	2556.9	N/A	1.2310 [1.0000]	123.1% { 121.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 597524	(6.48, N/A) (N/A, 0.02, N/A)	2846.9	N/A	1.3342 [1.0000]	133.4% { 122.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 888222	(7.75, N/A) (N/A, 0.00, N/A)	1942.9	N/A	1.3061 [1.0000]	130.6% { 125.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1245849	(3.43, N/A) (N/A, 0.06, N/A)	5709.7	N/A	7.1448 [8.0000]	89.3% { 114.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 982507	(4.33, N/A) (N/A, 0.07, N/A)	3316.3	N/A	3.5351 [4.0000]	88.4% { 114.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 622158	(5.12, N/A) (N/A, 0.03, N/A)	2582.7	N/A	1.7690 [2.0000]	88.5% { 106.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 593033	(5.78, N/A) (N/A, 0.02, N/A)	3083.4	N/A	1.9305 [2.0000]	96.5% { 108.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 708112	(6.40, N/A) (N/A, 0.02, N/A)	2614.5	N/A	1.7832 [2.0000]	89.2% { 107.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 307978	(7.02, N/A) (N/A, 0.02, N/A)	2191.7	N/A	0.8488 [1.0000]	84.9% { 96.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 343262	(7.58, N/A) (N/A, 0.01, N/A)	1696.2	N/A	0.7660 [1.0000]	76.6% { 97.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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
13C7_PFUa_EIS	(570.0 / 525.0) 345856	(8.11, N/A) (N/A, 0.01, N/A)	7067.6	N/A	0.8315 [1.0000]	83.1% { 94.9% }			
13C2_PFDa_EIS	(615.0 / 570.0) 285637	(8.57, N/A) (N/A, 0.01, N/A)	6249701.6	N/A	0.8020 [1.0000]	80.2% { 108.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 220721	(9.04, N/A) (N/A, 0.01, N/A)	1801.2	N/A	0.6572 [1.0000]	65.7% { 94.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1441085	(5.07, N/A) (N/A, 0.04, N/A)	2308.2	N/A	1.5362 [2.0000]	76.8% { 109.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 940537	(6.48, N/A) (N/A, 0.02, N/A)	2768.9	N/A	1.7077 [2.0000]	85.4% { 105.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1762313	(7.75, N/A) (N/A, 0.01, N/A)	3532.3	N/A	1.6377 [2.0000]	81.9% { 106.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 286075	(4.90, N/A) (N/A, 0.04, N/A)	1030.2	N/A	3.3858 [4.0000]	84.6% { 119.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 335126	(6.16, N/A) (N/A, 0.02, N/A)	1320.5	N/A	3.4752 [4.0000]	86.9% { 116.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 363222	(7.34, N/A) (N/A, 0.01, N/A)	1825.5	N/A	2.8451 [4.0000]	71.1% { 97.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2356186	(9.73, N/A) (N/A, 0.01, N/A)	3162.9	N/A	1.3488 [2.0000]	67.4% { 96.2% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 194933	(10.37, N/A) (N/A, 0.00, N/A)	1134.1	N/A	0.5229 [2.0000]	26.1% { 31.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (7)
 Acquired: 2023/04/14 - 15:47

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 137089	(10.55 , N/A) (N/A , 0.00 , N/A)	1141.0	N/A	0.4457 [2.0000]	22.3% { 24.5% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 644138	(7.72 , N/A) (N/A , 0.01 , N/A)	2072.6	N/A	2.7929 [4.0000]	69.8% { 98.9% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 498818	(7.97 , N/A) (N/A , 0.00 , N/A)	4349.0	N/A	2.6368 [4.0000]	65.9% { 90.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1147005	(10.31 , N/A) (N/A , 0.00 , N/A)	1177.0	N/A	9.2683 [20.0000]	46.3% { 52.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1690770	(10.48 , N/A) (N/A , 0.00 , N/A)	1296.6	N/A	10.3368 [20.0000]	51.7% { 57.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1278041	(5.37 , N/A) (N/A , 0.02 , N/A)	2187.2	N/A	6.4416 [8.0000]	80.5% { 105.4% }			

ANALYSIS DATA SHEET**LCS**

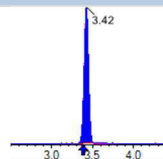
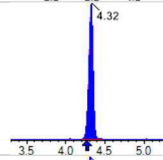
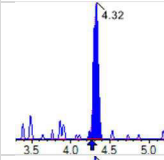
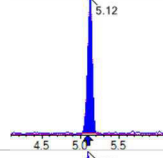
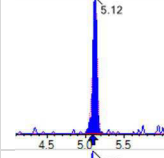
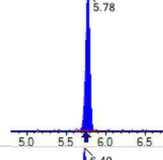
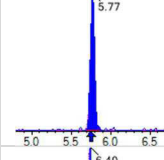
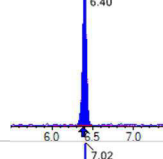
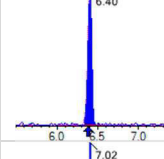
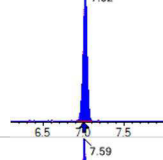
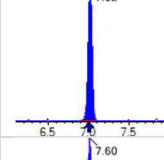
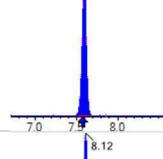
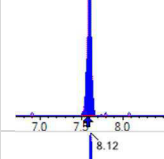
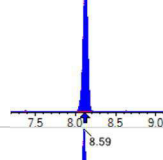
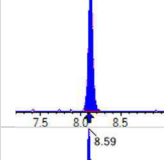
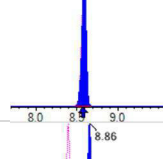
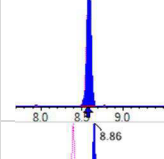
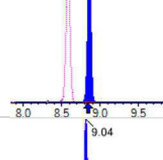
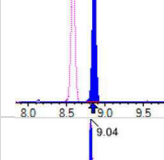
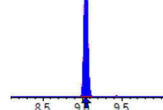
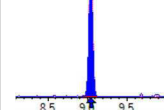
Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BS1
Sampled:		Prepared:	04/10/23 08:18
Solids:		Preparation:	EPA 1633
Batch:	BCD0119	Sequence:	SC01502
Column:	1	Calibration:	2315014
		Instrument:	Saphira
		File ID:	S2023-04-14A (8)
		Analyzed:	04/14/23 16:00
		Dilution:	1

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	16.2	1.6	0.21	
PFPEA	7.80	0.80	0.065	
PFHXA	4.00	0.40	0.055	
PFHPA	4.25	0.40	0.041	
PFOA	4.07	0.40	0.15	
PFNA	4.03	0.40	0.082	
PFDA	3.70	0.40	0.10	
PFUnA	3.66	0.40	0.16	
PFDOA	4.35	0.40	0.11	
PFTRDA	3.99	0.40	0.20	
PFTEDA	4.44	0.40	0.20	
PFBS	3.43	0.40	0.037	
PFPEs	3.83	0.40	0.063	
PFHXS	3.64	0.40	0.032	
PFHPS	4.01	0.40	0.051	
PFOS	3.74	0.40	0.064	
PFNS	3.55	0.40	0.12	
PFDS	3.21	0.40	0.15	
PFDOS	3.19	0.40	0.12	
4:2FTS	14.4	1.6	0.29	
6:2FTS	17.2	1.6	0.31	
8:2FTS	14.9	1.6	0.082	
PFOSA	4.73	0.40	0.10	
NMeFOSA	15.6	1.6	0.47	
NEtFOSA	15.4	1.6	0.41	
NMeFOSAA	3.67	0.40	0.11	
NEtFOSAA	3.58	0.40	0.11	
NMeFOSE	17.2	1.6	1.0	
NEtFOSE	15.7	1.6	1.0	
HFPO-DA	7.95	0.80	0.17	

ANALYSIS DATA SHEET**LCS**

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-BS1
Sampled:		File ID:	S2023-04-14A (8)
Solids:		Prepared:	04/10/23 08:18
Batch:	BCD0119	Analyzed:	04/14/23 16:00
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Sequence:	SC01502
		Calibration:	2315014
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	8.44	0.80	0.12	
PFEESA	6.95	0.80	0.11	
PFMPA	8.79	0.80	0.054	
PFMBA	7.79	0.80	0.091	
NFDHA	7.68	0.80	0.30	
9CL-PF3ONS	7.99	0.80	0.21	
11CL-PF3OUDS	7.13	0.80	0.21	
3:3FTCA	16.1	1.6	0.57	
5:3FTCA	14.8	1.6	0.44	
7:3FTCA	15.5	1.6	0.55	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(213.0 / 169.0) 556042	(3.42, 1.00) (0.00, N/A, 0.0)	275.3	N/A 0.0 0.0	4.0561 [4.0000]	101.4%			
PFPeA	(263.0 / 219.0) 485611 (263.0 / 69.0) 5073	(4.32, 1.00) (0.00, N/A, 0.3)	1252.1 85.9	0.0104 79.6 89.2	1.9496 [2.0000]	97.5%			
PFHxA	(313.0 / 269.0) 311542 (313.0 / 119.0) 27212	(5.12, 1.00) (0.00, N/A, 0.1)	443.6 407.0	0.0873 80.0 89.7	0.9992 [1.0000]	99.9%			
PFHpA	(363.0 / 319.0) 278841 (363.0 / 169.0) 79165	(5.78, 1.00) (0.00, N/A, 0.2)	946.3 1697.7	0.2839 93.0 91.2	1.0635 [1.0000]	106.4%			
PFOA	(413.0 / 369.0) 356444 (413.0 / 169.0) 105224	(6.40, 1.00) (0.00, N/A, -0.3)	747.1 701.5	0.2952 94.3 94.3	1.0163 [1.0000]	101.6%			
PFNA	(463.0 / 419.0) 318113 (463.0 / 169.0) 60170	(7.02, 1.00) (0.00, N/A, 0.0)	2865.4 26412.0	0.1891 88.6 91.7	1.0065 [1.0000]	100.6%			
PFDA	(513.0 / 469.0) 340617 (513.0 / 169.0) 38785	(7.59, 1.00) (0.00, N/A, -0.4)	816.9 2065.4	0.1139 99.3 102.1	0.9261 [1.0000]	92.6%			
PFUnA	(563.0 / 519.0) 324860 (563.0 / 169.0) 34021	(8.12, 1.00) (0.00, N/A, 0.3)	1122.1 662.2	0.1047 88.6 92.0	0.9151 [1.0000]	91.5%			
PFDoA	(613.0 / 569.0) 304922 (613.0 / 169.0) 47985	(8.59, 1.00) (0.00, N/A, 0.1)	1074.4 3335.1	0.1574 91.8 106.5	1.0883 [1.0000]	108.8%			
PFTTrDA	(663.0 / 619.0) 254734 (663.0 / 169.0) 53301	(8.86, 1.03) (N/A, 0.02, 0.2)	1166.7 4531.5	0.2092 84.4 80.5	0.9978 [1.0000]	99.8%			
PFTeDA	(713.0 / 669.0) 252270 (713.0 / 169.0) 49560	(9.04, 1.00) (0.00, N/A, 0.1)	1333.3 618.5	0.1965 97.5 98.8	1.1102 [1.0000]	111.0%			

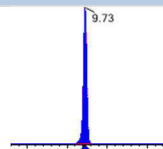
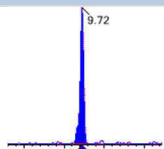
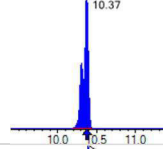
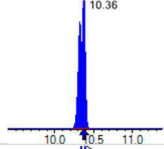
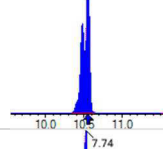
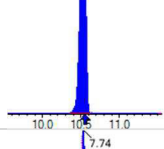
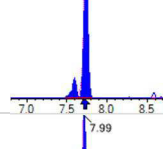
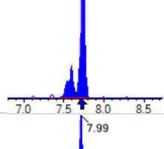
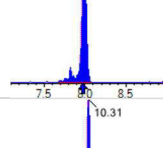
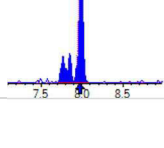
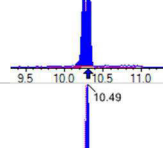
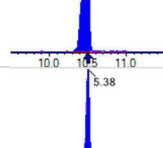
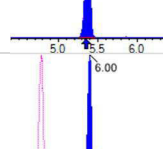
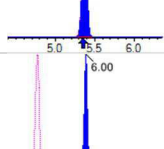
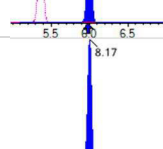
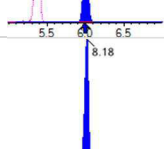
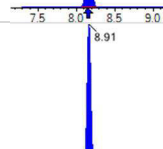
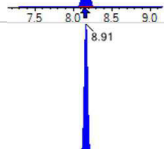
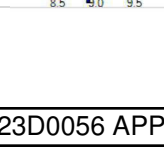
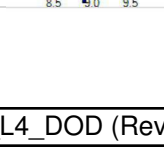


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (8)
 Acquired: 2023/04/14 - 16:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 462918 (299.0 / 99.0) 308850	(5.08, 1.00) (0.00, N/A, 0.0)	13670.3 2382.6	0.6672 103.8 100.7	0.8563 [0.8847]	96.8%			
PFPeS	(349.0 / 80.0) 826534 (349.0 / 99.0) 284008	(5.79, 0.89) (N/A, 0.02, -0.1)	4263.3 3251.6	0.3428 101.1 98.6	0.9575 [0.9384]	102.0%			
PFHxS	(399.0 / 80.0) 671414 (399.0 / 99.0) 243791	(6.48, 1.00) (0.00, N/A, 0.1)	8266459.4 4417217.0	0.3631 104.8 105.3	0.9106 [0.9110]	100.0%			
PFHpS	(449.0 / 80.0) 786383 (449.0 / 99.0) 218671	(7.15, 0.92) (N/A, 0.02, 0.1)	17818546.4 52037.0	0.2781 100.2 100.5	1.0033 [0.9514]	105.5%			
PFOS	(499.0 / 80.0) 1027471 (499.0 / 99.0) 221544	(7.76, 1.00) (0.00, N/A, 0.0)	747.7 1672.2	0.2156 96.4 93.6	0.9341 [0.9275]	100.7%			
PFNS	(549.0 / 80.0) 912718 (549.0 / 99.0) 223983	(8.31, 1.07) (N/A, 0.02, 0.0)	94578.7 416365.5	0.2454 101.4 101.1	0.8879 [0.9599]	92.5%			
PFDS	(599.0 / 80.0) 933375 (599.0 / 99.0) 219661	(8.72, 1.12) (N/A, 0.02, 0.1)	7802.6 1928.9	0.2353 105.0 105.1	0.8032 [0.9631]	83.4%			
PFDoS	(699.0 / 80.0) 712029 (699.0 / 99.0) 153493	(9.12, 1.18) (N/A, 0.01, -0.1)	2519.1 1127.6	0.2156 90.1 100.0	0.7965 [0.9696]	82.2%			
4:2FTS	(327.0 / 307.0) 764034 (327.0 / 81.0) 471569	(4.90, 1.00) (0.00, N/A, 0.1)	2364.8 659.0	0.6172 90.8 100.0	3.6045 [3.7381]	96.4%			
6:2FTS	(427.0 / 407.0) 625104 (427.0 / 81.0) 460284	(6.16, 1.00) (0.00, N/A, 0.1)	1161.1 1311.6	0.7363 104.6 102.0	4.2933 [3.7962]	113.1%			
8:2FTS	(527.0 / 507.0) 561019 (527.0 / 81.0) 405881	(7.35, 1.00) (0.00, N/A, 0.0)	2118.4 1050.0	0.7235 107.1 95.9	3.7262 [3.8332]	97.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 1314135 (498.0 / 478.0) 31471	(9.73, 1.00) (0.00, N/A, 0.1)	3016.8 285.3	0.0239 96.7 107.9	1.1830 [1.0000]	118.3%			
NMeFOFA	(512.0 / 219.0) 450565 (512.0 / 169.0) 397505	(10.37, 1.00) (0.00, N/A, 1.0)	2709.6 1706.0	0.8822 101.7 104.5	3.9075 [4.0000]	97.7%			
NEIFOSA	(526.0 / 219.0) 491368 (526.0 / 169.0) 626679	(10.54, 1.00) (-0.01, N/A, 0.8)	1882.8 2550.8	1.2754 102.0 102.4	3.8621 [4.0000]	96.6%			
NMeFOSAA	(570.0 / 419.0) 139497 (570.0 / 483.0) 67569	(7.74, 1.00) (0.00, N/A, -0.2)	17287.6 243.4	0.4844 104.6 90.9	0.9175 [1.0000]	91.8%			
NEIFOSAA	(584.0 / 419.0) 110010 (584.0 / 526.0) 61898	(7.99, 1.00) (0.01, N/A, 0.2)	26718.8 460.2	0.5627 92.2 98.2	0.8946 [1.0000]	89.5%			
NMeFOSE	(616.0 / 59.0) 261588	(10.31, 1.00) (0.01, N/A, 0.0)	459.1	N/A 0.0 0.0	4.2970 [4.0000]	107.4%			
NEtFOSE	(630.0 / 59.0) 506530	(10.49, 1.00) (0.01, N/A, 0.0)	692.3	N/A 0.0 0.0	3.9166 [4.0000]	97.9%			
HFPO-DA	(285.0 / 169.0) 285520 (285.0 / 185.0) 774782	(5.38, 1.00) (0.00, N/A, 0.1)	1588.7 2096.1	2.7136 104.3 104.3	1.9874 [2.0000]	99.4%			
ADONA	(377.0 / 85.0) 1083323 (377.0 / 251.0) 108365	(6.00, 1.12) (N/A, 0.02, 0.1)	2957.2 24441.6	0.1000 100.8 98.5	2.1104 [1.8854]	111.9%			
9CI-Pf3ONS	(531.0 / 351.0) 3086308 (533.0 / 353.0) 938512	(8.17, 1.52) (N/A, 0.02, -0.1)	3465.6 1647.2	0.3041 104.7 93.3	1.9970 [1.8665]	107.0%			
11CI-PF3OUDS	(631.0 / 451.0) 1627512 (633.0 / 453.0) 590366	(8.91, 1.66) (N/A, 0.01, 0.0)	3943.4 3508.5	0.3627 108.2 107.2	1.7816 [1.8864]	94.4%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (8)
 Acquired: 2023/04/14 - 16:00

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
3:3FTCA	(241.0 / 177.0) 36687 (241.0 / 117.0) 58086	(4.08, 0.94) (N/A, 0.10, 0.1)	47.5 34.1	1.5833 95.9 98.1	4.0196 [4.0000]	100.5%			
5:3FTCA	(341.0 / 236.7) 181713 (341.0 / 217.0) 335711	(5.59, 1.09) (N/A, 0.04, 0.2)	1018.1 600.8	1.8475 117.8 111.9	3.7079 [4.0000]	92.7%			
7:3FTCA	(441.0 / 317.0) 333117 (441.0 / 337.0) 285176	(6.98, 1.36) (N/A, 0.01, -0.3)	693.9 1021.8	0.8561 99.4 101.2	3.8816 [4.0000]	97.0%			
PFEESA	(315.0 / 135.0) 681715 (315.0 / 83.0) 164625	(5.43, 1.06) (N/A, 0.03, 0.1)	3072.3 386.8	0.2415 99.0 99.7	1.7381 [1.7849]	97.4%			
PFMPA	(229.0 / 85.0) 116530	(3.78, 0.88) (N/A, 0.06, 0.0)	2771.2	N/A 0.0 0.0	2.1969 [2.0000]	109.8%			
PFMBA	(279.0 / 85.0) 378126	(4.59, 1.06) (N/A, 0.06, 0.0)	2388.2	N/A 0.0 0.0	1.9469 [2.0000]	97.3%			
NFDHA	(295.0 / 201.0) 306032 (295.0 / 85.0) 302372	(5.04, 0.98) (N/A, 0.04, 0.0)	2769.6 1507.2	0.9880 100.9 103.4	1.9202 [2.0000]	96.0%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [1.0000]	N/A%			BS2,
13C3_PFBA_IIS	(216.0 / 172.0) 152522	(3.42, N/A) (N/A, 0.05, N/A)	1713.0	N/A	1.2511 [1.0000]	125.1% {120.9%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 234217	(5.12, N/A) (N/A, 0.04, N/A)	1458.2	N/A	1.1548 [1.0000]	115.5% {117.3%}			
13C4_PFOA_IIS	(417.0 / 372.0) 377568	(6.40, N/A) (N/A, 0.02, N/A)	1646.9	N/A	1.1881 [1.0000]	118.8% {114.0%}			

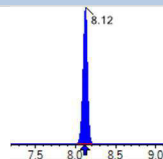
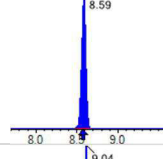
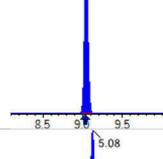
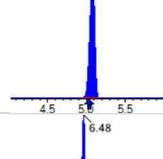
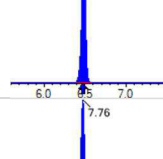
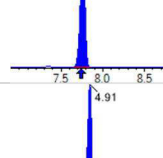
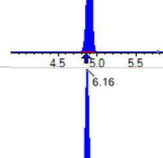
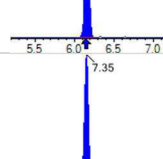
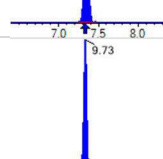
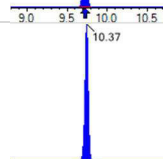
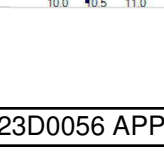


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (8)
 Acquired: 2023/04/14 - 16:00

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
13C5_PFNA_IIS	(468.0 / 423.0) 375620	(7.02, N/A) (N/A, 0.02, N/A)	49365.8	N/A	1.2376 [1.0000]	123.8% { 117.1% }			
13C2_PFDA_IIS	(515.0 / 470.1) 354398	(7.59, N/A) (N/A, 0.02, N/A)	2738.8	N/A	1.0922 [1.0000]	109.2% { 107.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 535092	(6.48, N/A) (N/A, 0.02, N/A)	3629.0	N/A	1.1948 [1.0000]	119.5% { 109.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 902475	(7.76, N/A) (N/A, 0.02, N/A)	1715.1	N/A	1.3270 [1.0000]	132.7% { 127.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1255070	(3.42, N/A) (N/A, 0.05, N/A)	4817.5	N/A	7.7612 [8.0000]	97.0% { 115.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1036757	(4.32, N/A) (N/A, 0.06, N/A)	4046.4	N/A	3.9518 [4.0000]	98.8% { 120.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 646459	(5.12, N/A) (N/A, 0.04, N/A)	1913.5	N/A	1.9473 [2.0000]	97.4% { 110.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 608328	(5.77, N/A) (N/A, 0.02, N/A)	2536.0	N/A	2.0979 [2.0000]	104.9% { 111.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 743922	(6.40, N/A) (N/A, 0.02, N/A)	3633.8	N/A	1.9962 [2.0000]	99.8% { 112.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 342661	(7.02, N/A) (N/A, 0.02, N/A)	13282.6	N/A	0.9710 [1.0000]	97.1% { 107.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 391287	(7.60, N/A) (N/A, 0.02, N/A)	10377.2	N/A	0.9842 [1.0000]	98.4% { 111.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 403486	(8.12, N/A) (N/A, 0.02, N/A)	3248.5	N/A	1.0933 [1.0000]	109.3% { 110.7% }			
13C2_PFDa_EIS	(615.0 / 570.0) 308929	(8.59, N/A) (N/A, 0.02, N/A)	1969.9	N/A	0.9776 [1.0000]	97.8% { 117.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 247940	(9.04, N/A) (N/A, 0.01, N/A)	2198.7	N/A	0.8321 [1.0000]	83.2% { 106.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1515878	(5.08, N/A) (N/A, 0.05, N/A)	3495.1	N/A	1.8044 [2.0000]	90.2% { 114.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 937949	(6.48, N/A) (N/A, 0.02, N/A)	1555.7	N/A	1.9017 [2.0000]	95.1% { 105.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1944048	(7.76, N/A) (N/A, 0.02, N/A)	2496.9	N/A	1.7781 [2.0000]	88.9% { 117.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 285525	(4.91, N/A) (N/A, 0.05, N/A)	924.7	N/A	3.7736 [4.0000]	94.3% { 119.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 340322	(6.16, N/A) (N/A, 0.02, N/A)	1229.4	N/A	3.9408 [4.0000]	98.5% { 117.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 426856	(7.35, N/A) (N/A, 0.02, N/A)	1688.8	N/A	3.7336 [4.0000]	93.3% { 114.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2535744	(9.73, N/A) (N/A, 0.01, N/A)	3156.8	N/A	1.4286 [2.0000]	71.4% { 103.6% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 277936	(10.37, N/A) (N/A, 0.00, N/A)	1635.8	N/A	0.7338 [2.0000]	36.7% { 44.3% }			



Chemist: HGH
Instrument: Saphira

Sample I.D.: BCD0119-BS1

DF, IV: 1, 10.0µL

Quant Method: 1633 - S2023-04-12A

Path: S2023-04-14A (8)

Type: Sciex Q3 5500

Acquisition Method: 1633 2023-03-28.dam

Acquired: 2023/04/14 - 16:00

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 242211	(10.55 , N/A) (N/A , 0.00 , N/A)	1588.7	N/A	0.7751 [2.0000]	38.8% { 43.3% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 715469	(7.73 , N/A) (N/A , 0.02 , N/A)	1818.8	N/A	3.0531 [4.0000]	76.3% { 109.8% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 556084	(7.98 , N/A) (N/A , 0.02 , N/A)	20366.8	N/A	2.8931 [4.0000]	72.3% { 100.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1115210	(10.31 , N/A) (N/A , 0.00 , N/A)	978.5	N/A	8.8691 [20.0000]	44.3% { 51.3% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2626493	(10.48 , N/A) (N/A , 0.00 , N/A)	1684.4	N/A	15.8039 [20.0000]	79.0% { 89.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1360979	(5.37 , N/A) (N/A , 0.02 , N/A)	3264.4	N/A	7.2669 [8.0000]	90.8% { 112.2% }			

ANALYSIS DATA SHEET

MRL Check

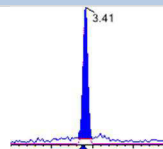
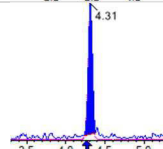
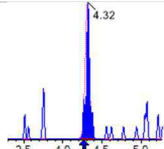
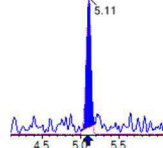
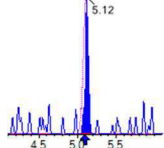
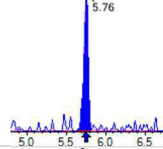
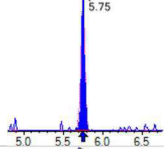
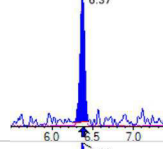
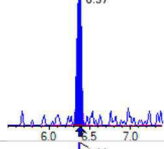
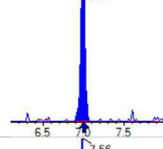
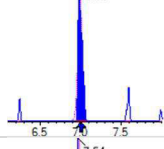
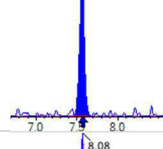
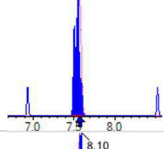
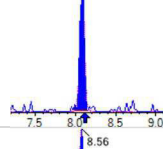
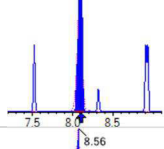
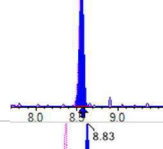
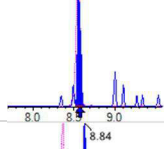
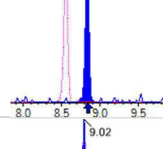
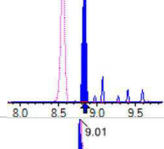
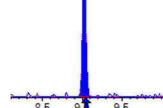
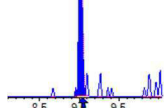
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0119-MRL1
Sampled:		File ID:	S2023-04-14A (9)
Solids:		Prepared:	04/10/23 08:18
Batch:	BCD0119	Analyzed:	04/14/23 16:12
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2315014
		Instrument:	Saphira
		Sequence:	SC01502

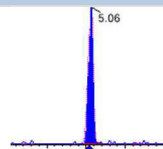
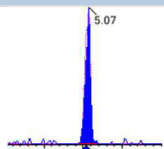
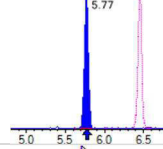
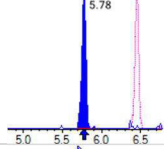
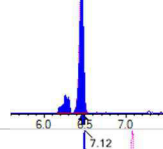
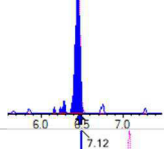
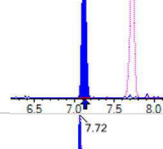
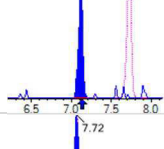
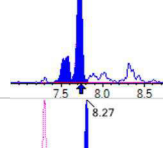
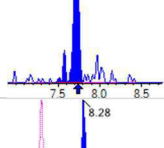
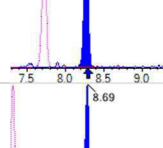
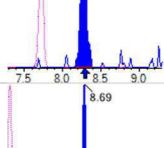
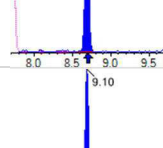
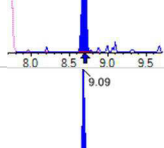
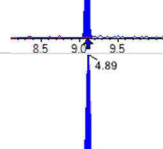
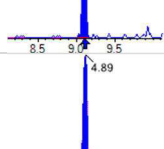
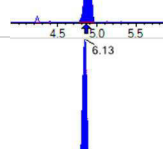
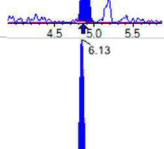
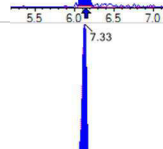
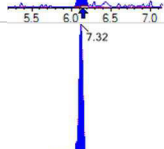
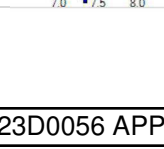
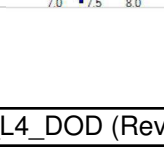
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.42	1.6	0.21	J
PFPEA	0.746	0.80	0.065	J
PFHXA	0.462	0.40	0.055	
PFHPA	0.483	0.40	0.041	IR2
PFOA	0.523	0.40	0.15	
PFNA	0.440	0.40	0.082	
PFDA	0.477	0.40	0.10	IR1
PFUnA	0.306	0.40	0.16	J
PFDOA	0.412	0.40	0.11	
PFTRDA	0.365	0.40	0.20	J
PFTEDA	0.406	0.40	0.20	
PFBS	0.309	0.40	0.037	J
PFPEs	0.330	0.40	0.063	J
PFHXS	0.384	0.40	0.032	J
PFHPS	0.353	0.40	0.051	J
PFOS	0.450	0.40	0.064	MI2
PFNS	0.340	0.40	0.12	J
PFDS	0.324	0.40	0.15	J
PFDOS	0.282	0.40	0.12	J
4:2FTS	1.36	1.6	0.29	J
6:2FTS	2.39	1.6	0.31	
8:2FTS	1.41	1.6	0.082	J
PFOSA	0.498	0.40	0.10	
NMeFOSA	1.53	1.6	0.47	J
NEtFOSA	1.40	1.6	0.41	J
NMeFOSAA	0.322	0.40	0.11	J
NEtFOSAA	0.348	0.40	0.11	J
NMeFOSE	1.42	1.6	1.0	J
NEtFOSE	1.34	1.6	1.0	J
HFPO-DA	0.742	0.80	0.17	J

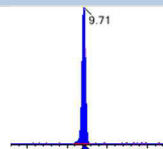
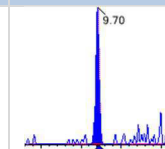
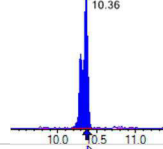
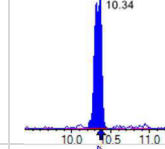
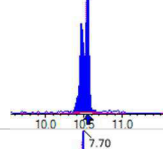
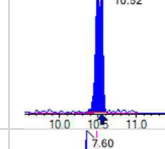
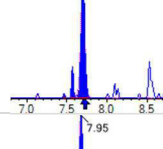
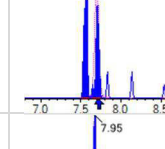
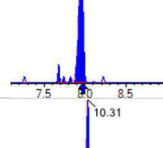
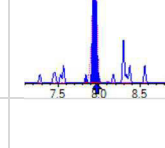
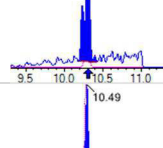
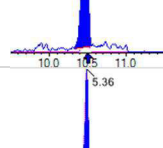
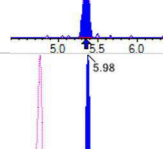
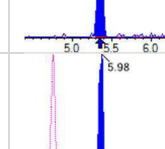
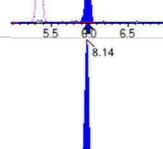
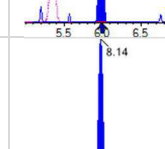
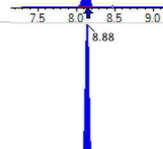
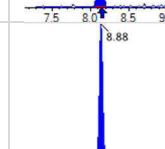
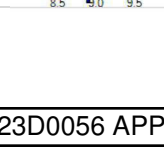
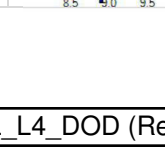
ANALYSIS DATA SHEET**MRL Check**

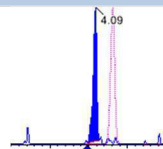
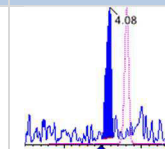
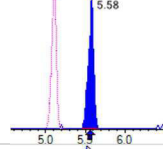
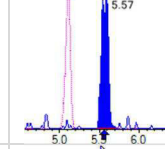
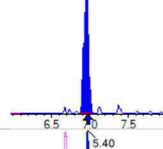
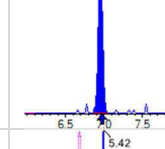
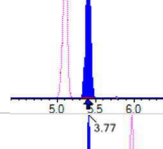
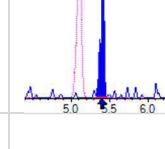
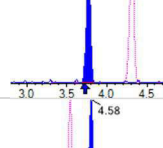
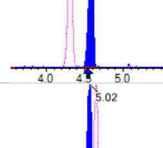
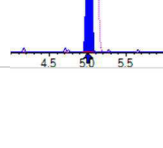
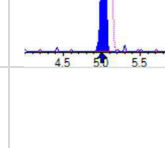
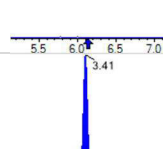
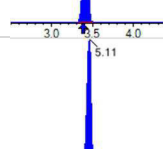
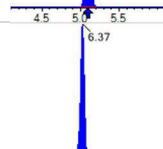
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Matrix:	Water	Laboratory ID:	BCD0119-MRL1
Sampled:		File ID:	S2023-04-14A (9)
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Batch:	BCD0119	Analyzed:	04/14/23 16:12
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		Instrument:	Saphira
		Sequence:	SC01502

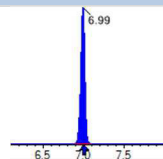
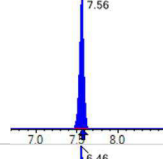
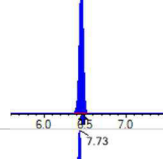
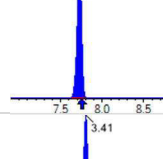
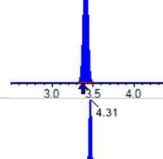
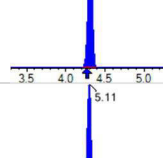
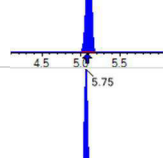
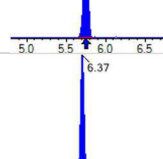
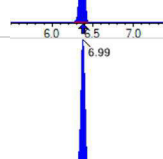
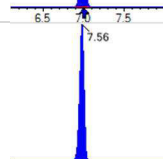

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.761	0.80	0.12	J
PFEESA	0.581	0.80	0.11	J
PFMPA	0.802	0.80	0.054	
PFMBA	0.860	0.80	0.091	
NFDHA	0.650	0.80	0.30	J
9CL-PF3ONS	0.615	0.80	0.21	J
11CL-PF3OUDS	0.703	0.80	0.21	J
3:3FTCA	1.39	1.6	0.57	J
5:3FTCA	1.63	1.6	0.44	
7:3FTCA	1.61	1.6	0.55	

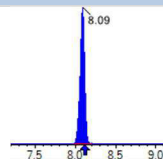
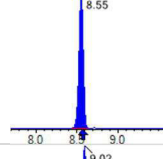
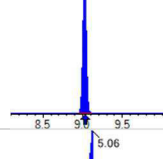
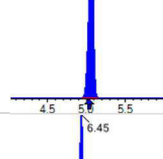
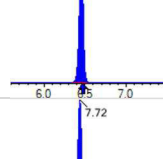
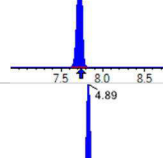
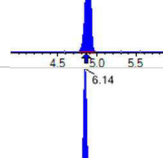
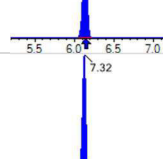
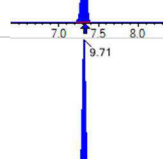
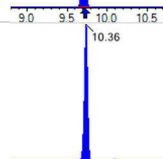
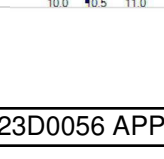
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 53111	(3.41, 1.00) (0.00, N/A, 0.0)	97.4	N/A 0.0 0.0	0.3547 [0.4000]	88.7%			
PFPeA	(263.0 / 219.0) 47940 (263.0 / 69.0) 1342	(4.31, 1.00) (0.00, N/A, -0.5)	28.5 49.6	0.0280 213.2 239.1	0.1865 [0.2000]	93.3%			
PFHxA	(313.0 / 269.0) 37714 (313.0 / 119.0) 4904	(5.11, 1.00) (0.00, N/A, -0.8)	16.6 191.3	0.1300 119.2 133.5	0.1155 [0.1000]	115.5%			
PFHpA	(363.0 / 319.0) 31699 (363.0 / 169.0) 16698	(5.76, 1.00) (0.00, N/A, 0.3)	126.6 46721.9	0.5268 172.5 169.2	0.1207 [0.1000]	120.7%			IR2,
PFOA	(413.0 / 369.0) 45216 (413.0 / 169.0) 14310	(6.37, 1.00) (0.00, N/A, 0.1)	15.7 12.7	0.3165 101.1 101.1	0.1308 [0.1000]	130.8%			
PFNA	(463.0 / 419.0) 32752 (463.0 / 169.0) 5697	(6.99, 1.00) (0.00, N/A, 0.1)	1568.7 304637.0	0.1740 81.5 84.4	0.1100 [0.1000]	110.0%			
PFDA	(513.0 / 469.0) 44033 (513.0 / 169.0) 2182	(7.56, 1.00) (0.00, N/A, 1.3)	109.7 256404.1	0.0495 43.2 44.4	0.1193 [0.1000]	119.3%			IR1,
PFUnA	(563.0 / 519.0) 26500 (563.0 / 169.0) 2936	(8.08, 1.00) (0.00, N/A, -0.7)	105.8 1597.9	0.1108 93.7 97.3	0.0766 [0.1000]	76.6%			
PFDoA	(613.0 / 569.0) 31326 (613.0 / 169.0) 3638	(8.56, 1.00) (0.01, N/A, 0.0)	251.5 126.1	0.1161 67.8 78.6	0.1029 [0.1000]	102.9%			
PFTrDA	(663.0 / 619.0) 25319 (663.0 / 169.0) 6774	(8.83, 1.03) (N/A, -0.01, -0.2)	187.1 432.1	0.2675 108.0 102.9	0.0913 [0.1000]	91.3%			
PFTeDA	(713.0 / 669.0) 27058 (713.0 / 169.0) 4473	(9.02, 1.00) (0.00, N/A, 0.6)	219.2 85.8	0.1653 82.0 83.1	0.1015 [0.1000]	101.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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	(299.0 / 80.0) 40899 (299.0 / 99.0) 32092	(5.06, 1.00) (0.00, N/A, -0.2)	739.2 546.9	0.7846 122.0 118.4	0.0773 [0.0885]	87.4%			
PFPeS	(349.0 / 80.0) 77667 (349.0 / 99.0) 25697	(5.77, 0.89) (N/A, 0.00, -0.5)	227423.6 9208.0	0.3309 97.6 95.2	0.0825 [0.0938]	87.9%			
PFHxS	(399.0 / 80.0) 77089 (399.0 / 99.0) 25203	(6.46, 1.00) (0.00, N/A, 0.6)	93078.4 60991.1	0.3269 94.4 94.8	0.0961 [0.0911]	105.5%			
PFHpS	(449.0 / 80.0) 68722 (449.0 / 99.0) 14636	(7.12, 0.92) (N/A, -0.01, 0.1)	879.7 1102.7	0.2130 76.8 76.9	0.0883 [0.0951]	92.8%			
PFOS	(499.0 / 80.0) 122916 (499.0 / 99.0) 22173	(7.72, 1.00) (0.00, N/A, 0.1)	177.5 214.7	0.1804 80.6 78.3	0.1125 [0.0927]	121.3%			M12 ABK 4/16/23
PFNS	(549.0 / 80.0) 86745 (549.0 / 99.0) 19222	(8.27, 1.07) (N/A, -0.01, -0.3)	1666.1 767519.8	0.2216 91.6 91.3	0.0849 [0.0960]	88.5%			
PFDS	(599.0 / 80.0) 93464 (599.0 / 99.0) 21953	(8.69, 1.13) (N/A, -0.01, -0.1)	566.9 9740.4	0.2349 104.8 104.9	0.0810 [0.0963]	84.1%			
PFDoS	(699.0 / 80.0) 62500 (699.0 / 99.0) 16882	(9.10, 1.18) (N/A, -0.01, 0.4)	344.8 204.3	0.2701 112.9 125.3	0.0704 [0.0970]	72.6%			
4:2FTS	(327.0 / 307.0) 78774 (327.0 / 81.0) 40922	(4.89, 1.00) (0.00, N/A, 0.0)	829.1 96.6	0.5195 76.4 84.2	0.3410 [0.3738]	91.2%			
6:2FTS	(427.0 / 407.0) 95113 (427.0 / 81.0) 77511	(6.13, 1.00) (-0.01, N/A, 0.0)	197.0 186.7	0.8149 115.7 112.9	0.5965 [0.3796]	157.1%			
8:2FTS	(527.0 / 507.0) 51314 (527.0 / 81.0) 41311	(7.33, 1.00) (0.00, N/A, 0.5)	7485.1 217.8	0.8051 119.1 106.7	0.3534 [0.3833]	92.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 140629 (498.0 / 478.0) 3718	(9.71, 1.00) (0.00, N/A, 0.3)	643.8 46.8	0.0264 106.8 119.1	0.1246 [0.1000]	124.6%			
NMeFOSA	(512.0 / 219.0) 40575 (512.0 / 169.0) 33134	(10.36, 1.00) (0.00, N/A, 1.2)	524.7 279.7	0.8166 94.1 96.7	0.3828 [0.4000]	95.7%			
NEIFOSA	(526.0 / 219.0) 40120 (526.0 / 169.0) 49490	(10.53, 1.00) (-0.01, N/A, 0.7)	324.9 304.8	1.2336 98.7 99.0	0.3509 [0.4000]	87.7%			
NMeFOSAA	(570.0 / 419.0) 12995 (570.0 / 483.0) 6067	(7.70, 1.00) (0.00, N/A, 6.2)	628080.7 2025.0	0.4669 100.8 87.6	0.0804 [0.1000]	80.4%			
NEIFOSAA	(584.0 / 419.0) 11115 (584.0 / 526.0) 6067	(7.95, 1.00) (0.01, N/A, 0.3)	4977.1 2174.0	0.5458 89.4 95.2	0.0869 [0.1000]	86.9%			
NMeFOSE	(616.0 / 59.0) 30914	(10.31, 1.00) (0.01, N/A, 0.0)	95.9	N/A 0.0 0.0	0.3540 [0.4000]	88.5%			
NEtFOSE	(630.0 / 59.0) 40643	(10.49, 1.00) (0.01, N/A, 0.0)	114.3	N/A 0.0 0.0	0.3359 [0.4000]	84.0%			
HFPO-DA	(285.0 / 169.0) 28770 (285.0 / 185.0) 76765	(5.36, 1.00) (0.00, N/A, 0.3)	410.1 220.1	2.6683 102.6 102.6	0.1856 [0.2000]	92.8%			
ADONA	(377.0 / 85.0) 105331 (377.0 / 251.0) 9290	(5.98, 1.12) (N/A, -0.01, 0.0)	655.6 724.1	0.0882 88.9 86.8	0.1902 [0.1885]	100.9%			
9CI-Pf3ONS	(531.0 / 351.0) 256169 (533.0 / 353.0) 86736	(8.14, 1.52) (N/A, -0.02, 0.1)	899.0 288.6	0.3386 116.6 103.9	0.1536 [0.1867]	82.3%			
11CI-PF3OUDS	(631.0 / 451.0) 173228 (633.0 / 453.0) 56702	(8.88, 1.66) (N/A, -0.01, 0.1)	1388.3 595.2	0.3273 97.7 96.7	0.1758 [0.1886]	93.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	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) 3269 (241.0 / 117.0) 4780	(4.09, 0.95) (N/A, 0.10, 0.1)	21.1 10.9	1.4623 88.6 90.6	0.3471 [0.4000]	86.8%			
5:3FTCA	(341.0 / 236.7) 20859 (341.0 / 217.0) 36453	(5.58, 1.09) (N/A, 0.02, 0.3)	1647.7 123.5	1.7476 111.4 105.8	0.4065 [0.4000]	101.6%			
7:3FTCA	(441.0 / 317.0) 36206 (441.0 / 337.0) 25224	(6.95, 1.36) (N/A, -0.02, 0.0)	224.7 315.3	0.6967 80.9 82.3	0.4029 [0.4000]	100.7%			
PFEESA	(315.0 / 135.0) 59626 (315.0 / 83.0) 16969	(5.40, 1.06) (N/A, 0.01, -0.8)	308.1 88.0	0.2846 116.6 117.4	0.1452 [0.1785]	81.3%			
PFMPA	(229.0 / 85.0) 10968	(3.77, 0.87) (N/A, 0.05, 0.0)	466.0	N/A 0.0 0.0	0.2004 [0.2000]	100.2%			
PFMBA	(279.0 / 85.0) 43108	(4.58, 1.06) (N/A, 0.05, 0.0)	981.0	N/A 0.0 0.0	0.2151 [0.2000]	107.6%			
NFDHA	(295.0 / 201.0) 27117 (295.0 / 85.0) 28540	(5.02, 0.98) (N/A, 0.02, 0.0)	1758.5 279.1	1.0525 107.5 110.2	0.1625 [0.2000]	81.2%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.1000]	N/A%			BS2,
13C3_PFBA_IIS	(216.0 / 172.0) 162943	(3.41, N/A) (N/A, 0.04, N/A)	1582.1	N/A	1.3366 [1.0000]	133.7% {129.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 241922	(5.11, N/A) (N/A, 0.02, N/A)	8919.8	N/A	1.1928 [1.0000]	119.3% {121.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 395006	(6.37, N/A) (N/A, -0.01, N/A)	5882.3	N/A	1.2430 [1.0000]	124.3% {119.3%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFNA_IIS	(468.0 / 423.0) 397437	(6.99, N/A) (N/A, -0.01, N/A)	2949.5	N/A	1.3095 [1.0000]	131.0% { 123.9% }			
13C2_PFDA_IIS	(515.0 / 470.1) 387011	(7.56, N/A) (N/A, -0.02, N/A)	2903.6	N/A	1.1927 [1.0000]	119.3% { 117.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 579629	(6.46, N/A) (N/A, -0.01, N/A)	4302.6	N/A	1.2942 [1.0000]	129.4% { 118.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 900376	(7.73, N/A) (N/A, -0.02, N/A)	1353.8	N/A	1.3239 [1.0000]	132.4% { 126.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1370829	(3.41, N/A) (N/A, 0.04, N/A)	5397.9	N/A	7.9349 [8.0000]	99.2% { 126.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1069694	(4.31, N/A) (N/A, 0.05, N/A)	4390.4	N/A	3.9475 [4.0000]	98.7% { 124.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 676865	(5.11, N/A) (N/A, 0.02, N/A)	1582.4	N/A	1.9739 [2.0000]	98.7% { 115.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 609287	(5.75, N/A) (N/A, 0.00, N/A)	1584.0	N/A	2.0343 [2.0000]	101.7% { 111.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 733144	(6.37, N/A) (N/A, -0.01, N/A)	5404.0	N/A	1.8805 [2.0000]	94.0% { 111.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 322889	(6.99, N/A) (N/A, -0.01, N/A)	3404.5	N/A	0.8647 [1.0000]	86.5% { 101.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 392527	(7.56, N/A) (N/A, -0.01, N/A)	272665.1	N/A	0.9041 [1.0000]	90.4% { 111.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C7_PFUa_EIS	(570.0 / 525.0) 393081	(8.09, N/A) (N/A, -0.01, N/A)	2558927.9	N/A	0.9753 [1.0000]	97.5% { 107.8% }			
13C2_PFDa_EIS	(615.0 / 570.0) 335662	(8.55, N/A) (N/A, -0.01, N/A)	1510.6	N/A	0.9727 [1.0000]	97.3% { 127.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 290989	(9.02, N/A) (N/A, -0.01, N/A)	1516.0	N/A	0.8943 [1.0000]	89.4% { 124.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1483432	(5.06, N/A) (N/A, 0.03, N/A)	2550.6	N/A	1.6301 [2.0000]	81.5% { 112.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1020587	(6.45, N/A) (N/A, -0.01, N/A)	2379.2	N/A	1.9102 [2.0000]	95.5% { 114.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1931334	(7.72, N/A) (N/A, -0.02, N/A)	2408.9	N/A	1.7705 [2.0000]	88.5% { 116.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 311185	(4.89, N/A) (N/A, 0.03, N/A)	846.9	N/A	3.7967 [4.0000]	94.9% { 130.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 372723	(6.14, N/A) (N/A, -0.01, N/A)	1688.1	N/A	3.9844 [4.0000]	99.6% { 129.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 411630	(7.32, N/A) (N/A, -0.01, N/A)	2491.6	N/A	3.3238 [4.0000]	83.1% { 110.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2576585	(9.71, N/A) (N/A, -0.01, N/A)	3422.7	N/A	1.4550 [2.0000]	72.8% { 105.2% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 255470	(10.36, N/A) (N/A, -0.01, N/A)	1491.8	N/A	0.6761 [2.0000]	33.8% { 40.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0119-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-03-28.dam

Quant Method: 1633 - S2023-04-12A
 Path: S2023-04-14A (9)
 Acquired: 2023/04/14 - 16:12

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
D5_NEiFOSA_EIS	(531.0 / 169.0) 217685	(10.54 , N/A) (N/A , 0.00 , N/A)	1807.5	N/A	0.6982 [2.0000]	34.9% { 38.9% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 760304	(7.70 , N/A) (N/A , -0.02 , N/A)	3365.8	N/A	3.2520 [4.0000]	81.3% { 116.7% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 578488	(7.95 , N/A) (N/A , -0.02 , N/A)	12731.7	N/A	3.0167 [4.0000]	75.4% { 104.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1599570	(10.30 , N/A) (N/A , -0.01 , N/A)	1220.3	N/A	12.7507 [20.0000]	63.8% { 73.6% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 2456980	(10.47 , N/A) (N/A , -0.01 , N/A)	1627.5	N/A	14.8184 [20.0000]	74.1% { 83.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1468420	(5.36 , N/A) (N/A , 0.01 , N/A)	2397.6	N/A	7.5909 [8.0000]	94.9% { 121.1% }			

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BLK1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.30 U	0.40	0.30	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.30 U	0.40	0.30	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPEs	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.20 U	0.40	0.20	0.064	U
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.30 U	0.40	0.30	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.246 J	0.40	0.20	0.10	B, J
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U	0.80	0.40	0.17	U

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BLK1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
			Instrument: Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80 U	1.6	0.80	0.44	U
7:3FTCA	0.80 U	1.6	0.80	0.55	U



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (7)
 Acquired: 2023/04/18 - 22:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 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	(263.0 / 219.0) N/A (263.0 / 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.: BCD0235-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (7)
 Acquired: 2023/04/18 - 22:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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			
PFODA	(913.0 / 869.0) N/A (913.0 / 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			
PFBS	(299.0 / 80.0) N/A (299.0 / 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			
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	(699.0 / 80.0) N/A (699.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOSA	(498.0 / 78.0) 25516 (498.0 / 478.0) 690	(8.88 , 1.00) (0.00 , N/A , -1.0)	25.8 26.1	0.0270 108.9 110.0	0.0616	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 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			
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	(616.0 / 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			
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			

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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			

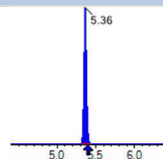
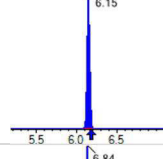
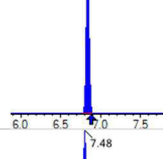
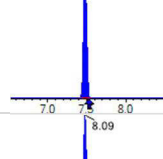
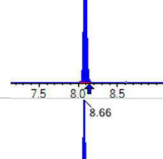
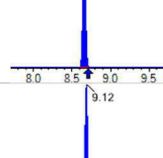
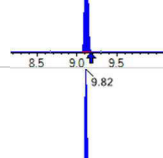
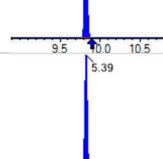
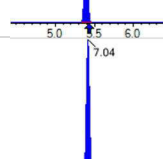
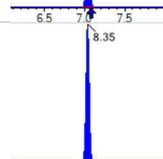
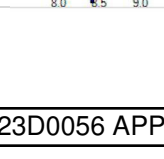


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (7)
 Acquired: 2023/04/18 - 22:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 213958	(3.20, N/A) (N/A, -0.02, N/A)	674.0	N/A	1.0383 [1.0000]	103.8% { 110.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 153453	(5.36, N/A) (N/A, -0.03, N/A)	349.4	N/A	1.0585 [1.0000]	105.8% { 109.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 286196	(6.84, N/A) (N/A, -0.04, N/A)	365.2	N/A	1.0496 [1.0000]	105.0% { 103.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 268129	(7.48, N/A) (N/A, -0.05, N/A)	402.8	N/A	1.0711 [1.0000]	107.1% { 112.8% }			
13C2_PFDA_IIS	(515.0 / 470.1) 260230	(8.09, N/A) (N/A, -0.05, N/A)	426.1	N/A	1.0960 [1.0000]	109.6% { 107.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 375644	(7.04, N/A) (N/A, -0.05, N/A)	209.8	N/A	0.9836 [1.0000]	98.4% { 100.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 509209	(8.35, N/A) (N/A, -0.05, N/A)	477.4	N/A	1.0680 [1.0000]	106.8% { 86.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1736805	(3.20, N/A) (N/A, -0.02, N/A)	1354.7	N/A	7.5777 [8.0000]	94.7% { 107.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1152763	(4.43, N/A) (N/A, -0.03, N/A)	1249.2	N/A	3.7993 [4.0000]	95.0% { 103.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 651450	(5.36, N/A) (N/A, -0.03, N/A)	598.2	N/A	1.8960 [2.0000]	94.8% { 109.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 470132	(6.15, N/A) (N/A, -0.04, N/A)	778.9	N/A	1.7336 [2.0000]	86.7% { 106.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 610034	(6.84, N/A) (N/A, -0.04, N/A)	357.8	N/A	1.7912 [2.0000]	89.6% { 97.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 245658	(7.48, N/A) (N/A, -0.05, N/A)	357.5	N/A	0.8826 [1.0000]	88.3% { 103.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 264095	(8.09, N/A) (N/A, -0.05, N/A)	371.0	N/A	0.8554 [1.0000]	85.5% { 95.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 258424	(8.66, N/A) (N/A, -0.05, N/A)	294.6	N/A	0.8700 [1.0000]	87.0% { 102.4% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 208576	(9.12, N/A) (N/A, -0.05, N/A)	860.4	N/A	0.8279 [1.0000]	82.8% { 98.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 247518	(9.82, N/A) (N/A, -0.06, N/A)	483.6	N/A	0.7966 [1.0000]	79.7% { 92.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1520832	(5.39, N/A) (N/A, -0.03, N/A)	490.8	N/A	2.1280 [2.0000]	106.4% { 105.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 587611	(7.04, N/A) (N/A, -0.05, N/A)	322.2	N/A	1.9500 [2.0000]	97.5% { 96.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1161022	(8.35, N/A) (N/A, -0.05, N/A)	694.7	N/A	1.8255 [2.0000]	91.3% { 81.9% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (7)
 Acquired: 2023/04/18 - 22:56

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 144413	(5.06, N/A) (N/A, -0.02, N/A)	473.2	N/A	4.1924 [4.0000]	104.8% { 103.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 166809	(6.53, N/A) (N/A, -0.04, N/A)	497.2	N/A	3.9037 [4.0000]	97.6% { 98.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 343996	(7.78, N/A) (N/A, -0.05, N/A)	621.9	N/A	7.1266 [4.0000]	178.2% { 200.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 992250	(8.89, N/A) (N/A, -0.02, N/A)	571.2	N/A	1.3901 [2.0000]	69.5% { 74.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 172509	(9.85, N/A) (N/A, -0.01, N/A)	242.7	N/A	0.7806 [2.0000]	39.0% { 42.2% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 166798	(10.06, N/A) (N/A, -0.01, N/A)	605.4	N/A	0.7683 [2.0000]	38.4% { 42.3% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 487966	(8.04, N/A) (N/A, -0.05, N/A)	359.3	N/A	3.6743 [4.0000]	91.9% { 100.4% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 362982	(8.30, N/A) (N/A, -0.05, N/A)	265.6	N/A	3.4223 [4.0000]	85.6% { 92.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 704201	(9.75, N/A) (N/A, -0.01, N/A)	806.3	N/A	10.0576 [20.0000]	50.3% { 57.4% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 846841	(9.97, N/A) (N/A, -0.01, N/A)	1067.5	N/A	9.7575 [20.0000]	48.8% { 54.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1304396	(5.69, N/A) (N/A, -0.03, N/A)	922.1	N/A	7.3764 [8.0000]	92.2% { 103.7% }			

ANALYSIS DATA SHEET**LCS**

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BS1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
			Instrument: Saphira

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	16.3	1.6	0.21	
PFPEA	8.13	0.80	0.065	
PFHXA	4.24	0.40	0.055	
PFHPA	3.81	0.40	0.041	
PFOA	3.95	0.40	0.15	
PFNA	4.16	0.40	0.082	
PFDA	4.11	0.40	0.10	
PFUnA	3.79	0.40	0.16	
PFDOA	4.03	0.40	0.11	
PFTRDA	4.07	0.40	0.20	
PFTEDA	4.19	0.40	0.20	
PFBS	3.46	0.40	0.037	
PFPEs	3.82	0.40	0.063	
PFHXS	3.80	0.40	0.032	MI4
PFHPS	4.42	0.40	0.051	
PFOS	4.07	0.40	0.064	
PFNS	3.95	0.40	0.12	
PFDS	4.13	0.40	0.15	
PFDOS	3.69	0.40	0.12	
4:2FTS	14.8	1.6	0.29	
6:2FTS	16.5	1.6	0.31	
8:2FTS	15.5	1.6	0.082	
PFOSA	4.20	0.40	0.10	
NMeFOSA	16.2	1.6	0.47	
NEtFOSA	16.1	1.6	0.41	
NMeFOSAA	3.97	0.40	0.11	
NEtFOSAA	3.85	0.40	0.11	
NMeFOSE	15.5	1.6	1.0	
NEtFOSE	15.7	1.6	1.0	
HFPO-DA	7.54	0.80	0.17	

ANALYSIS DATA SHEET**LCS**

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-BS1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
			Instrument: Saphira

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	7.94	0.80	0.12	
PFEESA	7.29	0.80	0.11	
PFMPA	7.46	0.80	0.054	
PFMBA	8.33	0.80	0.091	
NFDHA	7.97	0.80	0.30	
9CL-PF3ONS	8.09	0.80	0.21	
11CL-PF3OUDS	8.37	0.80	0.21	
3:3FTCA	14.4	1.6	0.57	
5:3FTCA	16.5	1.6	0.44	
7:3FTCA	15.3	1.6	0.55	



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCD0235-BS1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18C (8)
Acquired: 2023/04/18 - 23:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 808872	(3.20, 1.00) (0.00, N/A, 0.0)	3391.2	N/A 0.0 0.0	4.0655 [4.0000]	101.6%			
PFPeA	(263.0 / 219.0) 590309 (263.0 / 69.0) 7258	(4.43, 1.00) (0.00, N/A, -0.3)	748.2 129.9	0.0123 104.8 105.6	2.0313 [2.0000]	101.6%			
PFHxA	(313.0 / 269.0) 382166 (313.0 / 119.0) 32716	(5.36, 1.00) (0.00, N/A, 0.0)	480.9 183.9	0.0856 102.6 99.0	1.0610 [1.0000]	106.1%			
PFHpA	(363.0 / 319.0) 285956 (363.0 / 169.0) 82969	(6.15, 1.00) (0.00, N/A, 0.0)	614.7 386.4	0.2901 104.7 105.3	0.9523 [1.0000]	95.2%			
PFOA	(413.0 / 369.0) 334895 (413.0 / 169.0) 104493	(6.84, 1.00) (0.00, N/A, 0.0)	280.0 278.9	0.3120 104.5 106.5	0.9880 [1.0000]	98.8%			
PFNA	(463.0 / 419.0) 279741 (463.0 / 169.0) 52617	(7.48, 1.00) (0.00, N/A, -0.1)	389.1 257.3	0.1881 92.9 94.8	1.0406 [1.0000]	104.1%			
PFDA	(513.0 / 469.0) 280231 (513.0 / 169.0) 30006	(8.09, 1.00) (0.00, N/A, 0.2)	511.6 246.1	0.1071 109.1 116.1	1.0271 [1.0000]	102.7%			
PFUnA	(563.0 / 519.0) 247992 (563.0 / 169.0) 27444	(8.66, 1.00) (0.00, N/A, 0.0)	439.6 203.7	0.1107 109.7 101.1	0.9483 [1.0000]	94.8%			
PFDoA	(613.0 / 569.0) 202106 (613.0 / 169.0) 29489	(9.12, 1.00) (0.00, N/A, -0.1)	448.0 224.3	0.1459 102.4 99.7	1.0067 [1.0000]	100.7%			
PFTrDA	(663.0 / 619.0) 217676 (663.0 / 169.0) 47398	(9.49, 1.04) (N/A, -0.05, 0.0)	646.7 281.8	0.2177 105.6 100.5	1.0168 [1.0000]	101.7%			
PFTeDA	(713.0 / 669.0) 274325 (713.0 / 169.0) 48070	(9.82, 1.00) (0.00, N/A, 0.0)	697.1 216.2	0.1752 88.8 92.1	1.0477 [1.0000]	104.8%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (8)
 Acquired: 2023/04/18 - 23:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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 [4.0000]	N/A%			BS2,
PFODA	(913.0 / 869.0) N/A (913.0 / 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 [4.0000]	N/A%			BS2,
PFBS	(299.0 / 80.0) 435451 (299.0 / 99.0) 331222	(5.40, 1.00) (0.00, N/A, 0.1)	508.6 486.7	0.7606 110.7 101.7	0.8649 [0.8847]	97.8%			
PFPeS	(349.0 / 80.0) 734412 (349.0 / 99.0) 267268	(6.29, 0.89) (N/A, -0.04, 0.1)	807.7 421.7	0.3639 102.8 99.9	0.9552 [0.9384]	101.8%			
PFHxS	(399.0 / 80.0) 607232 (399.0 / 99.0) 205247	(7.04, 1.00) (0.00, N/A, 0.0)	6032.6 153.3	0.3380 95.5 98.6	0.9502 [0.9110]	104.3%			M14 ABK 4/19/23
PFHpS	(449.0 / 80.0) 584562 (449.0 / 99.0) 177682	(7.72, 0.92) (N/A, -0.05, 0.1)	617.1 337.4	0.3040 108.8 106.8	1.1046 [0.9514]	116.1%			
PFOS	(499.0 / 80.0) 772951 (499.0 / 99.0) 170100	(8.35, 1.00) (0.00, N/A, -0.1)	12583.2 7775.1	0.2201 95.6 88.4	1.0175 [0.9275]	109.7%			
PFNS	(549.0 / 80.0) 591722 (549.0 / 99.0) 148256	(8.89, 1.06) (N/A, -0.05, -0.1)	664.3 752.6	0.2505 101.6 104.9	0.9879 [0.9599]	102.9%			
PFDS	(599.0 / 80.0) 711092 (599.0 / 99.0) 186990	(9.30, 1.11) (N/A, -0.05, 0.0)	1127.0 1100.3	0.2630 114.8 118.6	1.0320 [0.9631]	107.2%			
PFDoS	(699.0 / 80.0) 717024 (699.0 / 99.0) 171655	(9.96, 1.19) (N/A, -0.07, 0.0)	789.1 603.3	0.2394 104.9 102.6	0.9215 [0.9696]	95.0%			
4:2FTS	(327.0 / 307.0) 465008 (327.0 / 81.0) 288167	(5.06, 1.00) (0.00, N/A, 0.0)	1088.0 592.4	0.6197 95.3 97.1	3.7068 [3.7381]	99.2%			

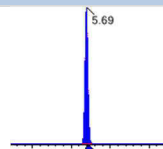
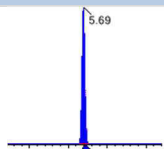
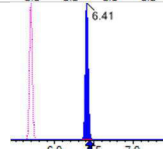
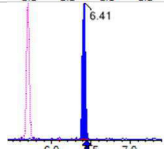
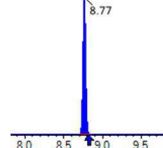
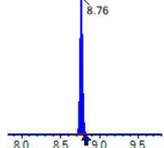
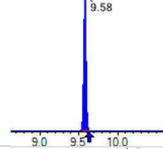
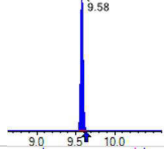
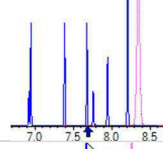
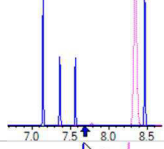
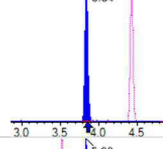
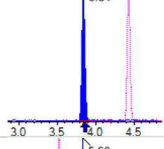
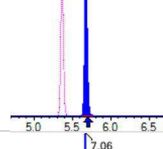
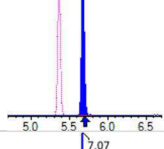
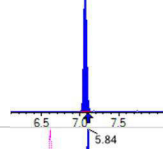
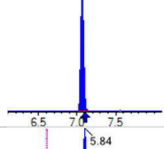
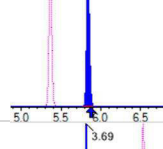
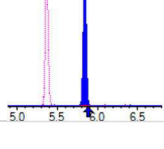
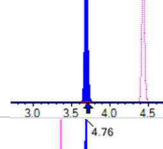
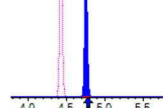


Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (8)
 Acquired: 2023/04/18 - 23:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 283044 (427.0 / 81.0) 215375	(6.54 , 1.00) (0.00 , N/A , 0.0)	479.9 512.2	0.7609 103.1 104.1	4.1334 [3.7962]	108.9%			
8:2FTS	(527.0 / 507.0) 488937 (527.0 / 81.0) 360530	(7.78 , 1.00) (0.00 , N/A , 0.0)	434.0 345.8	0.7374 109.0 108.3	3.8742 [3.8332]	101.1%			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [4.0000]	N/A%			BS2,
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [4.0000]	N/A%			BS2,
PFOSA	(498.0 / 78.0) 488721 (498.0 / 478.0) 12440	(8.89 , 1.00) (0.00 , N/A , 0.1)	549.9 184.3	0.0255 102.5 103.5	1.0500 [1.0000]	105.0%			
NMeFOSA	(512.0 / 219.0) 388917 (512.0 / 169.0) 300850	(9.85 , 1.00) (0.00 , N/A , 0.8)	3865.5 10208.1	0.7736 103.3 101.2	4.0526 [4.0000]	101.3%			
NEtFOSA	(526.0 / 219.0) 426189 (526.0 / 169.0) 517769	(10.07 , 1.00) (0.00 , N/A , 1.9)	7615.8 26999.2	1.2092 103.4 99.1	4.0370 [4.0000]	100.9%			
NMeFOSAA	(570.0 / 419.0) 123536 (570.0 / 483.0) 57927	(8.05 , 1.00) (0.00 , N/A , 0.1)	1595182.2 124170.6	0.4689 98.5 91.8	0.9915 [1.0000]	99.1%			
NEtFOSAA	(584.0 / 419.0) 84734 (584.0 / 526.0) 52838	(8.31 , 1.00) (0.01 , N/A , 0.0)	28332.8 8182.1	0.6236 104.8 115.6	0.9629 [1.0000]	96.3%			
NMeFOSE	(616.0 / 59.0) 189914	(9.76 , 1.00) (0.01 , N/A , 0.0)	1253.1	N/A 0.0 0.0	3.8723 [4.0000]	96.8%			
NEtFOSE	(630.0 / 59.0) 211848	(9.99 , 1.00) (0.01 , N/A , 0.0)	1332.3	N/A 0.0 0.0	3.9296 [4.0000]	98.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 170363 (285.0 / 185.0) 859956	(5.69, 1.00) (0.00, N/A, 0.0)	746.7 707.0	5.0478 107.1 100.8	1.8842 [2.0000]	94.2%			
ADONA	(377.0 / 85.0) 1057216 (377.0 / 251.0) 123977	(6.41, 1.13) (N/A, -0.03, -0.1)	524.0 189.5	0.1173 108.2 108.9	1.9841 [1.8854]	105.2%			
9CI-PF3ONS	(531.0 / 351.0) 2106341 (533.0 / 353.0) 678414	(8.77, 1.54) (N/A, -0.05, 0.1)	534.3 572.0	0.3221 98.7 100.7	2.0222 [1.8665]	108.3%			
11CI-PF3OUDS	(631.0 / 451.0) 1920611 (633.0 / 453.0) 695546	(9.58, 1.68) (N/A, -0.05, 0.1)	1280.6 710.3	0.3621 98.5 101.1	2.0917 [1.8864]	110.9%			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [3.6954]	N/A%			BS2,
3:3FTCA	(241.0 / 177.0) 38420 (241.0 / 117.0) 65030	(3.84, 0.87) (N/A, -0.02, 0.0)	696.7 541.1	1.6926 101.8 99.5	3.5968 [4.0000]	89.9%			
5:3FTCA	(341.0 / 236.7) 190802 (341.0 / 217.0) 335726	(5.68, 1.06) (N/A, -0.02, 0.1)	419.8 484.5	1.7596 97.7 99.5	4.1272 [4.0000]	103.2%			
7:3FTCA	(441.0 / 317.0) 209594 (441.0 / 337.0) 267263	(7.06, 1.32) (N/A, -0.03, 0.0)	325.5 413.4	1.2751 106.4 109.8	3.8166 [4.0000]	95.4%			
PFEESA	(315.0 / 135.0) 627604 (315.0 / 83.0) 185831	(5.84, 1.09) (N/A, -0.03, -0.1)	602.8 465.3	0.2961 104.1 100.1	1.8222 [1.7849]	102.1%			
PFMPA	(229.0 / 85.0) 138703	(3.69, 0.83) (N/A, -0.02, 0.0)	1040.0	N/A 0.0 0.0	1.8658 [2.0000]	93.3%			
PFMBA	(279.0 / 85.0) 436031	(4.76, 1.07) (N/A, -0.02, 0.0)	1169.5	N/A 0.0 0.0	2.0820 [2.0000]	104.1%			

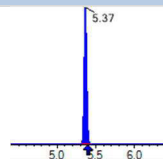
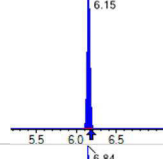
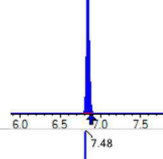
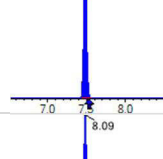
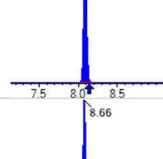
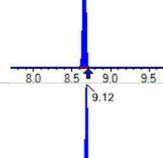
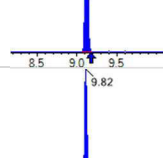
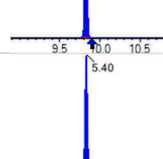
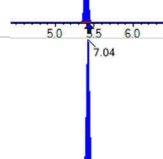
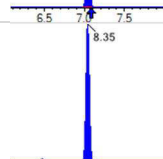
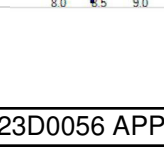


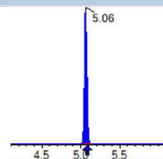
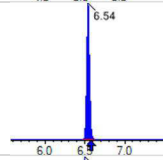
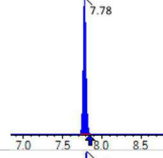
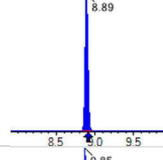
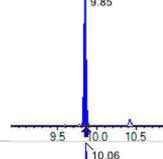
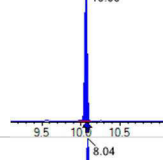
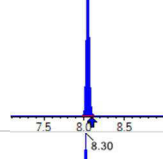
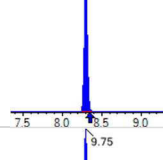
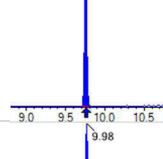
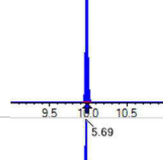
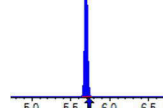
Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (8)
 Acquired: 2023/04/18 - 23:12

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 382813 (295.0 / 85.0) 371442	(5.27, 0.98) (N/A, -0.03, -0.1)	682.9 798.7	0.9703 99.8 103.7	1.9933 [2.0000]	99.7%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [1.0000]	N/A%			BS2,
13C3_PFBA_IIS	(216.0 / 172.0) 209758	(3.20, N/A) (N/A, -0.02, N/A)	746.5	N/A	1.0179 [1.0000]	101.8% {107.9%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 156947	(5.36, N/A) (N/A, -0.03, N/A)	499.0	N/A	1.0826 [1.0000]	108.3% {111.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 276196	(6.84, N/A) (N/A, -0.04, N/A)	241.6	N/A	1.0129 [1.0000]	101.3% {100.2%}			
13C5_PFNA_IIS	(468.0 / 423.0) 253120	(7.48, N/A) (N/A, -0.04, N/A)	476.3	N/A	1.0112 [1.0000]	101.1% {106.5%}			
13C2_PFDA_IIS	(515.0 / 470.1) 245894	(8.09, N/A) (N/A, -0.05, N/A)	418.3	N/A	1.0356 [1.0000]	103.6% {101.2%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 420867	(7.04, N/A) (N/A, -0.05, N/A)	276.0	N/A	1.1020 [1.0000]	110.2% {113.1%}			
13C4_PFOS_IIS	(503.0 / 79.9) 496552	(8.35, N/A) (N/A, -0.05, N/A)	501.9	N/A	1.0414 [1.0000]	104.1% {84.3%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1845121	(3.20, N/A) (N/A, -0.02, N/A)	1159.9	N/A	8.2114 [8.0000]	102.6% {114.2%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 1253268	(4.43, N/A) (N/A, -0.02, N/A)	1104.2	N/A	4.0386 [4.0000]	101.0% {112.8%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 685575	(5.37, N/A) (N/A, -0.03, N/A)	825.5	N/A	1.9509 [2.0000]	97.5% { 115.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 565875	(6.15, N/A) (N/A, -0.03, N/A)	1166.9	N/A	2.0402 [2.0000]	102.0% { 127.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 679245	(6.84, N/A) (N/A, -0.04, N/A)	299.9	N/A	2.0667 [2.0000]	103.3% { 108.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 284934	(7.48, N/A) (N/A, -0.04, N/A)	203.9	N/A	1.0844 [1.0000]	108.4% { 119.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 282096	(8.09, N/A) (N/A, -0.05, N/A)	222.3	N/A	0.9670 [1.0000]	96.7% { 102.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 288447	(8.66, N/A) (N/A, -0.05, N/A)	229.0	N/A	1.0277 [1.0000]	102.8% { 114.2% }			
13C2_PFDaA_EIS	(615.0 / 570.0) 216112	(9.12, N/A) (N/A, -0.05, N/A)	737.6	N/A	0.9078 [1.0000]	90.8% { 102.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 283738	(9.82, N/A) (N/A, -0.06, N/A)	603.3	N/A	0.9664 [1.0000]	96.6% { 105.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1650200	(5.40, N/A) (N/A, -0.03, N/A)	804.0	N/A	2.0609 [2.0000]	103.0% { 114.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 669031	(7.04, N/A) (N/A, -0.04, N/A)	388.6	N/A	1.9816 [2.0000]	99.1% { 110.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1202476	(8.35, N/A) (N/A, -0.05, N/A)	475.1	N/A	1.9388 [2.0000]	96.9% { 84.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 156761	(5.06, N/A) (N/A, -0.02, N/A)	555.1	N/A	4.0619 [4.0000]	101.5% {112.2%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 184353	(6.54, N/A) (N/A, -0.03, N/A)	419.8	N/A	3.8507 [4.0000]	96.3% {108.4%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 365614	(7.78, N/A) (N/A, -0.05, N/A)	442.5	N/A	6.7606 [4.0000]	169.0% {213.2%}			
13C8_PFOSA_EIS	(506.0 / 78.0) 1115001	(8.89, N/A) (N/A, -0.02, N/A)	898.1	N/A	1.6018 [2.0000]	80.1% {83.7%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 196697	(9.85, N/A) (N/A, -0.01, N/A)	318.2	N/A	0.9127 [2.0000]	45.6% {48.1%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 197080	(10.06, N/A) (N/A, -0.01, N/A)	593.8	N/A	0.9310 [2.0000]	46.5% {50.0%}			
D3_MeFOSAA_EIS	(573.0 / 419.0) 528430	(8.04, N/A) (N/A, -0.05, N/A)	542.9	N/A	4.0804 [4.0000]	102.0% {108.8%}			
D5_EiFOSAA_EIS	(589.0 / 419.0) 395632	(8.30, N/A) (N/A, -0.05, N/A)	350.8	N/A	3.8252 [4.0000]	95.6% {100.6%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 860244	(9.75, N/A) (N/A, -0.01, N/A)	911.0	N/A	12.5995 [20.0000]	63.0% {70.1%}			
D9_NEiFOSE_EIS	(639.0 / 58.9) 1062907	(9.98, N/A) (N/A, -0.01, N/A)	1314.7	N/A	12.5592 [20.0000]	62.8% {68.1%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1436236	(5.69, N/A) (N/A, -0.03, N/A)	936.4	N/A	7.9412 [8.0000]	99.3% {114.2%}			

ANALYSIS DATA SHEET**MRL Check**

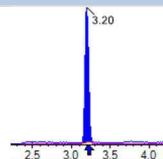
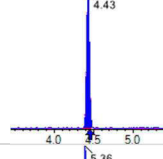
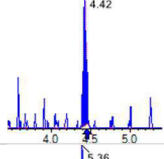
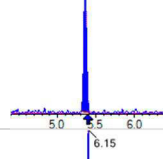
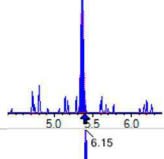
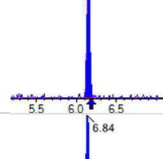
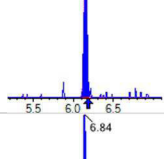
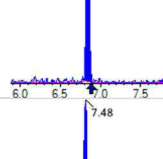
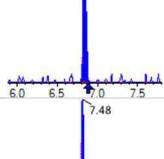
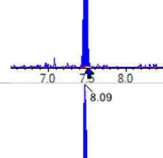
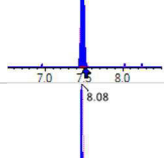
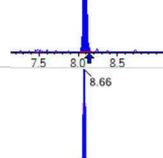
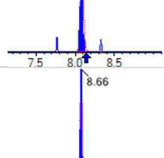
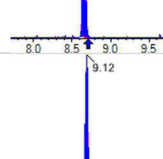
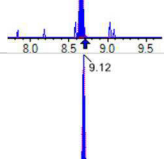
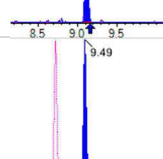
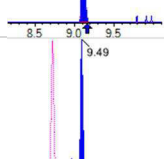
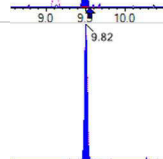
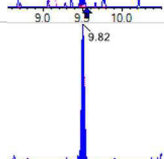
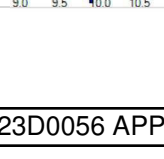
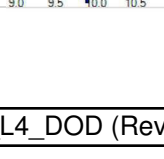
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-MRL1
Sampled:		Prepared:	04/17/23 11:15
Solids:		Preparation:	EPA 1633
Batch:	BCD0235	Sequence:	SC01534
Column:	1	Calibration:	2316009
		Instrument:	Saphira
		File ID:	S2023-04-18C (9)
		Analyzed:	04/18/23 23:28
		Dilution:	1

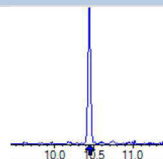
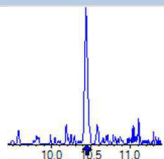
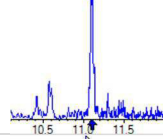
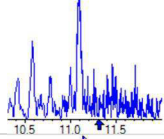
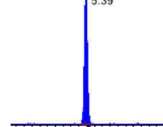
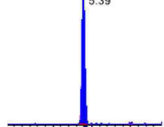
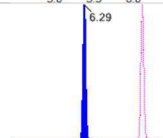
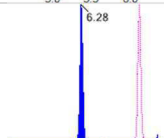
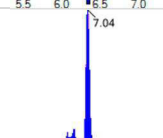
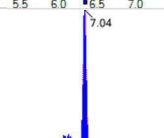
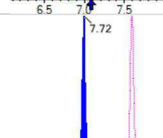
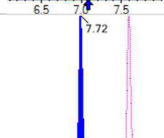
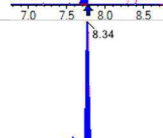
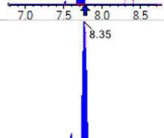
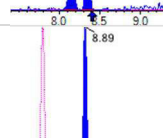
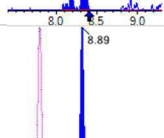
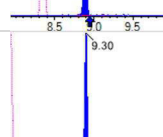
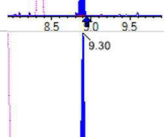
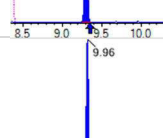
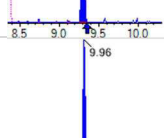
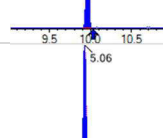
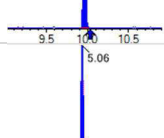
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	2.94	1.6	0.21	
PFPEA	1.41	0.80	0.065	
PFHXA	0.797	0.40	0.055	
PFHPA	0.652	0.40	0.041	
PFOA	0.762	0.40	0.15	
PFNA	0.738	0.40	0.082	
PFDA	0.772	0.40	0.10	
PFUnA	0.714	0.40	0.16	
PFDOA	0.755	0.40	0.11	
PFTRDA	0.685	0.40	0.20	
PFTEDA	0.722	0.40	0.20	IR2
PFBS	0.696	0.40	0.037	
PFPEs	0.730	0.40	0.063	
PFHXS	0.731	0.40	0.032	MI4
PFHPS	0.880	0.40	0.051	
PFOS	0.694	0.40	0.064	
PFNS	0.780	0.40	0.12	
PFDS	0.808	0.40	0.15	
PFDOS	0.617	0.40	0.12	
4:2FTS	3.14	1.6	0.29	
6:2FTS	2.96	1.6	0.31	
8:2FTS	3.08	1.6	0.082	
PFOSA	0.850	0.40	0.10	
NMeFOSA	2.76	1.6	0.47	
NEtFOSA	2.93	1.6	0.41	
NMeFOSAA	0.471	0.40	0.11	MI4
NEtFOSAA	0.681	0.40	0.11	MI4
NMeFOSE	3.12	1.6	1.0	
NEtFOSE	3.12	1.6	1.0	
HFPO-DA	1.66	1.6	0.17	

ANALYSIS DATA SHEET**MRL Check**

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Matrix:	Water	Laboratory ID:	BCD0235-MRL1
Sampled:		File ID:	S2023-04-18C (9)
Solids:		Prepared:	04/17/23 11:15
Batch:	BCD0235	Analyzed:	04/18/23 23:28
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2316009
		Instrument:	Saphira
		Sequence:	SC01534

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	1.57	0.80	0.12	
PFEESA	1.23	0.80	0.11	
PFMPA	1.37	0.80	0.054	
PFMBA	1.49	0.80	0.091	
NFDHA	1.46	0.80	0.30	
9CL-PF3ONS	1.43	0.80	0.21	
11CL-PF3OUDS	1.36	0.80	0.21	
3:3FTCA	2.49	1.6	0.57	
5:3FTCA	3.39	1.6	0.44	
7:3FTCA	2.93	1.6	0.55	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 158380	(3.20, 1.00) (0.00, N/A, 0.0)	817.5	N/A 0.0 0.0	0.7339 [0.8000]	91.7%			
PFPeA	(263.0 / 219.0) 106805 (263.0 / 69.0) 1353	(4.43, 1.00) (0.00, N/A, 0.3)	381.0 45.6	0.0127 107.9 108.7	0.3531 [0.4000]	88.3%			
PFHxA	(313.0 / 269.0) 75325 (313.0 / 119.0) 7110	(5.36, 1.00) (0.00, N/A, 0.0)	157.0 53.9	0.0944 113.1 109.2	0.1993 [0.2000]	99.6%			
PFHpA	(363.0 / 319.0) 49129 (363.0 / 169.0) 15745	(6.15, 1.00) (0.00, N/A, -0.2)	144.9 103.3	0.3205 115.6 116.3	0.1629 [0.2000]	81.5%			
PFOA	(413.0 / 369.0) 66194 (413.0 / 169.0) 17489	(6.84, 1.00) (0.00, N/A, 0.1)	109.6 104.9	0.2642 88.5 90.1	0.1905 [0.2000]	95.3%			
PFNA	(463.0 / 419.0) 49304 (463.0 / 169.0) 12569	(7.48, 1.00) (0.00, N/A, 0.0)	112.8 225.6	0.2549 125.9 128.5	0.1844 [0.2000]	92.2%			
PFDA	(513.0 / 469.0) 57065 (513.0 / 169.0) 4007	(8.09, 1.00) (0.00, N/A, 0.5)	193.2 104.8	0.0702 71.6 76.2	0.1931 [0.2000]	96.5%			
PFUnA	(563.0 / 519.0) 43894 (563.0 / 169.0) 4312	(8.66, 1.00) (0.00, N/A, 0.1)	256.8 66.4	0.0982 97.4 89.7	0.1784 [0.2000]	89.2%			
PFDoA	(613.0 / 569.0) 39278 (613.0 / 169.0) 5617	(9.12, 1.00) (0.00, N/A, 0.1)	226.8 123.3	0.1430 100.4 97.7	0.1888 [0.2000]	94.4%			
PFTTrDA	(663.0 / 619.0) 38015 (663.0 / 169.0) 7393	(9.49, 1.04) (N/A, -0.06, 0.1)	259.8 72.4	0.1945 94.3 89.7	0.1714 [0.2000]	85.7%			
PFTeDA	(713.0 / 669.0) 46200 (713.0 / 169.0) 13574	(9.82, 1.00) (0.00, N/A, 0.0)	363.7 170.6	0.2938 149.0 154.5	0.1806 [0.2000]	90.3%			IR2,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFHxDA	(813.0 / 769.0) N/A (813.0 / 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 [0.8000]	N/A%			BS2,
PFODA	(913.0 / 869.0) N/A (913.0 / 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 [0.8000]	N/A%			BS2,
PFBS	(299.0 / 80.0) 87976 (299.0 / 99.0) 57266	(5.39, 1.00) (0.00, N/A, 0.0)	228.9 291.6	0.6509 94.7 87.0	0.1741 [0.1769]	98.4%			
PFPeS	(349.0 / 80.0) 134342 (349.0 / 99.0) 55924	(6.29, 0.89) (N/A, -0.04, 0.1)	408.7 219.9	0.4163 117.6 114.3	0.1825 [0.1877]	97.2%			
PFHxS	(399.0 / 80.0) 111855 (399.0 / 99.0) 36194	(7.04, 1.00) (0.00, N/A, 0.0)	147.4 127.6	0.3236 91.5 94.4	0.1828 [0.1822]	100.3%			M14 ABK 4/19/23
PFHpS	(449.0 / 80.0) 115490 (449.0 / 99.0) 32135	(7.72, 0.92) (N/A, -0.05, 0.1)	507.3 172.0	0.2782 99.6 97.7	0.2201 [0.1903]	115.7%			
PFOS	(499.0 / 80.0) 130682 (499.0 / 99.0) 33585	(8.34, 1.00) (0.00, N/A, -0.2)	4217.9 1764.0	0.2570 111.6 103.3	0.1735 [0.1855]	93.5%			
PFNS	(549.0 / 80.0) 115735 (549.0 / 99.0) 29932	(8.89, 1.06) (N/A, -0.05, 0.0)	353.5 231.3	0.2586 104.9 108.3	0.1949 [0.1920]	101.5%			
PFDS	(599.0 / 80.0) 138053 (599.0 / 99.0) 32186	(9.30, 1.11) (N/A, -0.05, 0.1)	494.6 251.6	0.2331 101.8 105.2	0.2021 [0.1926]	104.9%			
PFDoS	(699.0 / 80.0) 119028 (699.0 / 99.0) 29439	(9.96, 1.19) (N/A, -0.07, 0.2)	388.9 395.4	0.2473 108.4 106.0	0.1543 [0.1939]	79.6%			
4:2FTS	(327.0 / 307.0) 96018 (327.0 / 81.0) 64918	(5.06, 1.00) (0.00, N/A, 0.0)	789.5 246.4	0.6761 104.0 106.0	0.7844 [0.7476]	104.9%			



Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCD0235-MRL1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
Path: S2023-04-18C (9)
Acquired: 2023/04/18 - 23:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
6:2FTS	(427.0 / 407.0) 49506 (427.0 / 81.0) 35248	(6.53, 1.00) (0.00, N/A, -0.1)	236.8 184.4	0.7120 96.4 97.5	0.7409 [0.7592]	97.6%			
8:2FTS	(527.0 / 507.0) 110841 (527.0 / 81.0) 83354	(7.78, 1.00) (0.00, N/A, -0.1)	526.2 555.6	0.7520 111.2 110.4	0.7706 [0.7666]	100.5%			
PFSBA	(297.9 / 78.0) N/A (297.9 / 278.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.8000]	N/A%			BS2,
PFHxSA	(397.9 / 78.0) N/A (397.9 / 378.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.8000]	N/A%			BS2,
PFOSA	(498.0 / 78.0) 99214 (498.0 / 478.0) 1923	(8.88, 1.00) (0.00, N/A, 0.5)	306.6 49.8	0.0194 78.0 78.8	0.2126 [0.2000]	106.3%			
NMeFOSA	(512.0 / 219.0) 85927 (512.0 / 169.0) 59514	(9.85, 1.00) (0.00, N/A, 1.6)	329533.0 3596.1	0.6926 92.5 90.6	0.6888 [0.8000]	86.1%			
NEtFOSA	(526.0 / 219.0) 98025 (526.0 / 169.0) 114829	(10.07, 1.00) (0.00, N/A, 2.0)	36849.1 2394.7	1.1714 100.2 96.0	0.7318 [0.8000]	91.5%			
NMeFOSAA	(570.0 / 419.0) 21649 (570.0 / 483.0) 7745	(8.05, 1.00) (0.00, N/A, -0.3)	486.0 172.0	0.3577 75.2 70.0	0.1179 [0.2000]	58.9%			M14 ABK 4/19/23
NEtFOSAA	(584.0 / 419.0) 14143 (584.0 / 526.0) 11335	(8.31, 1.00) (0.01, N/A, 0.2)	1497.2 820.7	0.8015 134.7 148.6	0.1702 [0.2000]	85.1%			M14 ABK 4/19/23
NMeFOSE	(616.0 / 59.0) 36429	(9.76, 1.00) (0.01, N/A, 0.0)	383.4	N/A 0.0 0.0	0.7794 [0.8000]	97.4%			
NEtFOSE	(630.0 / 59.0) 38668	(9.99, 1.00) (0.01, N/A, 0.0)	13383.1	N/A 0.0 0.0	0.7802 [0.8000]	97.5%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (9)
 Acquired: 2023/04/18 - 23:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
HFPO-DA	(285.0 / 169.0) 37362 (285.0 / 185.0) 162485	(5.69, 1.00) (0.00, N/A, 0.0)	308.7 554.6	4.3490 92.3 86.9	0.4138 [0.4000]	103.5%			
ADONA	(377.0 / 85.0) 208777 (377.0 / 251.0) 24472	(6.40, 1.13) (N/A, -0.04, 0.0)	289.3 65.0	0.1172 108.2 108.9	0.3924 [0.3771]	104.1%			
9CI-PF3ONS	(531.0 / 351.0) 372916 (533.0 / 353.0) 123910	(8.76, 1.54) (N/A, -0.06, 0.1)	310.9 231.5	0.3323 101.8 103.9	0.3585 [0.3733]	96.0%			
11CI-PF3OUDS	(631.0 / 451.0) 312047 (633.0 / 453.0) 120024	(9.58, 1.68) (N/A, -0.06, 0.0)	1301.4 656.9	0.3846 104.7 107.3	0.3403 [0.3773]	90.2%			
PFECHS	(461.0 / 98.9) N/A (461.0 / 381.2) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.7391]	N/A%			BS2,
3:3FTCA	(241.0 / 177.0) 6910 (241.0 / 117.0) 11762	(3.84, 0.87) (N/A, -0.02, 0.1)	199.8 128.1	1.7022 102.4 100.1	0.6214 [0.8000]	77.7%			
5:3FTCA	(341.0 / 236.7) 41161 (341.0 / 217.0) 64003	(5.68, 1.06) (N/A, -0.02, 0.3)	295.8 215.9	1.5550 86.3 87.9	0.8484 [0.8000]	106.0%			
7:3FTCA	(441.0 / 317.0) 42208 (441.0 / 337.0) 48477	(7.06, 1.32) (N/A, -0.04, -0.3)	195.1 202.1	1.1485 95.8 98.9	0.7324 [0.8000]	91.5%			
PFEESA	(315.0 / 135.0) 111405 (315.0 / 83.0) 30905	(5.83, 1.09) (N/A, -0.04, 0.2)	577.4 145.5	0.2774 97.5 93.8	0.3082 [0.3570]	86.3%			
PFMPA	(229.0 / 85.0) 26476	(3.69, 0.83) (N/A, -0.02, 0.0)	478.7	N/A 0.0 0.0	0.3421 [0.4000]	85.5%			
PFMBA	(279.0 / 85.0) 81292	(4.75, 1.07) (N/A, -0.03, 0.0)	661.4	N/A 0.0 0.0	0.3729 [0.4000]	93.2%			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (9)
 Acquired: 2023/04/18 - 23:28

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
NFDHA	(295.0 / 201.0) 73440 (295.0 / 85.0) 64680	(5.27, 0.98) (N/A, -0.03, 0.0)	360.5 347.3	0.8807 90.6 94.2	0.3644 [0.4000]	91.1%			
TDCA	(499.0 / 80.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.2000]	N/A%			BS2,
13C3_PFBA_IIS	(216.0 / 172.0) 228503	(3.20, N/A) (N/A, -0.02, N/A)	746.9	N/A	1.1088 [1.0000]	110.9% { 117.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 167762	(5.36, N/A) (N/A, -0.03, N/A)	502.6	N/A	1.1572 [1.0000]	115.7% { 119.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 286499	(6.84, N/A) (N/A, -0.04, N/A)	267.8	N/A	1.0507 [1.0000]	105.1% { 103.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 274818	(7.48, N/A) (N/A, -0.05, N/A)	434.4	N/A	1.0979 [1.0000]	109.8% { 115.6% }			
13C2_PFDA_IIS	(515.0 / 470.1) 263240	(8.09, N/A) (N/A, -0.05, N/A)	325.3	N/A	1.1087 [1.0000]	110.9% { 108.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 409051	(7.04, N/A) (N/A, -0.05, N/A)	531.1	N/A	1.0711 [1.0000]	107.1% { 109.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 485149	(8.35, N/A) (N/A, -0.05, N/A)	345.5	N/A	1.0175 [1.0000]	101.7% { 82.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2001375	(3.20, N/A) (N/A, -0.02, N/A)	1479.7	N/A	8.1762 [8.0000]	102.2% { 123.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1304631	(4.43, N/A) (N/A, -0.03, N/A)	1068.4	N/A	3.9331 [4.0000]	98.3% { 117.4% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (9)
 Acquired: 2023/04/18 - 23:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C5_PFHxA_EIS	(318.0 / 273.0) 719480	(5.36, N/A) (N/A, -0.03, N/A)	645.1	N/A	1.9154 [2.0000]	95.8% { 120.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 568310	(6.15, N/A) (N/A, -0.04, N/A)	662.2	N/A	1.9169 [2.0000]	95.8% { 128.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 696130	(6.84, N/A) (N/A, -0.04, N/A)	590.6	N/A	2.0419 [2.0000]	102.1% { 111.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 283321	(7.48, N/A) (N/A, -0.05, N/A)	554.5	N/A	0.9931 [1.0000]	99.3% { 118.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 305548	(8.09, N/A) (N/A, -0.05, N/A)	221.2	N/A	0.9784 [1.0000]	97.8% { 110.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 271355	(8.66, N/A) (N/A, -0.05, N/A)	200.4	N/A	0.9031 [1.0000]	90.3% { 107.5% }			
13C2_PFDoA_EIS	(615.0 / 570.0) 223946	(9.12, N/A) (N/A, -0.05, N/A)	741.5	N/A	0.8787 [1.0000]	87.9% { 105.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 277201	(9.82, N/A) (N/A, -0.06, N/A)	550.6	N/A	0.8819 [1.0000]	88.2% { 103.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1656266	(5.39, N/A) (N/A, -0.04, N/A)	657.1	N/A	2.1282 [2.0000]	106.4% { 115.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 640543	(7.04, N/A) (N/A, -0.05, N/A)	350.5	N/A	1.9520 [2.0000]	97.6% { 105.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1192110	(8.35, N/A) (N/A, -0.06, N/A)	585.8	N/A	1.9673 [2.0000]	98.4% { 84.1% }			



Chemist: ABK
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCD0235-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-04-18.dam

Quant Method: 1633 - S2023-04-18B
 Path: S2023-04-18C (9)
 Acquired: 2023/04/18 - 23:28

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]	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_4:2FTS_EIS	(329.0 / 81.0) 152961	(5.06 , N/A) (N/A , -0.03 , N/A)	654.4	N/A	4.0779 [4.0000]	101.9% { 109.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 179897	(6.54 , N/A) (N/A , -0.03 , N/A)	364.1	N/A	3.8662 [4.0000]	96.7% { 105.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 416684	(7.78 , N/A) (N/A , -0.05 , N/A)	908.2	N/A	7.9275 [4.0000]	198.2% { 243.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1117864	(8.89 , N/A) (N/A , -0.02 , N/A)	552.1	N/A	1.6437 [2.0000]	82.2% { 83.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 255695	(9.85 , N/A) (N/A , -0.01 , N/A)	371.1	N/A	1.2144 [2.0000]	60.7% { 62.5% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 248875	(10.06 , N/A) (N/A , -0.01 , N/A)	711.2	N/A	1.2032 [2.0000]	60.2% { 63.1% }			
D3_MeFOSAA_EIS	(573.0 / 419.0) 513409	(8.04 , N/A) (N/A , -0.05 , N/A)	417.8	N/A	4.0576 [4.0000]	101.4% { 105.7% }			
D5_EiFOSAA_EIS	(589.0 / 419.0) 392807	(8.30 , N/A) (N/A , -0.05 , N/A)	353.5	N/A	3.8872 [4.0000]	97.2% { 99.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 819813	(9.76 , N/A) (N/A , -0.01 , N/A)	726.4	N/A	12.2895 [20.0000]	61.4% { 66.8% }			
D9_NEiFOSE_EIS	(639.0 / 58.9) 977117	(9.98 , N/A) (N/A , -0.01 , N/A)	1491.1	N/A	11.8169 [20.0000]	59.1% { 62.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1434188	(5.69 , N/A) (N/A , -0.04 , N/A)	964.4	N/A	7.4186 [8.0000]	92.7% { 114.0% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Batch:	BCD0119	Batch Matrix:	Water
		Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW03-WGN01LF-2304W1	23D0056-01	04/10/23 08:18	565.66	2.00
Blank	BCD0119-BLK1	04/10/23 08:18	500.00	2.00
LCS	BCD0119-BS1	04/10/23 08:18	500.00	2.00
MRL Check	BCD0119-MRL1	04/10/23 08:18	500.00	2.00

PREPARATION BENCH SHEET

Organics

BCD0119

Print Date/Time: 04/17/2023 10:08 am

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses		Spiking Solution(s)				Surrogate Solution(s)			
1633		PFAS - MIX 1633 10ng/mL				MPFAC-HIF-ES 20.0ng/mL			
Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
23C0239-01RE2	AF-RHMW17-WGN01LF-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	560.73	2		200	Re-extract added 4/6/2023 by HGH
23C0239-01RE3	AF-RHMW17-WGN01LF-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	560.73	2		200	Re-extract added 4/6/2023 by HGH
23C0239-02RE2	AF-RHMW17D-WGN01LF-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	533.62	2		200	Re-extract added 4/6/2023 by HGH
23C0239-02RE3	AF-RHMW17D-WGN01LF-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	533.62	2		200	Re-extract added 4/6/2023 by HGH
23C0239-03RE2	AF-RHMW17D-WQFB01-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	581.54	2		200	Re-extract added 4/6/2023 by HGH
23C0239-03RE3	AF-RHMW17D-WQFB01-2303W3	04/04/2023	04/21/2023	4/10/2023 8:18:00AM	581.54	2		200	Re-extract added 4/6/2023 by HGH
23C0253-01	WP013P-EB-SOIL-01	04/12/2023	04/24/2023	4/10/2023 8:18:00AM	520.59	2		200	
23C0253-01RE1	WP013P-EB-SOIL-01	04/12/2023	04/24/2023	4/10/2023 8:18:00AM	520.59	2		200	Added 4/14/2023 by DAG
23C0253-02	WP013P-EB-SOIL-02	04/12/2023	04/24/2023	4/10/2023 8:18:00AM	530.05	2		200	
23C0253-02RE1	WP013P-EB-SOIL-02	04/12/2023	04/24/2023	4/10/2023 8:18:00AM	530.05	2		200	Added 4/14/2023 by DAG
23C0279-01	WP013P-VAS-002-24	04/14/2023	04/26/2023	4/10/2023 8:18:00AM	522.45	2		200	11mL of soil left
23C0279-01RE1	WP013P-VAS-002-24	04/14/2023	04/26/2023	4/10/2023 8:18:00AM	522.45	2		200	11mL of soil left
23C0279-02	WP013P-FRB-VAS-01	04/14/2023	04/26/2023	4/10/2023 8:18:00AM	541.36	2		200	
23C0279-02RE1	WP013P-FRB-VAS-01	04/14/2023	04/26/2023	4/10/2023 8:18:00AM	541.36	2		200	Added 4/14/2023 by DAG
23C0279-03	WP013P-VAS-001-12	04/14/2023	04/27/2023	4/10/2023 8:18:00AM	517.8	2		200	<2.5 mL of soil left
23C0279-03RE1	WP013P-VAS-001-12	04/14/2023	04/27/2023	4/10/2023 8:18:00AM	517.8	2		200	<2.5 mL of soil left
23C0279-04	WP013P-VAS-002-12	04/14/2023	04/27/2023	4/10/2023 8:18:00AM	493.52	2		200	
23C0279-04RE1	WP013P-VAS-002-12	04/14/2023	04/27/2023	4/10/2023 8:18:00AM	493.52	2		200	Added 4/14/2023 by DAG
23D0021-02	IDW-DRUM-02	04/18/2023	05/01/2023	4/10/2023 8:18:00AM	528.65	2		200	7mL of soil left
23D0021-02RE1	IDW-DRUM-02	04/18/2023	05/01/2023	4/10/2023 8:18:00AM	528.65	2		200	7mL of soil left
23D0043-01	AF-RHMW225401-WGN01B-2304	04/13/2023	05/03/2023	4/10/2023 8:18:00AM	543.66	2		200	"Report relevant surrogates"

Spiking Witnessed By _____ Date _____ Preparation Reviewed By _____ Date _____ Extracts Received By _____ Date _____

PREPARATION BENCH SHEET

Organics

BCD0119

(Continued)

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses		Spiking Solution(s)		Surrogate Solution(s)	
1633		23C0549	PFAS - MIX 1633 10ng/mL	23C0277	MPFAC-HIF-ES 20.0ng/mL
23D0043-01RE1	AF-RHMW225401-WGN01B-2304 W1	05/03/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-02	AF-HDMW225303-WGN01LF-230 4W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-02RE1	AF-HDMW225303-WGN01LF-230 4W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-03	AF-RHMW10-WGN01LF-2304W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-03RE1	AF-RHMW10-WGN01LF-2304W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-04	AF-RHMW10-WGFD01LF-2304W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0043-04RE1	AF-RHMW10-WGFD01LF-2304W1	05/02/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0053-03	Central Final	04/11/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0053-03RE1	Central Final	04/11/2023	4/10/2023 8:18:00AM	200	Added 4/14/2023 by DAG
23D0056-01	AF-RHMW03-WGN01LF-2304W1	05/04/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0056-01RE1	AF-RHMW03-WGN01LF-2304W1	05/04/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0056-02	AF-RHMW02-WGN01LF-2304W1	05/04/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0056-02RE1	AF-RHMW02-WGN01LF-2304W1	05/04/2023	4/10/2023 8:18:00AM	200	"Report relevant surrogates"
23D0060-02	WC Res Bkgd #2	04/12/2023	4/10/2023 8:18:00AM	200	Added 4/14/2023 by DAG
23D0060-02RE1	WC Res Bkgd #2	04/12/2023	4/10/2023 8:18:00AM	200	used two cartridges
23D0060-10	AlSCO	04/13/2023	4/10/2023 8:18:00AM	200	Added 4/14/2023 by DAG
23D0060-10RE1	AlSCO	04/13/2023	4/10/2023 8:18:00AM	200	Added 4/14/2023 by DAG
BCD0119-BLK1	Blank		4/10/2023 8:18:00AM	0	
BCD0119-BS1	LCS		4/10/2023 8:18:00AM	200	
BCD0119-MRL1	MRL Check		4/10/2023 8:18:00AM	20	
BCD0119-MS1	Matrix Spike [23C0279-01]		4/10/2023 8:18:00AM	200	6.5mL soil left
BCD0119-MSD1	Matrix Spike Dup [23C0279-01]		4/10/2023 8:18:00AM	200	33mL soil left

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

PREPARATION BENCH SHEET

Organics

BCD0119

(Continued)

Print Date/Time: 04/17/2023 10:08 am

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)
23C0549 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
23C0277 MPFAC-HIF-ES 20.0ng/mL

Start Date/Time _____
Stop Date/Time _____

Standard	Description	LotNum
22C0296	Envi-carb	122395
23B0607	Am. Ac. preservative	*
23C0006	Reagent - 0.05MFA wash	X
23D0065	Reagent - 0.3M Formic Acid	M13H051
23D0244	Reagent - 1.0% Ammonia Hydroxide	219481

Batch Comments:

Spiked by: LYA 4/10/23 11:00AM

Witness: PAF

Balance #: EB2

Cartridge: aligent

Concentration: 4/13/23 9:31-11:30

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23D0056
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling / 60697810
Batch:	BCD0235	Batch Matrix:	Water
		Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW02-WGN01LF-2304W1	23D0056-02RE3	04/17/23 11:15	572.06	2.00
AF-RHMW02-WGN01LF-2304W1	23D0056-02RE4	04/17/23 11:15	572.06	2.00
Blank	BCD0235-BLK1	04/17/23 11:15	500.00	2.00
LCS	BCD0235-BS1	04/17/23 11:15	500.00	2.00
MRL Check	BCD0235-MRL1	04/17/23 11:15	500.00	2.00

PREPARATION BENCH SHEET

Organics

BCD0235

Print Date/Time: 04/19/2023 5:01 pm

Matrix: Water Prepared using: PFAS - EPA 1633

Analyses		Spiking Solution(s)			Surrogate Solution(s)				
1633		23C0549 PFAS - MIX 1633 10ng/mL			23D0206 MPFAC-HIF-ES 20.0ng/mL				
Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
23D0008-01RE2	AF-RHMW04-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	542.31	2		200	Re-extract added 4/11/2023 by HGH
23D0008-01RE3	AF-RHMW04-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	542.31	2		200	Re-extract added 4/11/2023 by HGH
23D0008-02RE2	AF-RHMW06-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	528.05	2		200	Re-extract added 4/11/2023 by HGH
23D0008-02RE3	AF-RHMW06-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	528.05	2		200	Re-extract added 4/11/2023 by HGH
23D0008-03RE2	AF-RHMW16-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	541.78	2		200	Re-extract added 4/11/2023 by HGH
23D0008-03RE3	AF-RHMW16-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	541.78	2		200	Re-extract added 4/11/2023 by HGH
23D0008-04RE2	AF-RHMW12A-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	527.67	2		200	Re-extract added 4/11/2023 by HGH
23D0008-04RE3	AF-RHMW12A-WGN01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	527.67	2		200	Re-extract added 4/11/2023 by HGH
23D0008-05RE2	AF-RHMW12A-WGFD01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	526.48	2		200	Re-extract added 4/11/2023 by HGH
23D0008-05RE3	AF-RHMW12A-WGFD01LF-2304W1	04/11/2023	05/01/2023	4/17/2023 11:15:00AM	526.48	2		200	Re-extract added 4/11/2023 by HGH
23D0056-02RE3	AF-RHMW02-WGN01LF-2304W1	04/14/2023	05/04/2023	4/17/2023 11:15:00AM	572.06	2		200	"Report relevant surrogates"
23D0056-02RE4	AF-RHMW02-WGN01LF-2304W1	04/14/2023	05/04/2023	4/17/2023 11:15:00AM	572.06	2		200	"Report relevant surrogates"
BCD0235-BLK1	Blank			4/17/2023 11:15:00AM	500	2	0	200	
BCD0235-BS1	LCS			4/17/2023 11:15:00AM	500	2	200	200	
BCD0235-MRL1	MRL Check			4/17/2023 11:15:00AM	500	2	40	200	

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

PREPARATION BENCH SHEET

Organics

BCD0235

(Continued)

Print Date/Time: 04/19/2023 5:01 pm

Matrix: Water

Analyses
1633

Spiking Solution(s)
23C0549 PFAS - MIX 1633 10ng/mL

Start Date/Time _____

Stop Date/Time _____

Prepared using: PFAS - EPA 1633

Surrogate Solution(s)
23D0206 MPFAC-HIF-ES 20.0ng/mL

Reagents	Standard	Description	LotNum
	22C0296	Envi-carb	122395
	23C0006	Reagent - 0.05MFA wash	X
	23C0468	Reagent -0.3M Formic Acid	M13H051
	23C0469	Am. Ac. preservative	*

Batch Comments:

Spiked by: LYA 4/17/23 11:15

Witness:PAF

Balance #: N/A

Cartridge:Agilent

Concentration: 4/18/23 7:55-8:52

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01442
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC01442-CAL1	S2023-04-12A (1)	04/12/23 10:12
Cal Standard	SC01442-CAL2	S2023-04-12A (2)	04/12/23 10:25
Cal Standard	SC01442-CAL3	S2023-04-12A (3)	04/12/23 10:38
Cal Standard	SC01442-CAL4	S2023-04-12A (4)	04/12/23 10:51
Cal Standard	SC01442-CAL5	S2023-04-12A (5)	04/12/23 11:04
Cal Standard	SC01442-CAL6	S2023-04-12A (6)	04/12/23 11:16
Cal Standard	SC01442-CAL7	S2023-04-12A (7)	04/12/23 11:29
Cal Standard	SC01442-CAL8	S2023-04-12A (8)	04/12/23 11:42
Initial Cal Blank	SC01442-ICB1	S2023-04-12A (9)	04/12/23 11:55
Secondary Cal Check	SC01442-SCV1	S2023-04-12A (10)	04/12/23 12:08

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01502
 Calibration: 2315014

SDG:
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC01502-CCB1	S2023-04-14A (1)	04/14/23 14:29
Low Cal Check	SC01502-LCV1	S2023-04-14A (2)	04/14/23 14:42
Calibration Check	SC01502-CCV1	S2023-04-14A (3)	04/14/23 14:55
Performance Mix	SC01502-PEM1	S2023-04-14A (4)	04/14/23 15:08
Performance Mix	SC01502-PEM2	S2023-04-14A (5)	04/14/23 15:21
Calibration Blank	SC01502-CCB2	S2023-04-14A (6)	04/14/23 15:34
Blank	BCD0119-BLK1	S2023-04-14A (7)	04/14/23 15:47
LCS	BCD0119-BS1	S2023-04-14A (8)	04/14/23 16:00
MRL Check	BCD0119-MRL1	S2023-04-14A (9)	04/14/23 16:12
Calibration Check	SC01502-CCV2	S2023-04-14A (32)	04/14/23 21:09
Calibration Blank	SC01502-CCB3	S2023-04-14A (33)	04/14/23 21:22
AF-RHMMW03-WGN01LF-2304W1	23D0056-01	S2023-04-14A (44)	04/14/23 23:43
Calibration Check	SC01502-CCV3	S2023-04-14A (52)	04/15/23 01:26
Calibration Blank	SC01502-CCB4	S2023-04-14A (53)	04/15/23 01:39

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01530
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC01530-CAL1	S2023-04-18B (1)	04/18/23 16:52
Cal Standard	SC01530-CAL2	S2023-04-18B (2)	04/18/23 17:08
Cal Standard	SC01530-CAL3	S2023-04-18B (3)	04/18/23 17:24
Cal Standard	SC01530-CAL4	S2023-04-18B (4)	04/18/23 17:40
Cal Standard	SC01530-CAL5	S2023-04-18B (5)	04/18/23 17:56
Cal Standard	SC01530-CAL6	S2023-04-18B (6)	04/18/23 18:12
Cal Standard	SC01530-CAL7	S2023-04-18B (7)	04/18/23 18:28
Cal Standard	SC01530-CAL8	S2023-04-18B (8)	04/18/23 18:44
Initial Cal Blank	SC01530-ICB1	S2023-04-18B (9)	04/18/23 18:59
Secondary Cal Check	SC01530-SCV1	S2023-04-18B (10)	04/18/23 19:15

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC01534
 Calibration: 2316009

SDG:
 Project: Red Hill AFFF Assessment Sampling / 60697810
 Instrument: Saphira

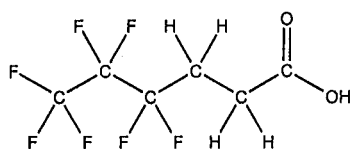
Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC01534-CCB1	S2023-04-18C (1)	04/18/23 21:20
Low Cal Check	SC01534-LCV1	S2023-04-18C (2)	04/18/23 21:36
Calibration Check	SC01534-CCV1	S2023-04-18C (3)	04/18/23 21:52
Performance Mix	SC01534-PEM1	S2023-04-18C (4)	04/18/23 22:08
Performance Mix	SC01534-PEM2	S2023-04-18C (5)	04/18/23 22:24
Calibration Blank	SC01534-CCB2	S2023-04-18C (6)	04/18/23 22:40
Blank	BCD0235-BLK1	S2023-04-18C (7)	04/18/23 22:56
LCS	BCD0235-BS1	S2023-04-18C (8)	04/18/23 23:12
MRL Check	BCD0235-MRL1	S2023-04-18C (9)	04/18/23 23:28
AF-RHMW02-WGN01LF-2304W1	23D0056-02RE3	S2023-04-18C (20)	04/19/23 02:22
AF-RHMW02-WGN01LF-2304W1	23D0056-02RE4	S2023-04-18C (21)	04/19/23 02:38
Calibration Check	SC01534-CCV2	S2023-04-18C (22)	04/19/23 02:54
Calibration Blank	SC01534-CCB3	S2023-04-18C (23)	04/19/23 03:10



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA **LOT NUMBER:** FPrPA1020
COMPOUND: 3-Perfluoropropyl propanoic acid
STRUCTURE: **CAS #:** 356-02-5



MOLECULAR FORMULA: $C_8H_5F_7O_2$ **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 ($C_8H_3F_7O_2$) as an impurity determined by ^{19}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:

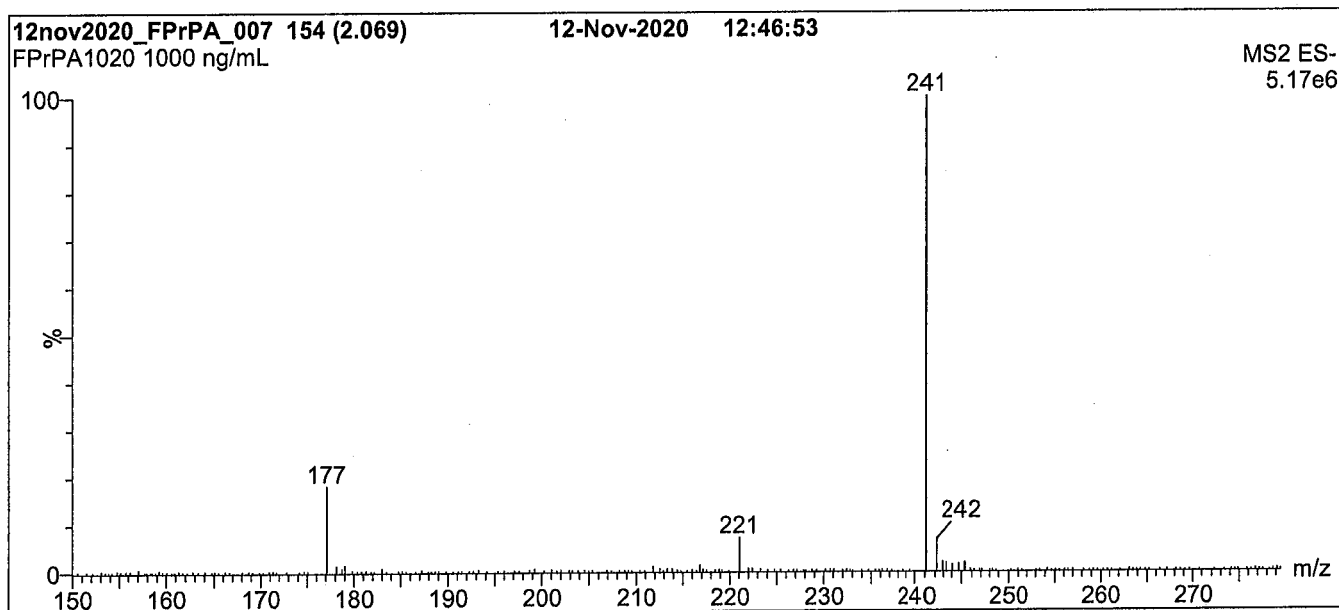
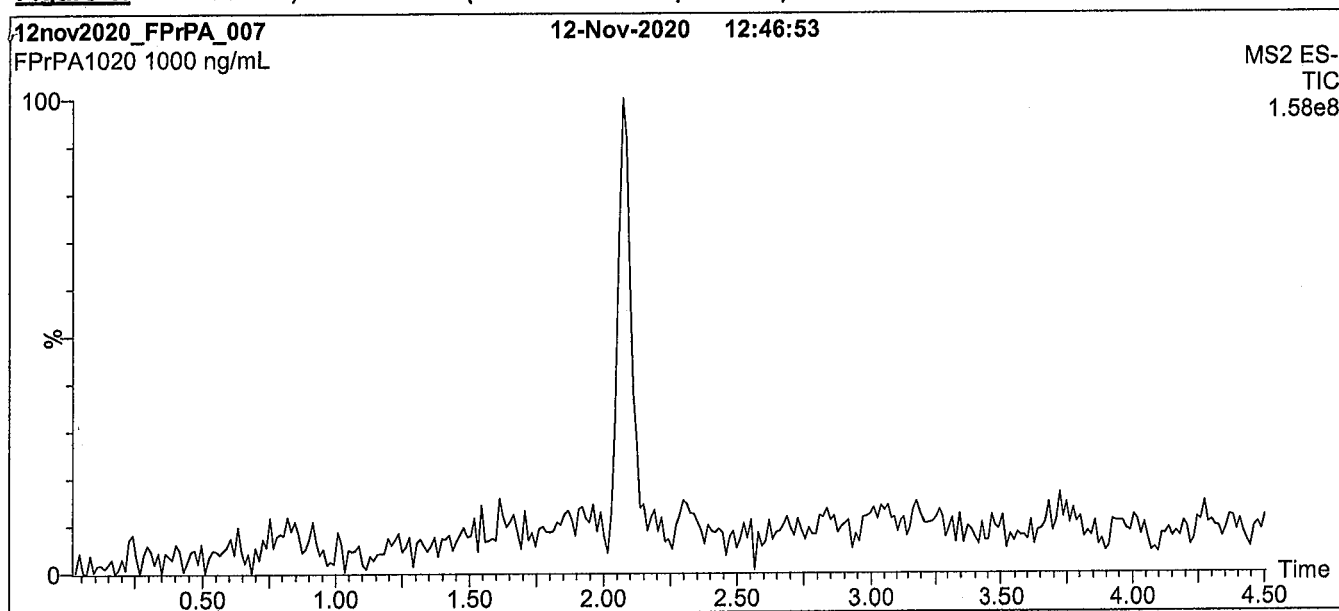
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (150 - 850 amu)

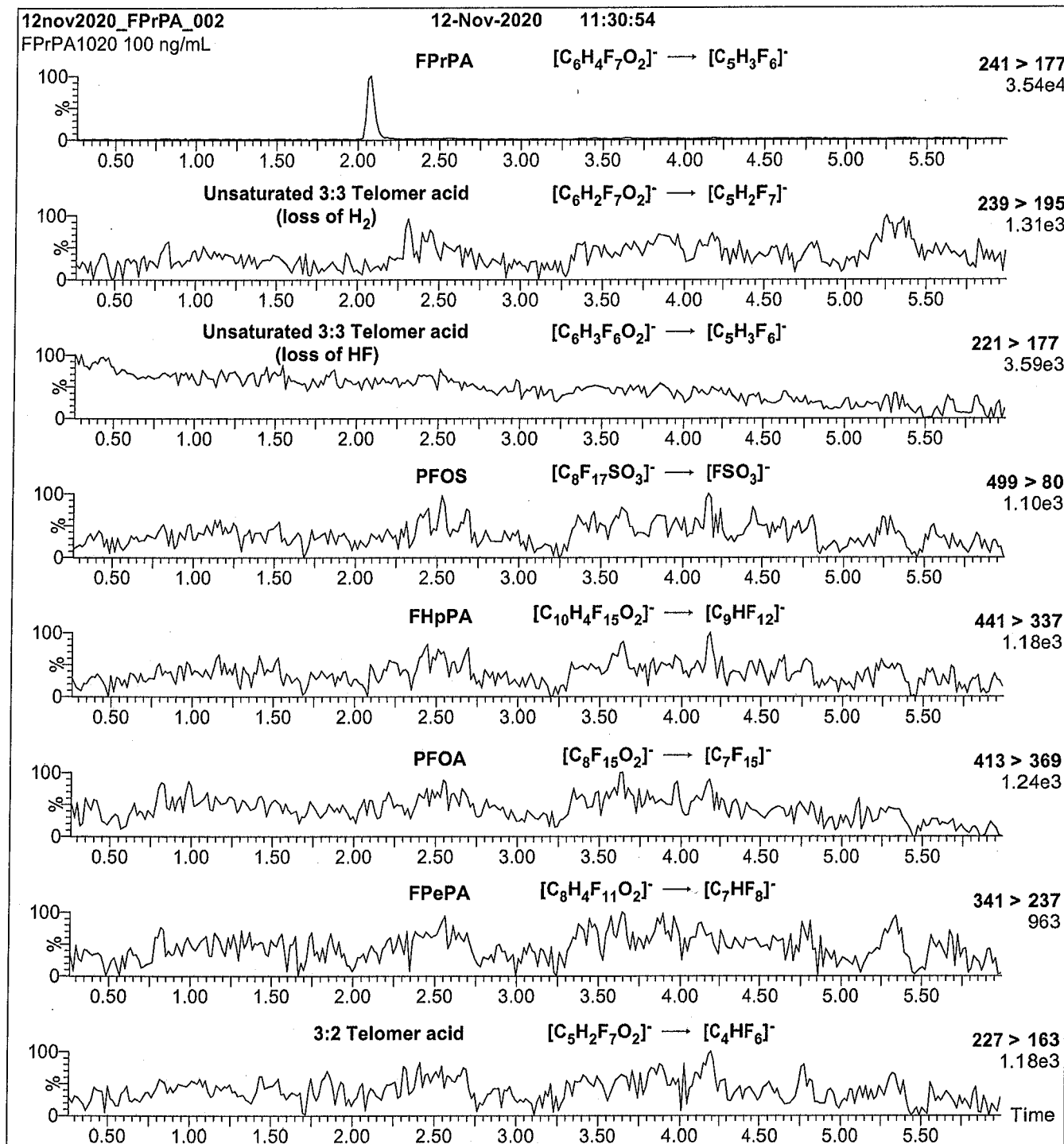
Source: Electrospray (negative)

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 μ 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		

Analyte	Parent	CAS Number	Concentration	Units
3:3 FTA		113507-82-7	50	ug/mL

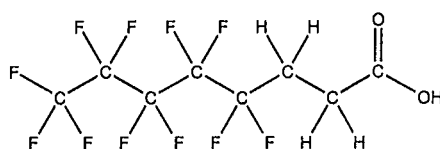


WELLINGTON LABORATORIES

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}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:

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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.

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:

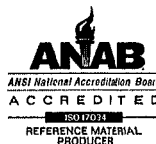
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

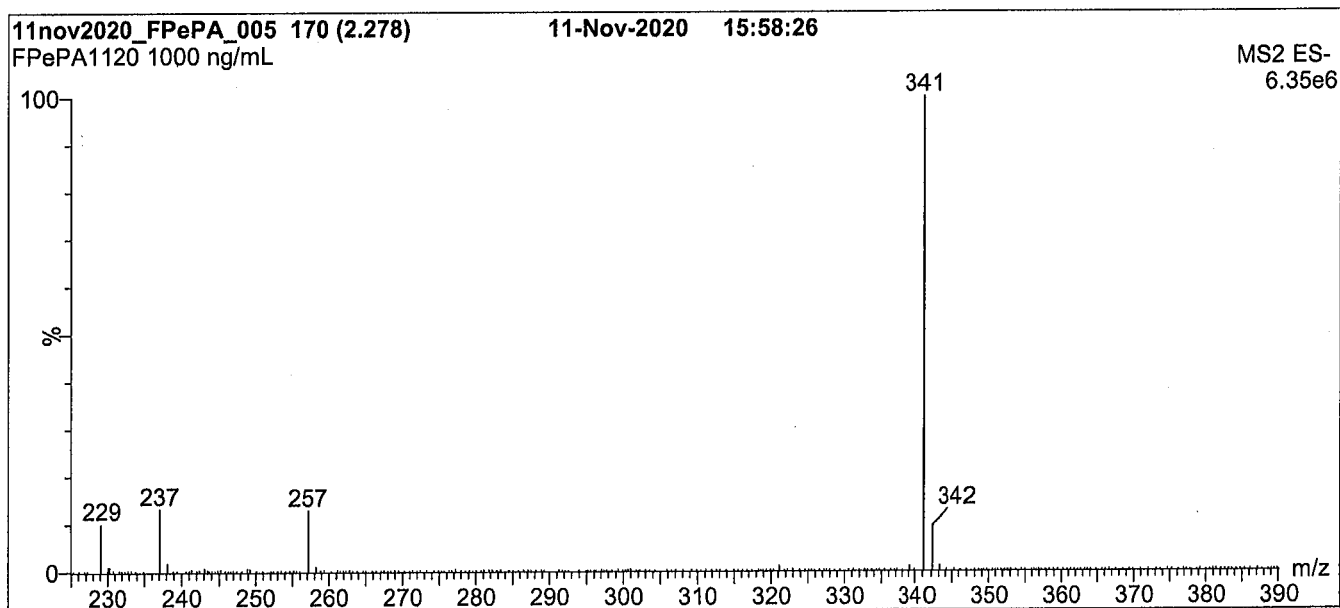
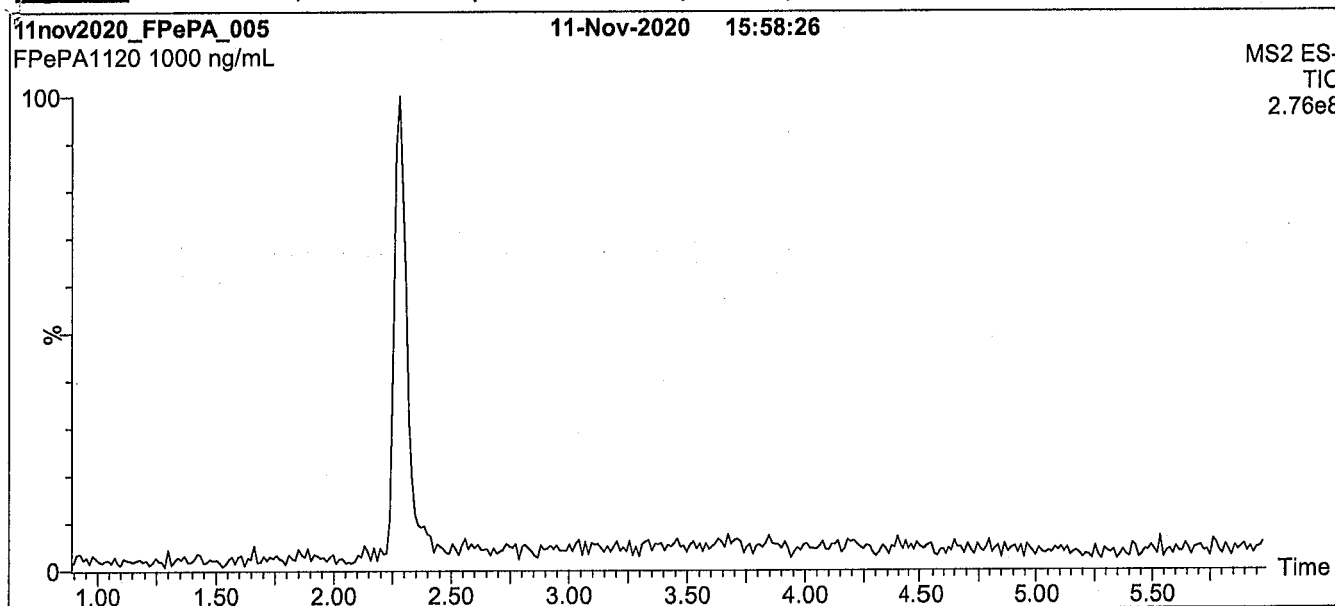
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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).



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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 RP₁₈
1.7 μ m, 2.1 x 100 mm

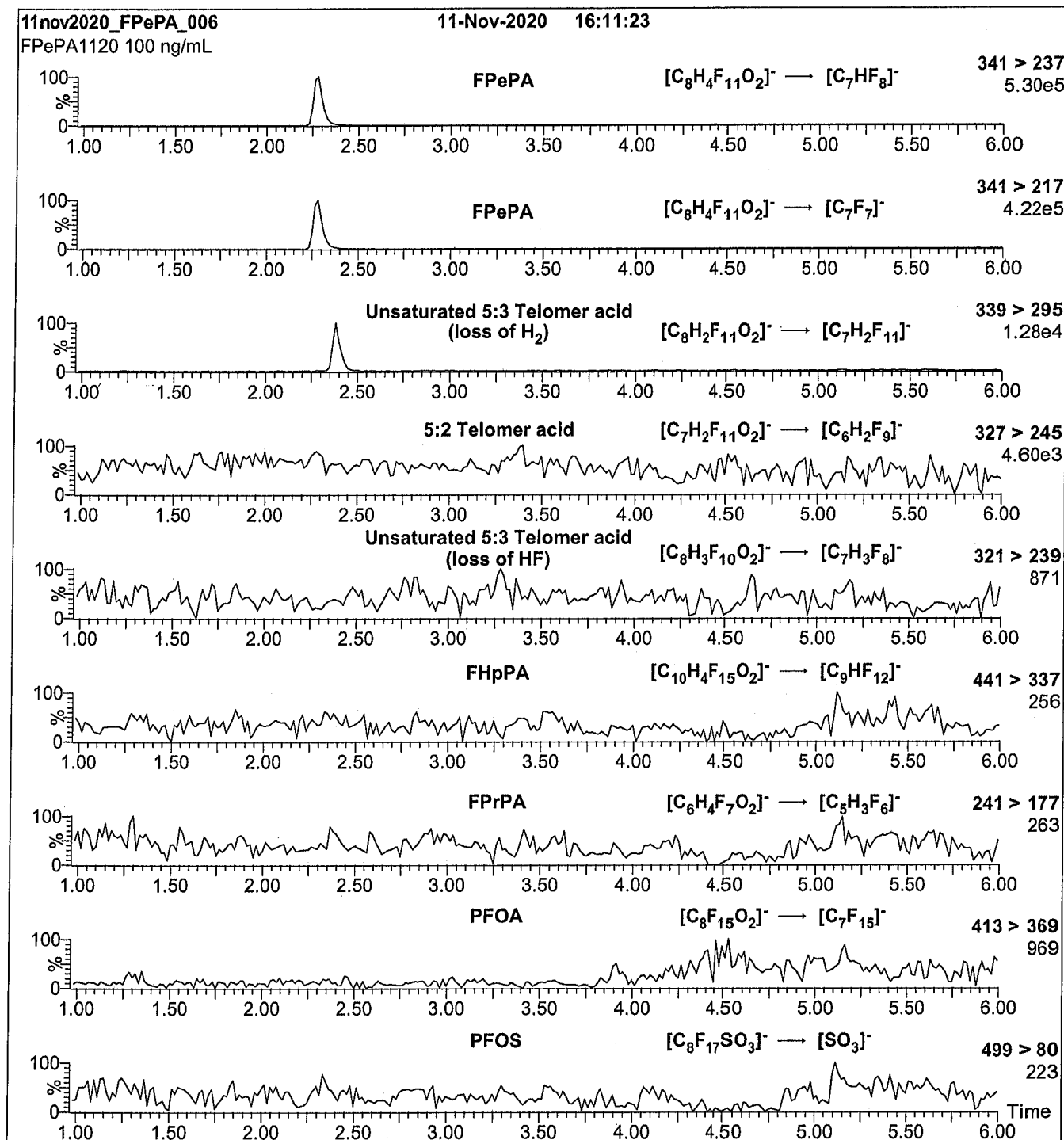
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 μ 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		

Analyte	Parent	CAS Number	Concentration	Units
5:3 FTA		914637-49-3	50	ug/mL

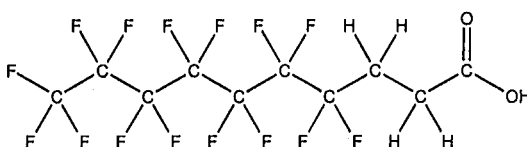


WELLINGTON LABORATORIES

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

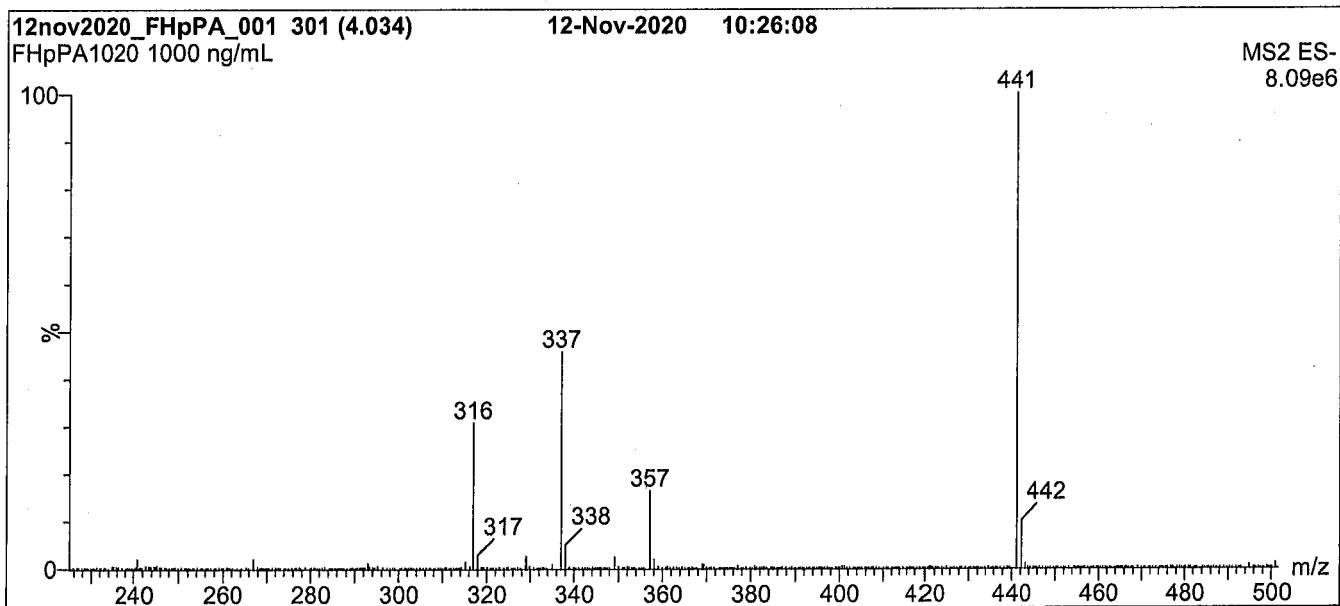
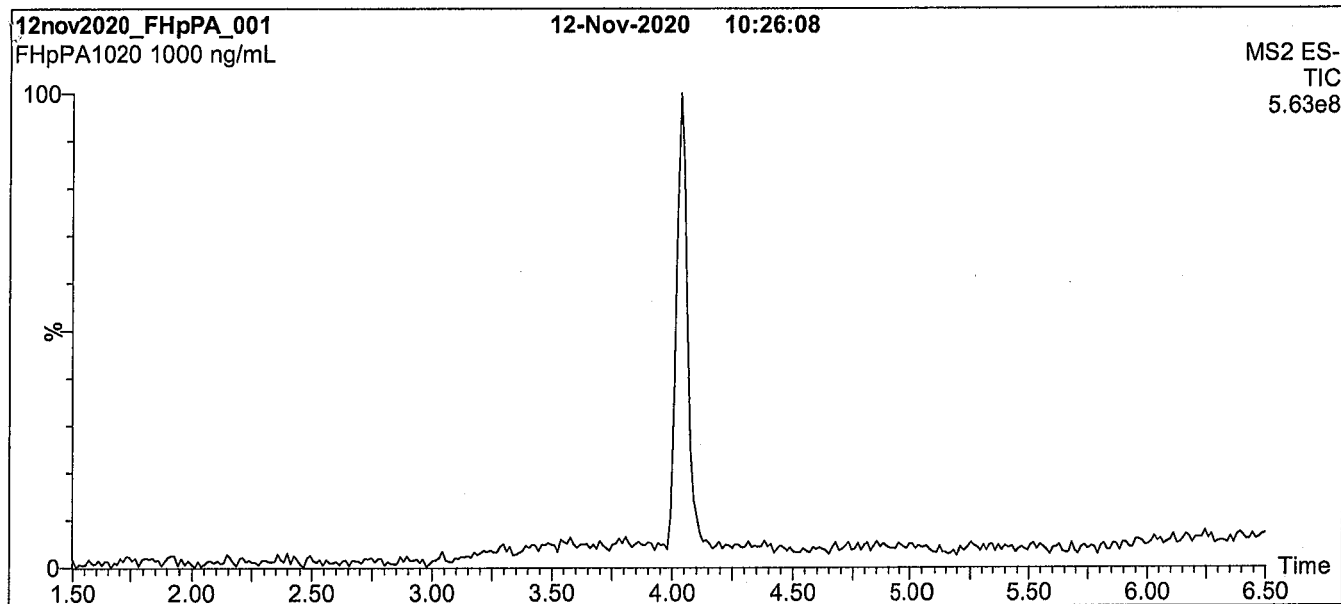
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Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

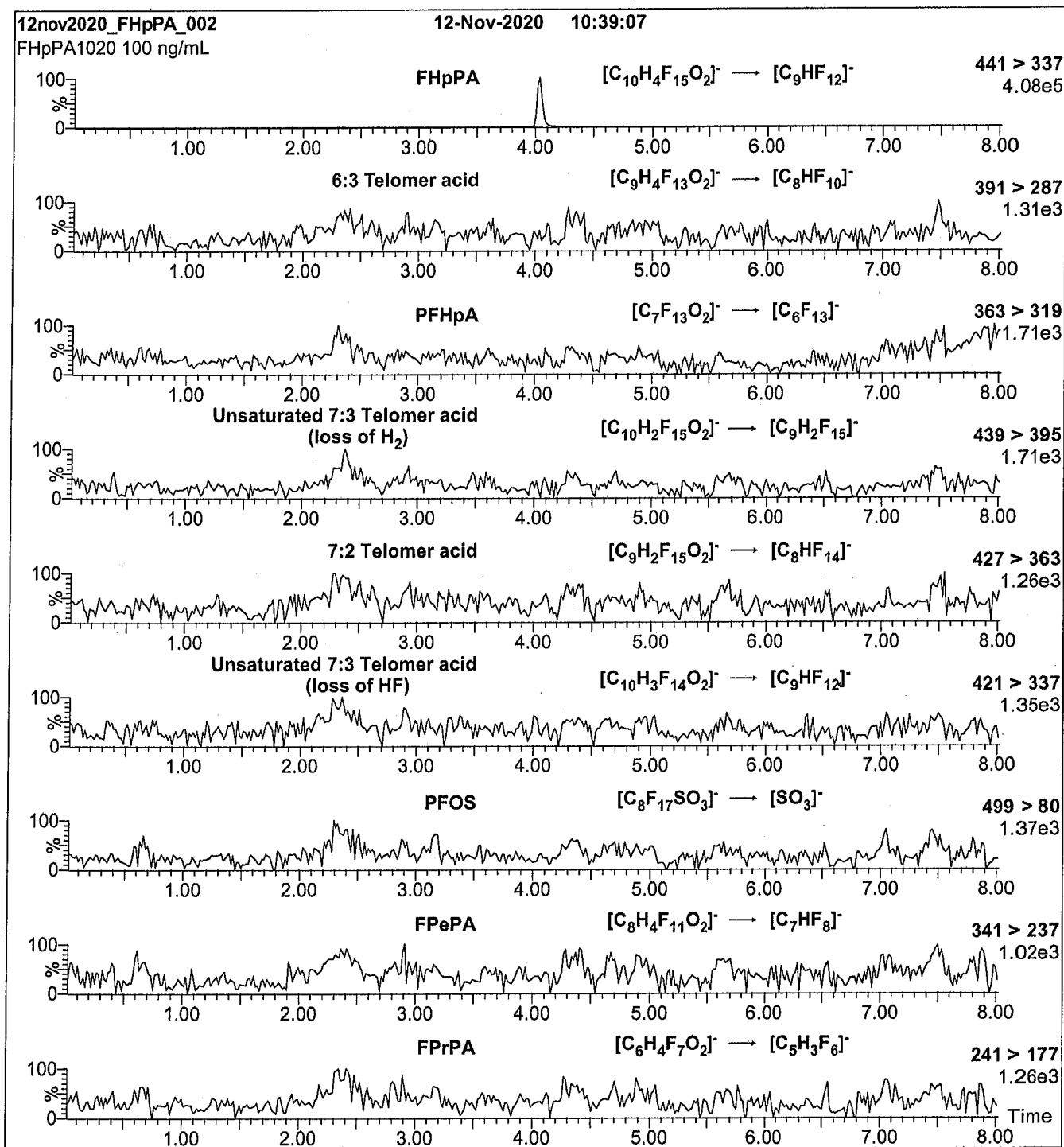
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 μ 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		

Analyte	Parent	CAS Number	Concentration	Units
7:3 FTA		812-70-4	50	ug/mL

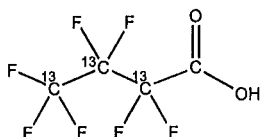


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBA **LOT NUMBER:** M3PFBA0721
COMPOUND: Perfluoro-n-(2,3,4-¹³C₃)butanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²CHF₇O₂ **MOLECULAR WEIGHT:** 217.02
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99%¹³C
 (2,3,4-¹³C₃)
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-(¹³C₃)propanoic acid and also contains ~1.0% of perfluoro-n-(1,2,3,4-¹³C₄)butanoic acid due to the naturally occurring isotopic abundance of ¹³C 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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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

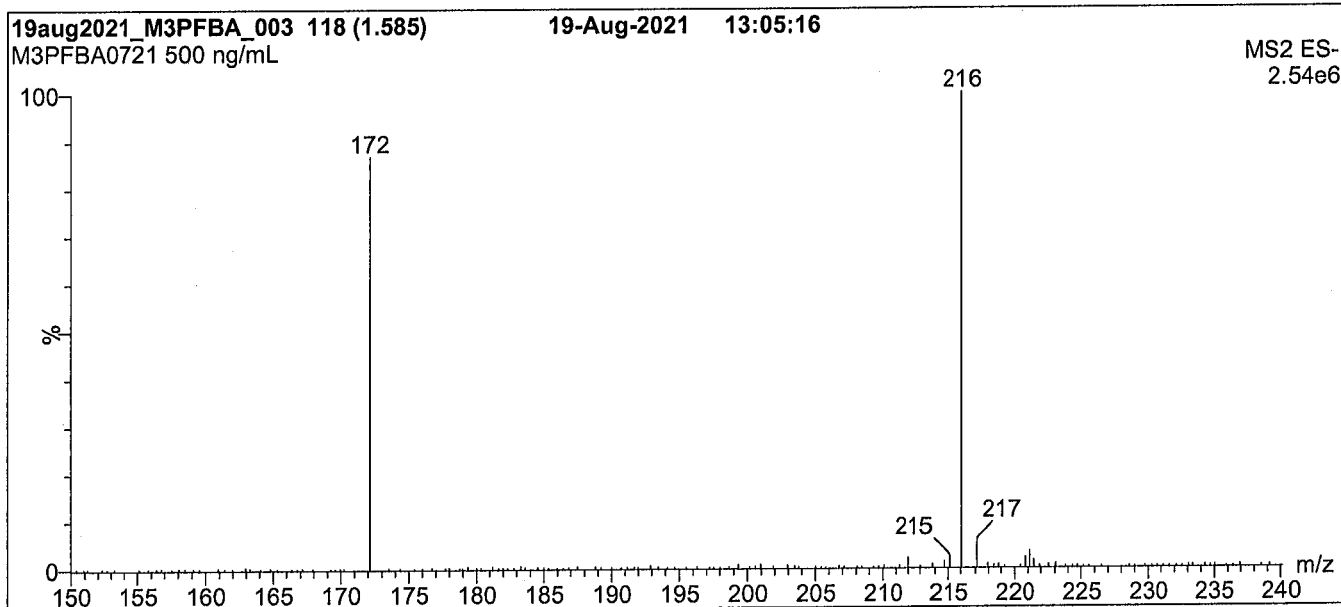
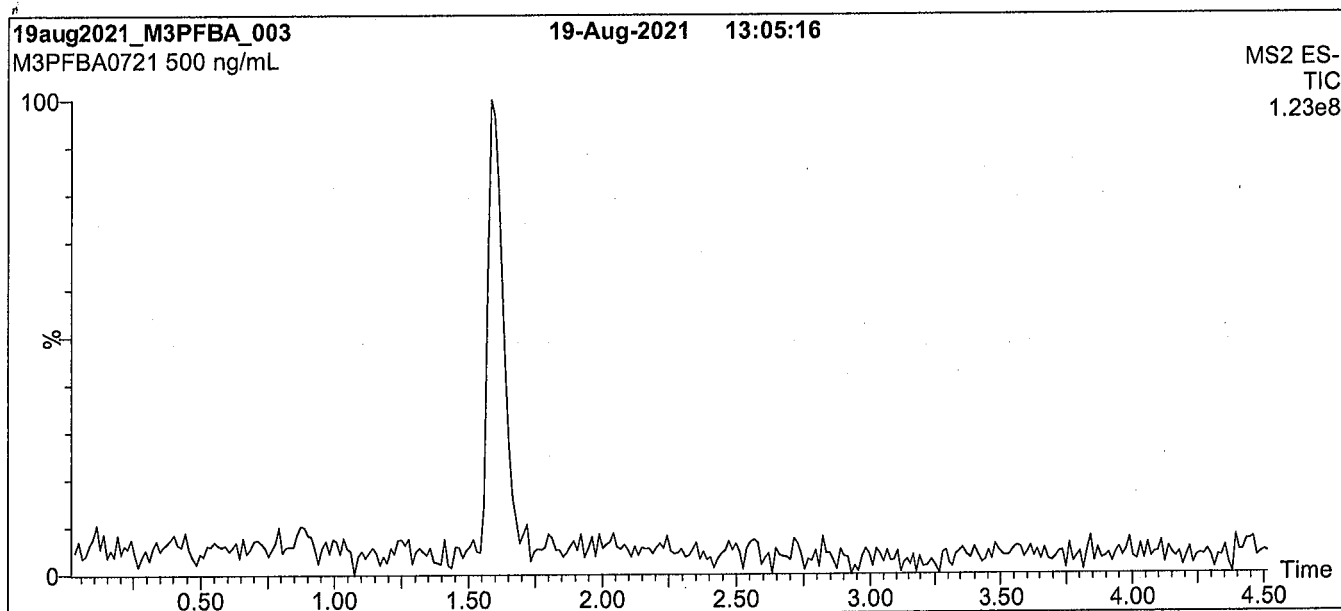
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Figure 1: M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

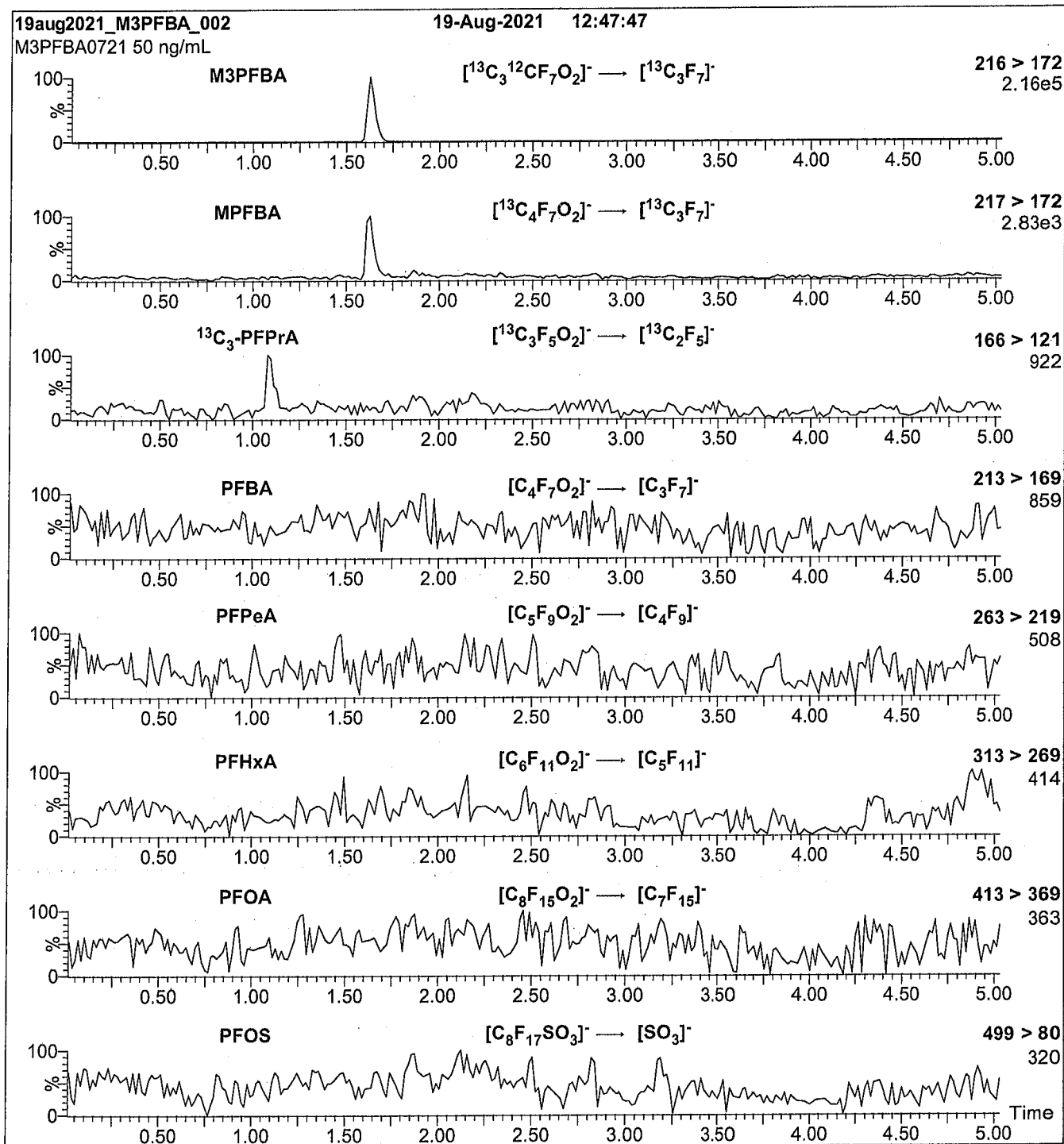
Mobile phase: Gradient
Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 12 min

Flow: 300 μ 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

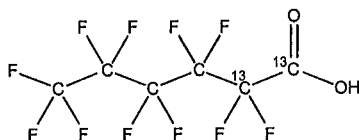
Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA		13C3-PFBA	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFHxA **LOT NUMBER:** MPFHxA0921
COMPOUND: Perfluoro-n-(1,2-¹³C₂)hexanoic acid
STRUCTURE: **CAS #:** 960315-47-3



MOLECULAR FORMULA: ¹³C₂¹²C₄HF₁₁O₂ **MOLECULAR WEIGHT:** 316.04
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
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:

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: 10/22/2021
 (mm/dd/yyyy)

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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:

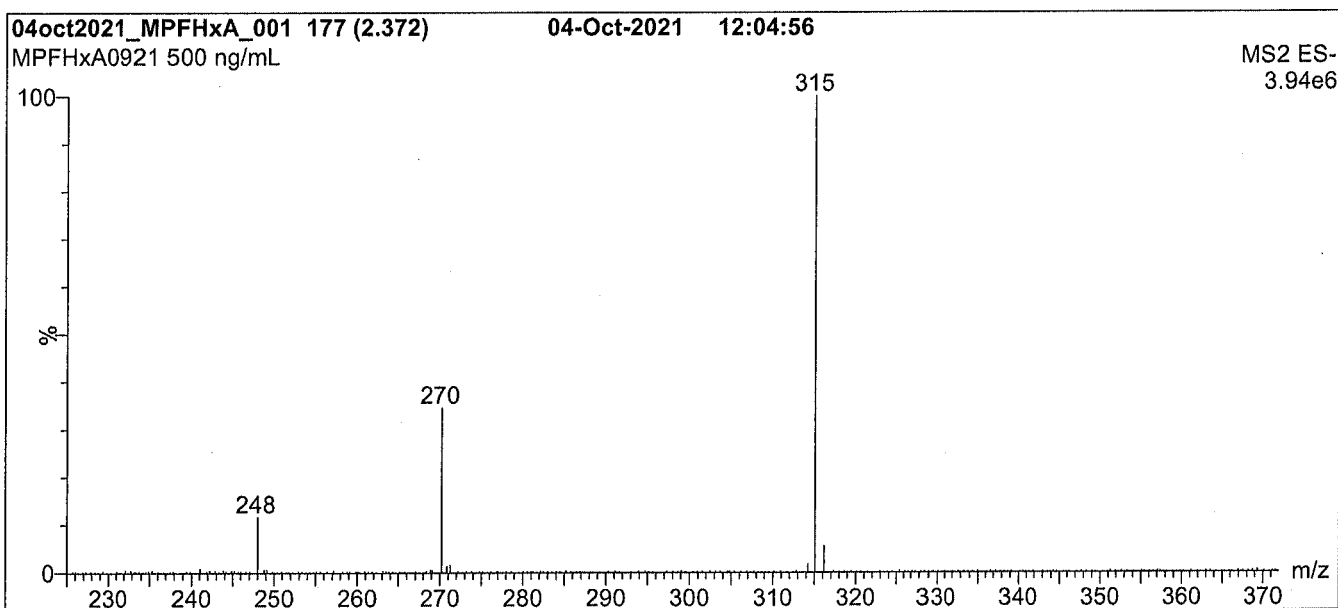
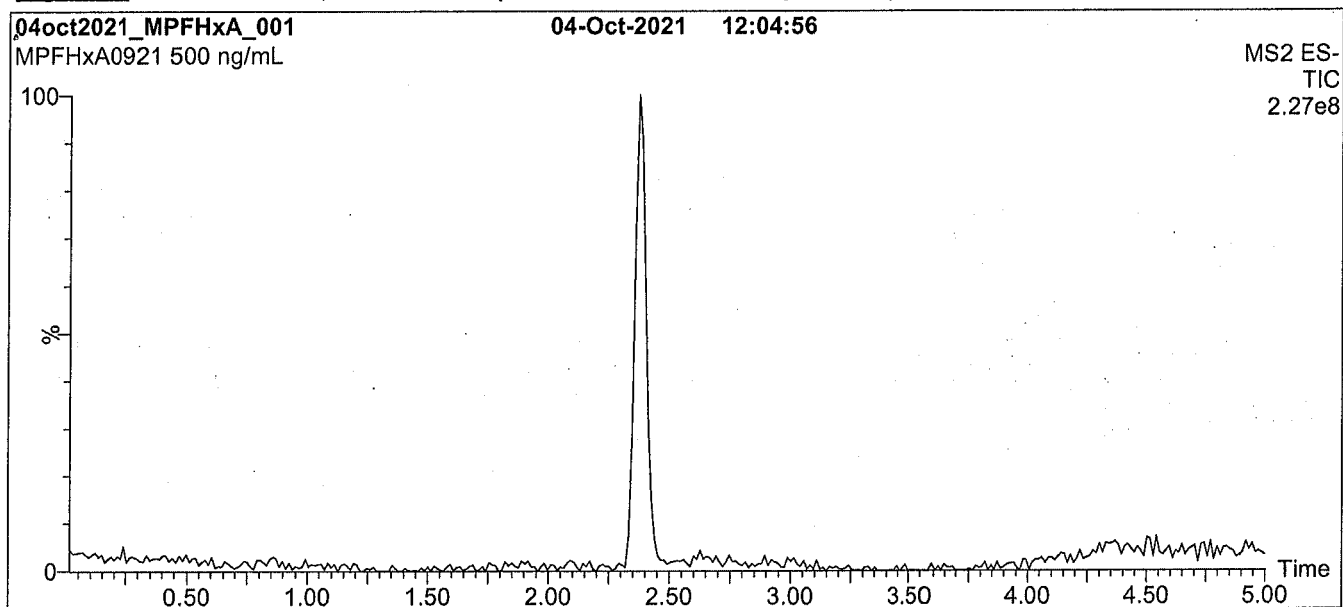
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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Figure 1: 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

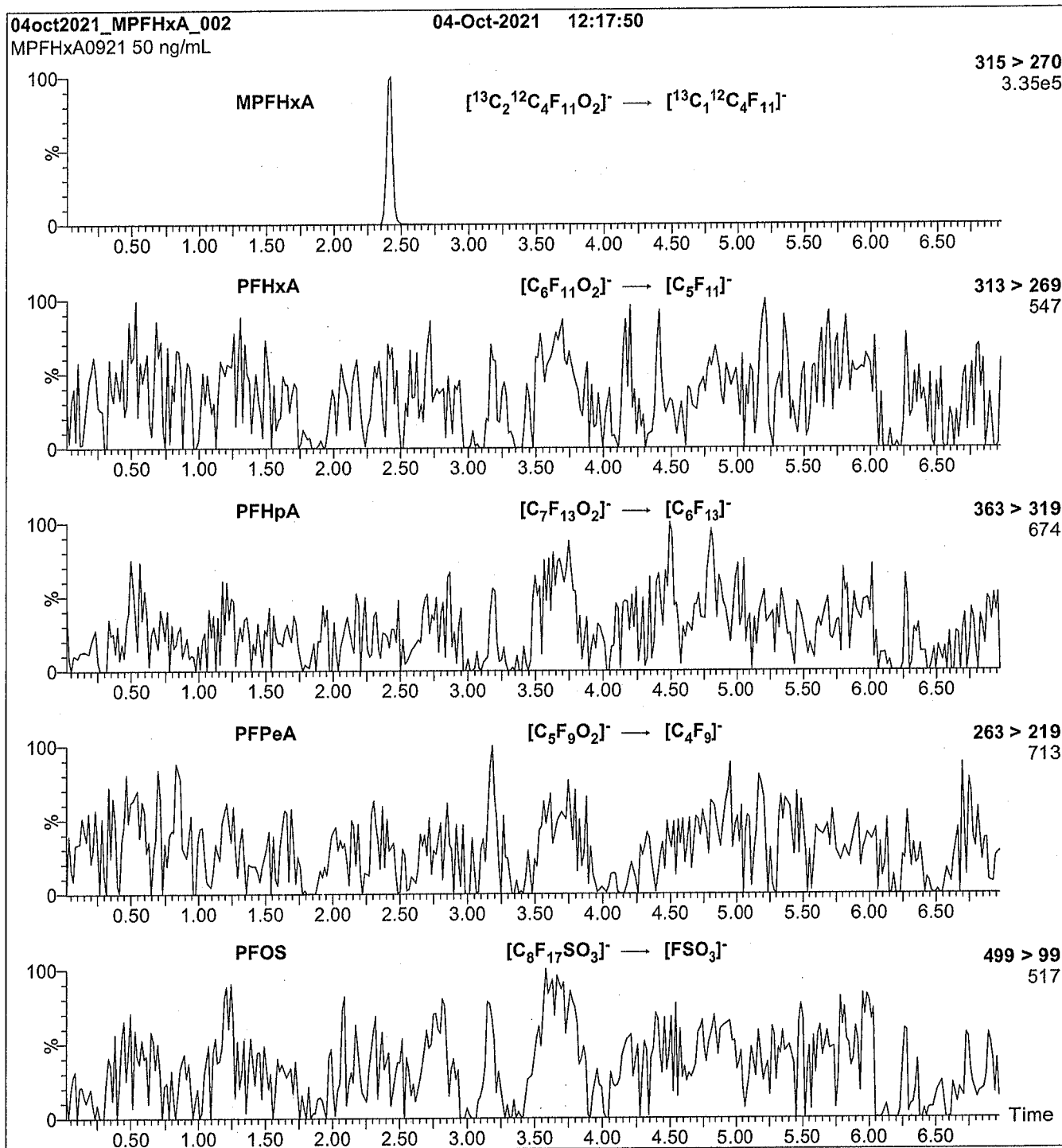
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 12 min

Flow: 300 μ 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: 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
Solvent:	MeOH	Prepared By:	Dipti Gokal
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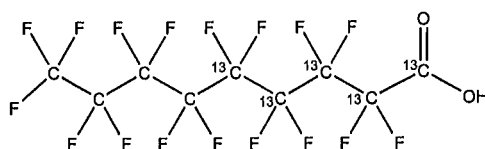
Analyte	Parent	CAS Number	Concentration	Units
13C2-PFHxA		13C2-PFHxA	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFNA **LOT NUMBER:** MPFNA1021
COMPOUND: Perfluoro-n-(1,2,3,4,5-¹³C₅)nonanoic acid
STRUCTURE: **CAS #:** 960315-49-5



MOLECULAR FORMULA: $^{13}\text{C}_5^{12}\text{C}_4\text{HF}_{17}\text{O}_2$ **MOLECULAR WEIGHT:** 469.04
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2,3,4,5-¹³C₅)
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

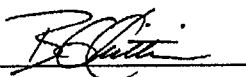
DOCUMENTATION/ DATA ATTACHED:

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
 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:

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LIMITED WARRANTY:

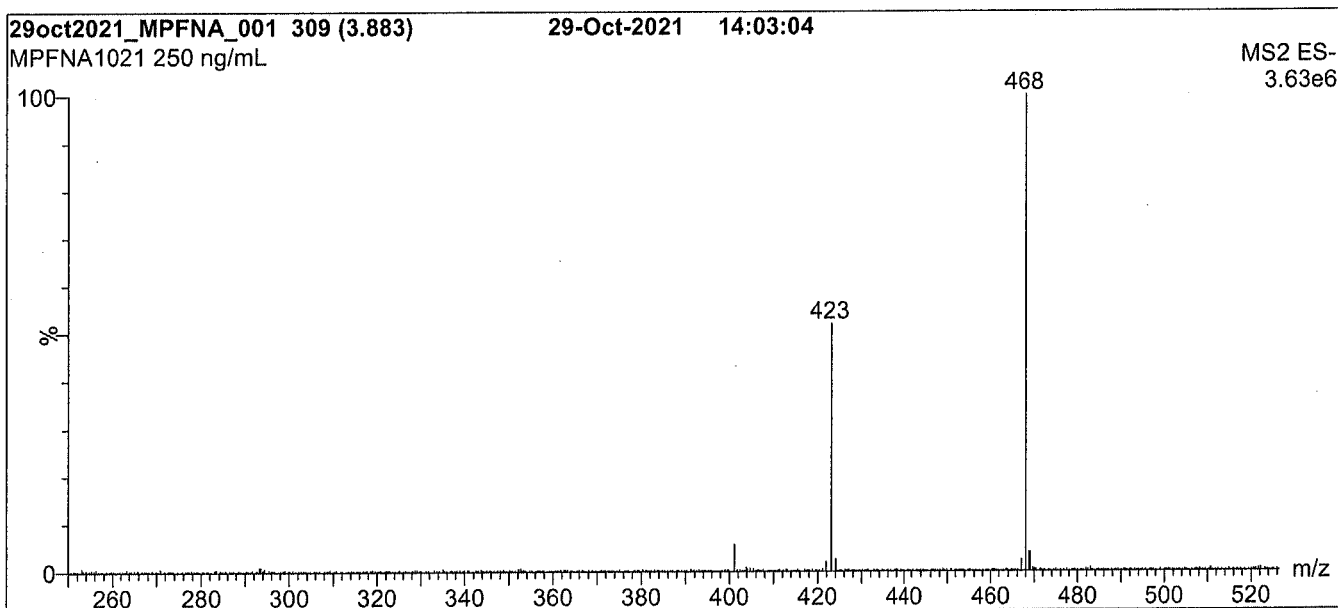
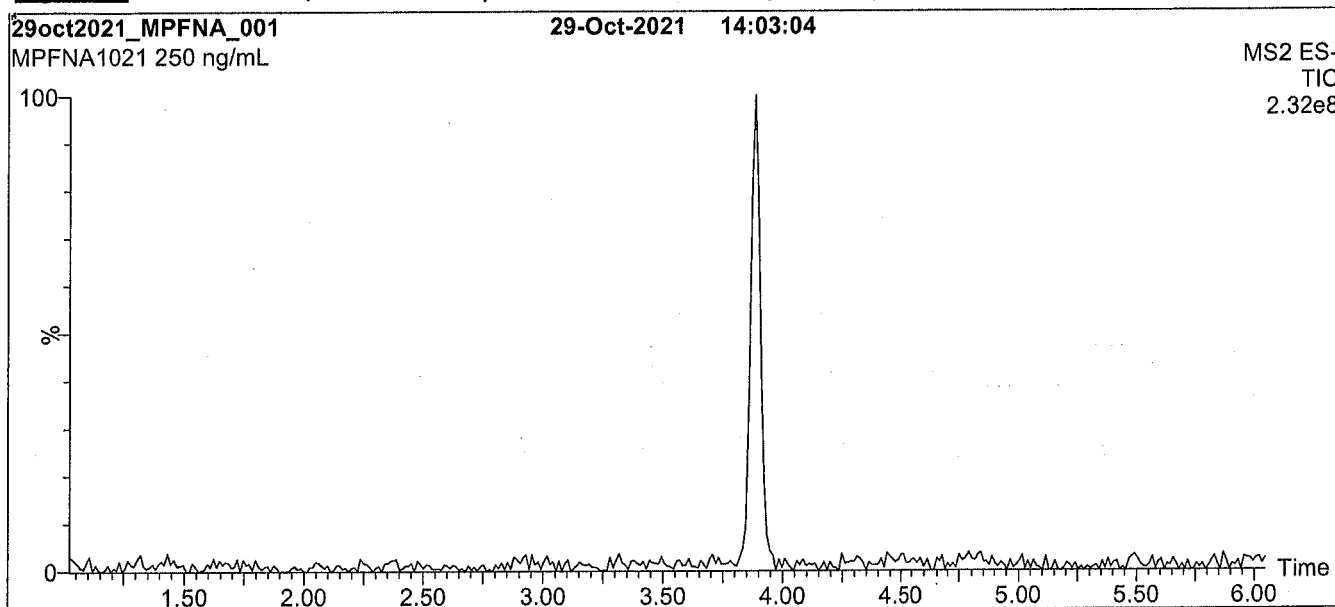
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Figure 1: MPFNA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

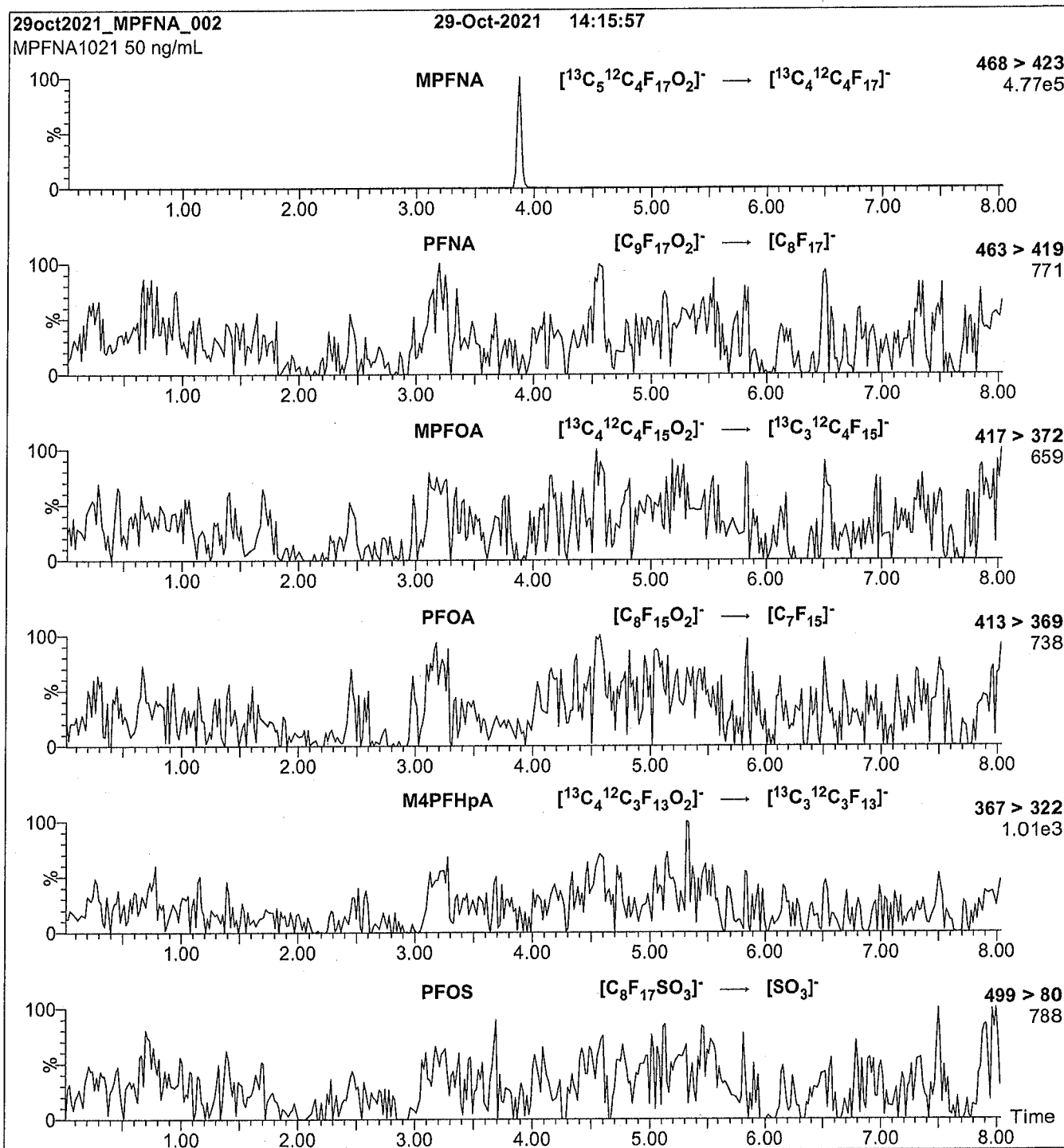
Source: Electrospray (negative)

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

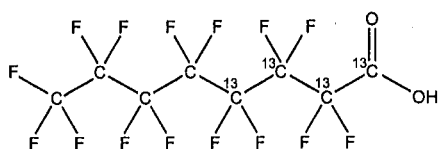
22A0118

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 **LOT NUMBER:** MPFOA1121
COMPOUND: Perfluoro-n-(1,2,3,4-¹³C₄)octanoic acid
STRUCTURE: **CAS #:** 960315-48-4



MOLECULAR FORMULA: ¹³C₄¹²C₄HF₁₅O₂ **MOLECULAR WEIGHT:** 418.04
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
(1,2,3,4-¹³C₄)
LAST TESTED: (mm/dd/yyyy) 12/07/2021
EXPIRY DATE: (mm/dd/yyyy) 12/07/2026
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: 12/20/2021
(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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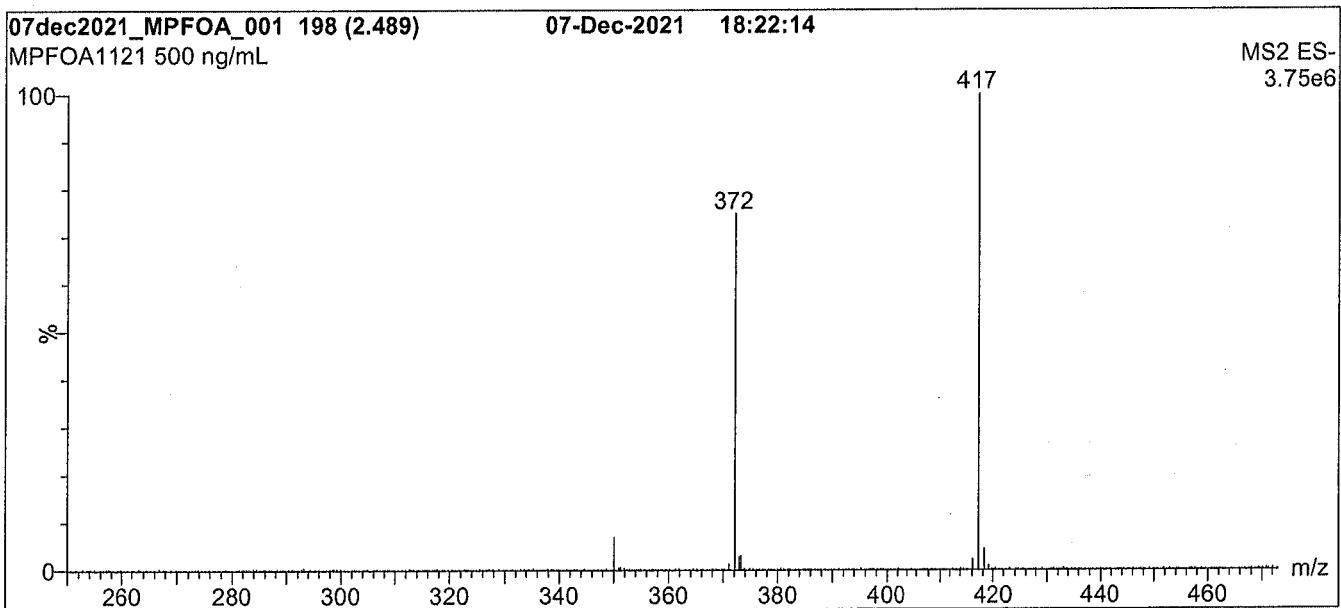
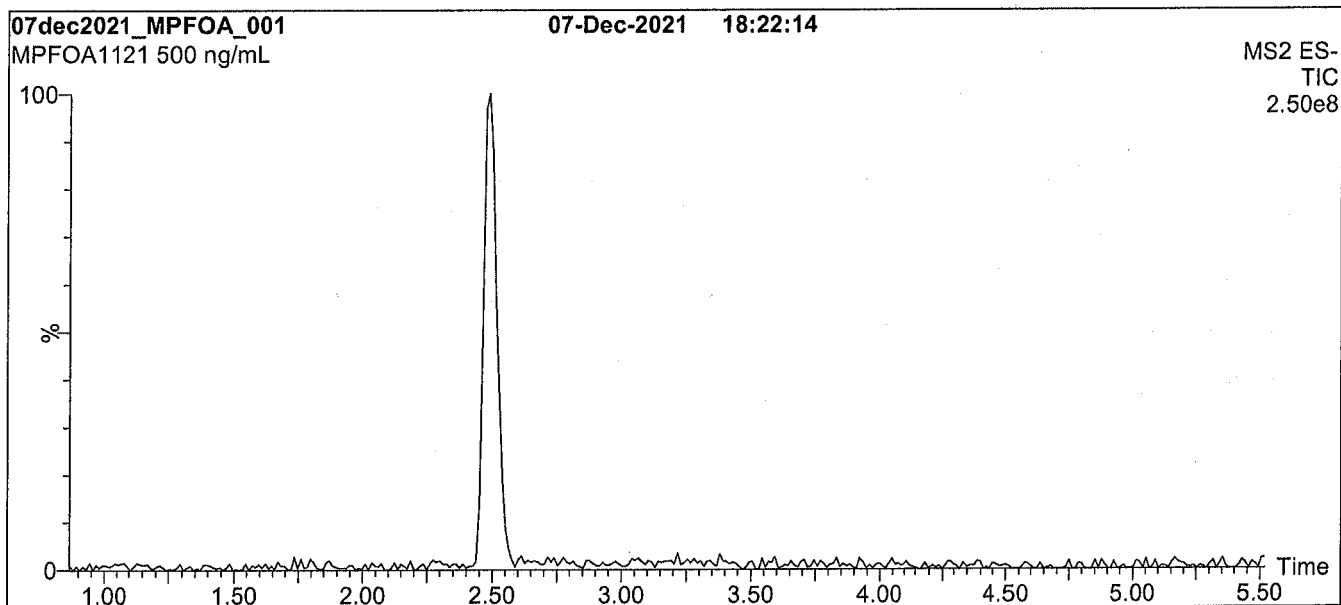
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Figure 1: MPFOA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

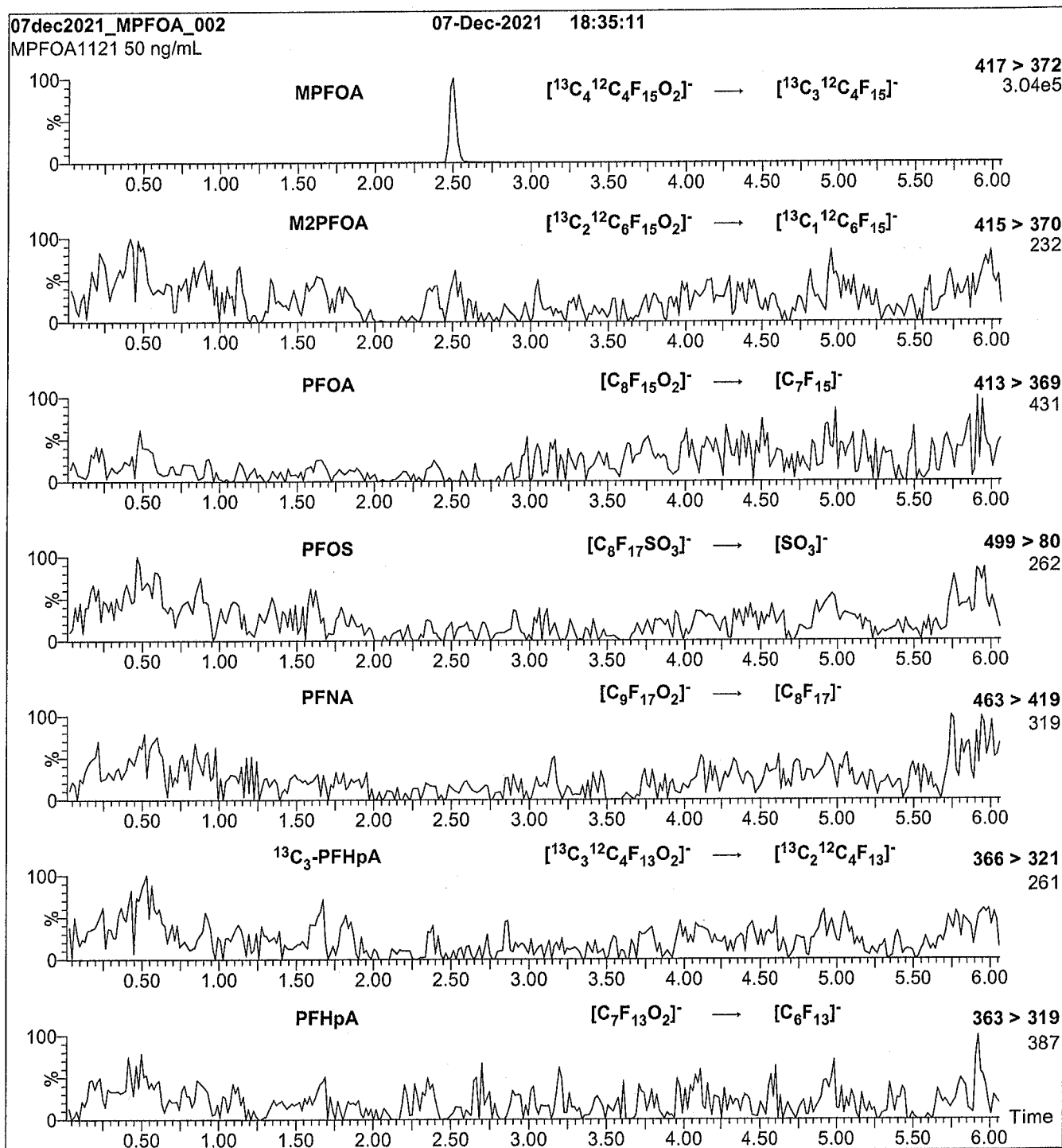
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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

Analyte	Parent	CAS Number	Concentration	Units
13C4-PFOA		13C4-PFOA	50	ug/mL

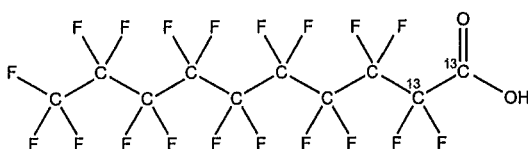


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDA **LOT NUMBER:** MPFDA1221
COMPOUND: Perfluoro-n-(1,2-¹³C₂)decanoic acid

STRUCTURE: **CAS #:** 960315-50-8



MOLECULAR FORMULA: ¹³C₂¹²C₈HF₁₉O₂ **MOLECULAR WEIGHT:** 516.07
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
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)
 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: 12/13/2021
 (mm/dd/yyyy)

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LIMITED WARRANTY:

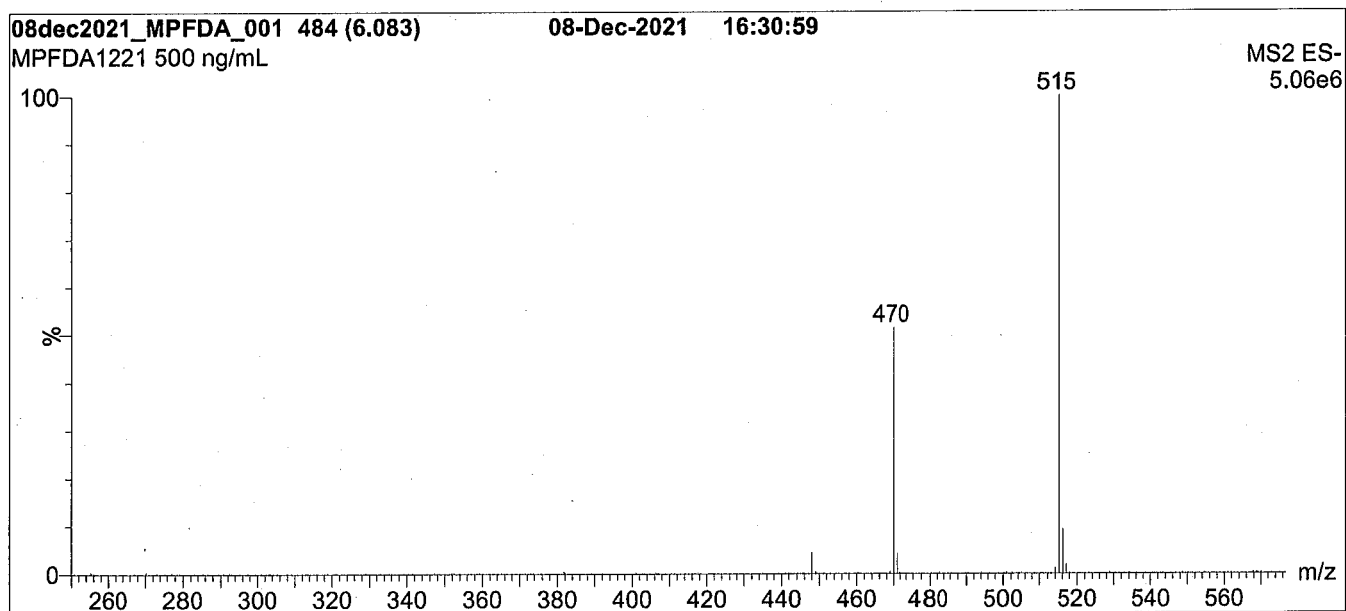
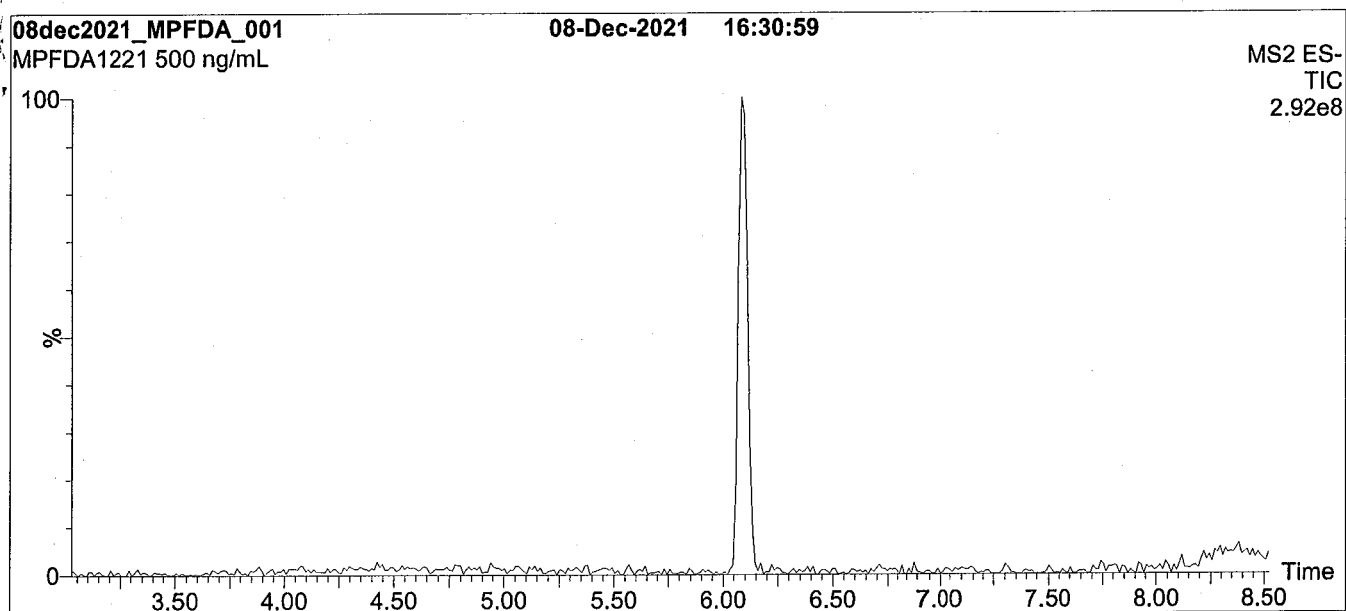
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

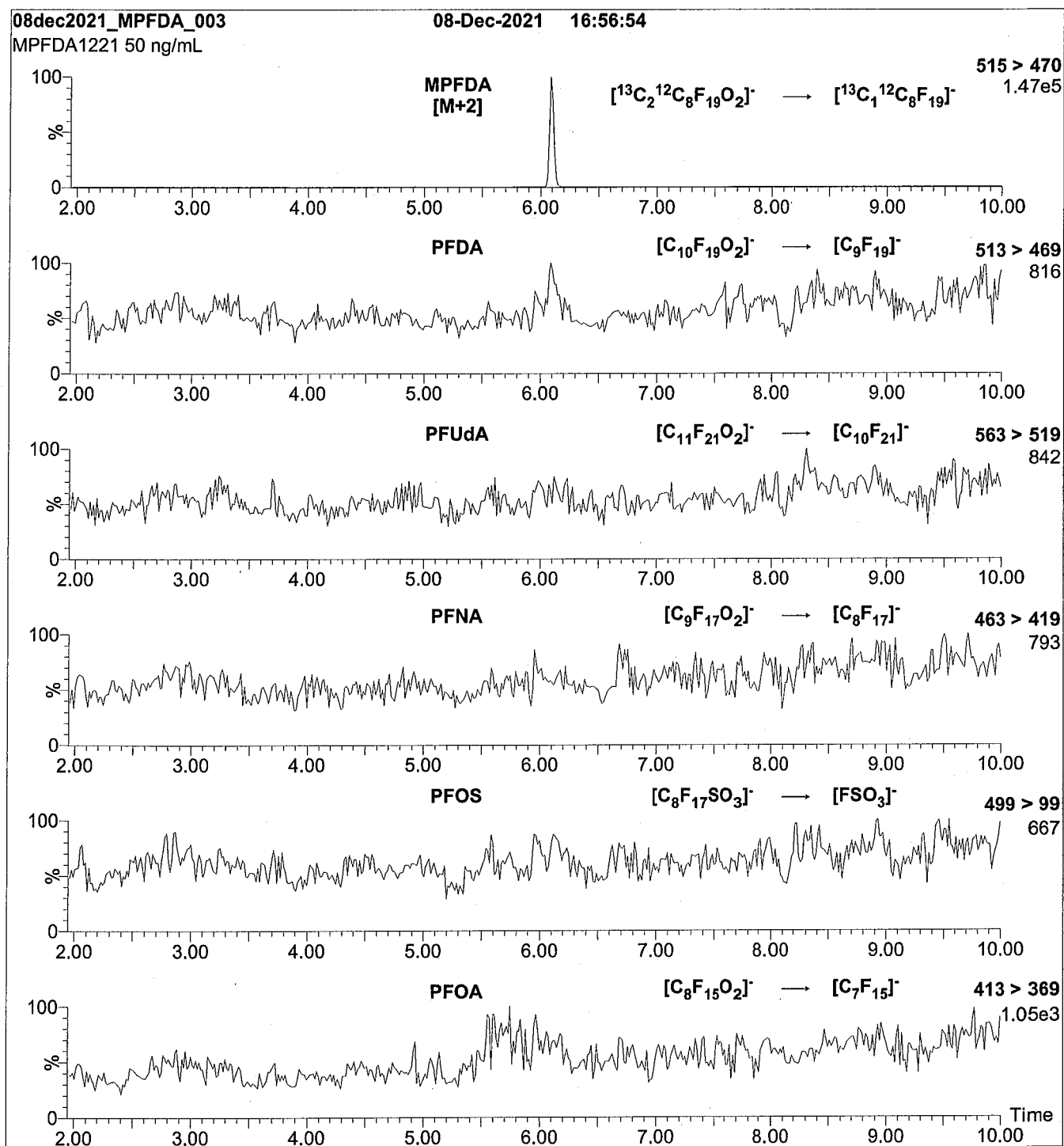
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 $\mu\text{L}/\text{min}$ **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

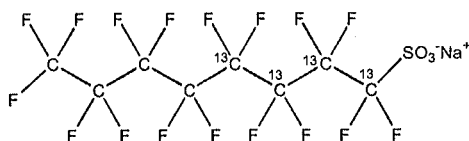


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0821
COMPOUND: Sodium perfluoro-1-(1,2,3,4-¹³C₄)octanesulfonate

STRUCTURE: **CAS #:** 960315-53-1



MOLECULAR FORMULA: ¹³C₄¹²C₄F₁₇SO₃Na **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% ¹³C
LAST TESTED: (mm/dd/yyyy) 08/18/2021 (1,2,3,4-¹³C₄)
EXPIRY DATE: (mm/dd/yyyy) 08/18/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

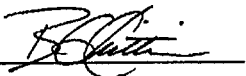
DOCUMENTATION/ DATA ATTACHED:

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-(¹³C₃)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:

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:

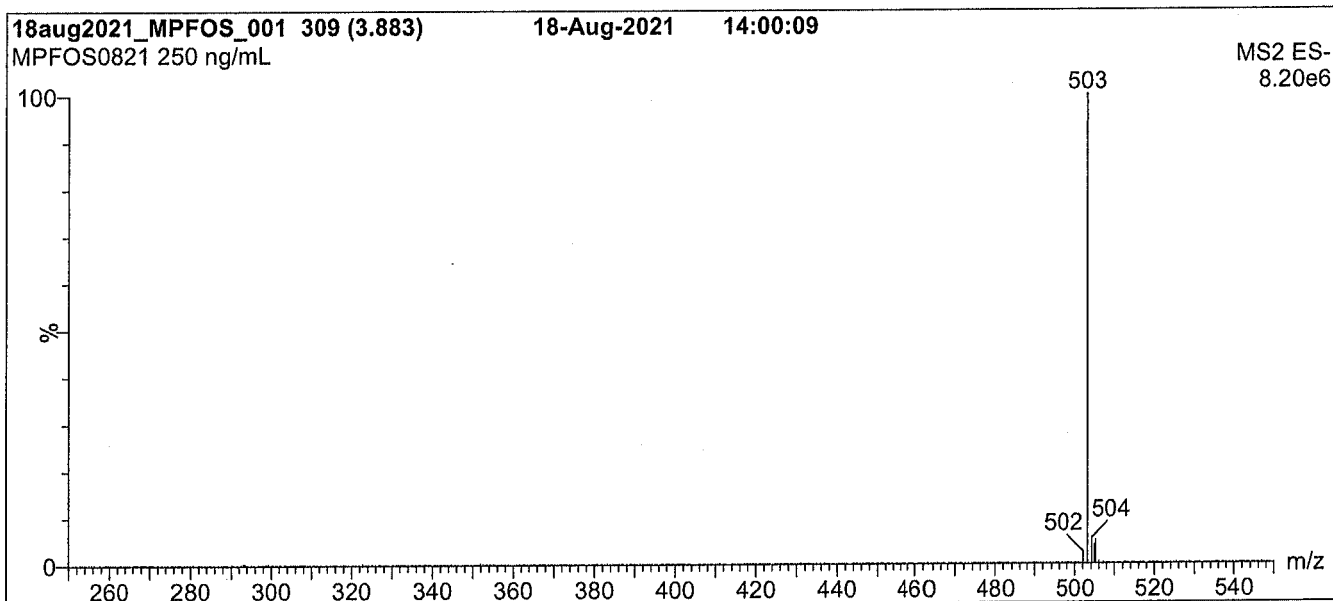
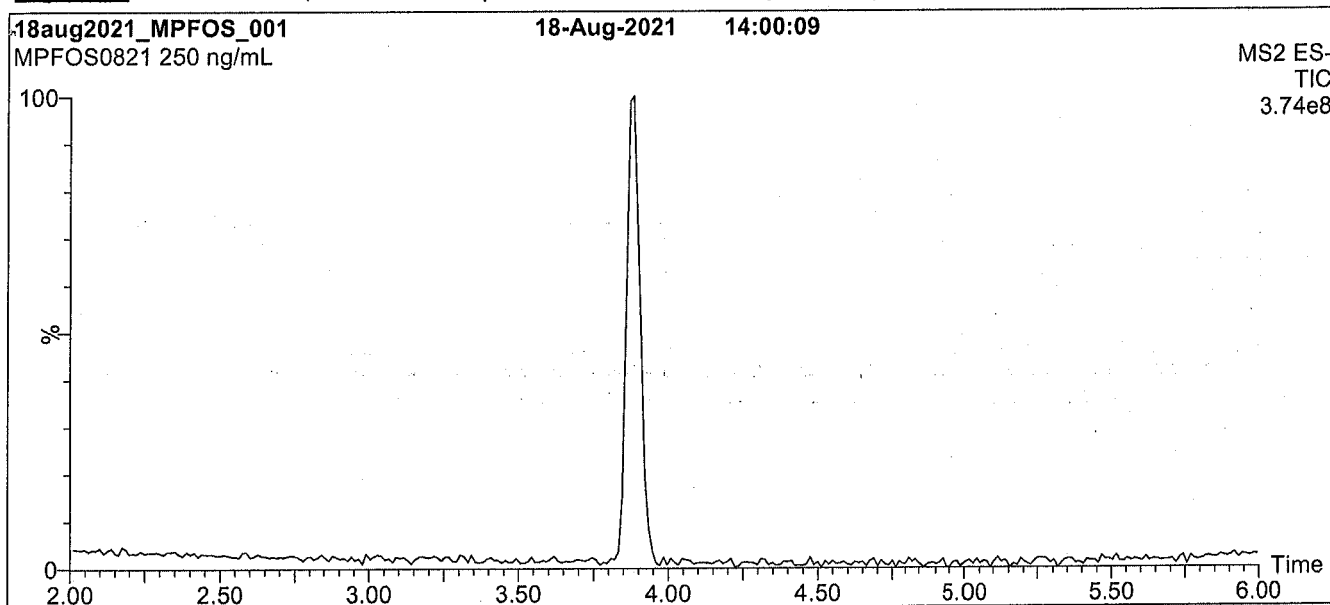
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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Figure 1: 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

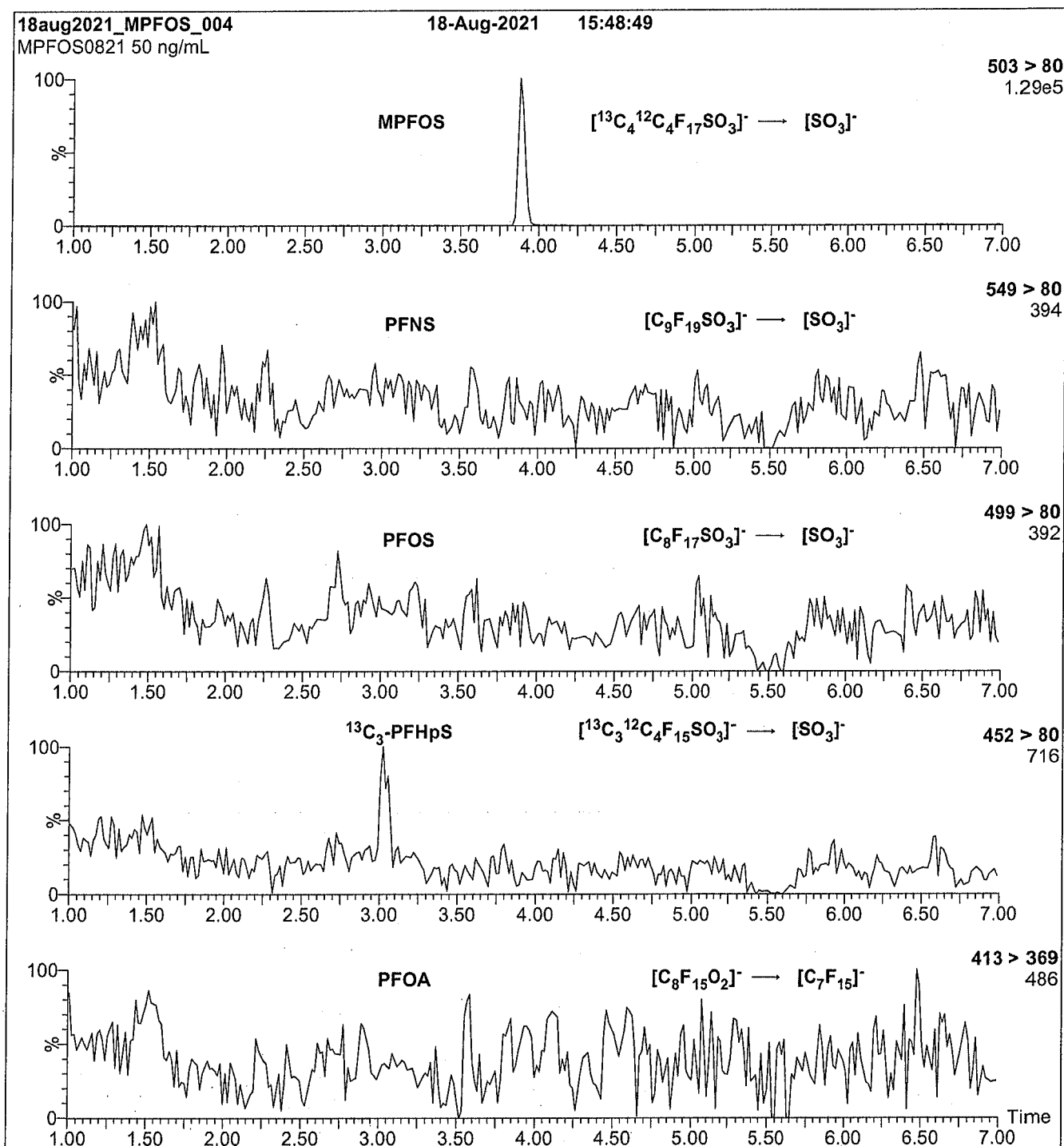
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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: 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

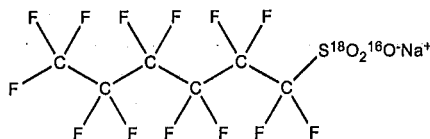


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFHxS **LOT NUMBER:** MPFHxS1021
COMPOUND: Sodium perfluoro-1-hexane(¹⁸O₂)sulfonate

STRUCTURE: **CAS #:** 1585941-14-5



MOLECULAR FORMULA: C₆F₁₃S¹⁸O₂¹⁶ONa **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% (¹⁸O₂)
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 (C₆F₁₃S¹⁸O₂¹⁶O) has been observed to be up to 10% lower than for PFHxS (C₆F₁₃S¹⁶O₃) when both compounds are injected together. This difference may vary between instruments.
- Contains ~0.6% of sodium perfluoro-1-octane(¹⁸O₂)sulfonate (¹⁸O₂-PFOS) and ~0.3% of sodium perfluoro-1-heptane(¹⁸O₂)sulfonate (¹⁸O₂-PFHpS).
- Due to the isotopic purity of the starting material (¹⁸O₂ >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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where x is expressed as a relative standard uncertainty of the individual parameter.

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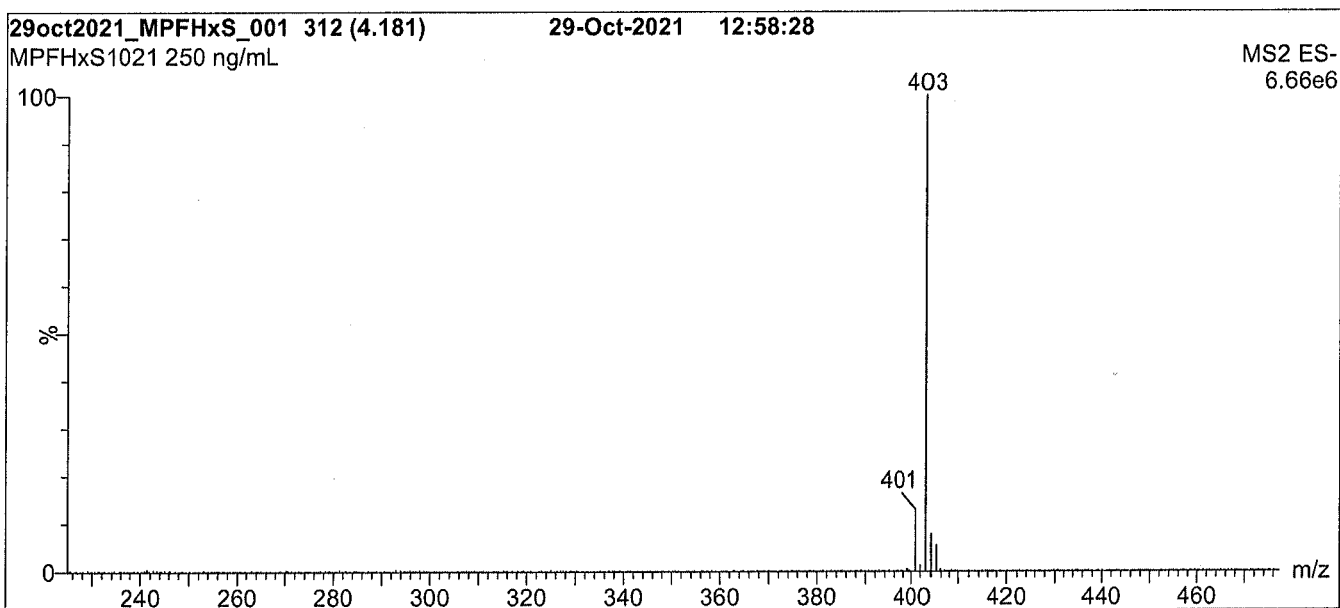
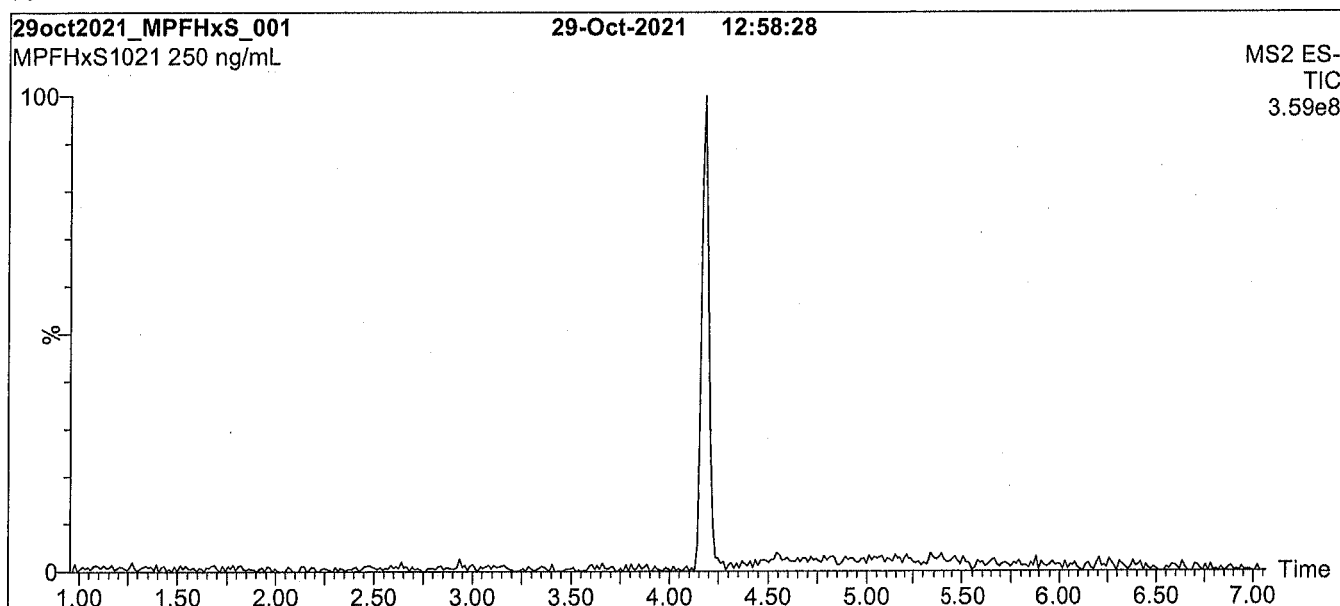
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Figure 1: MPFHxS; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

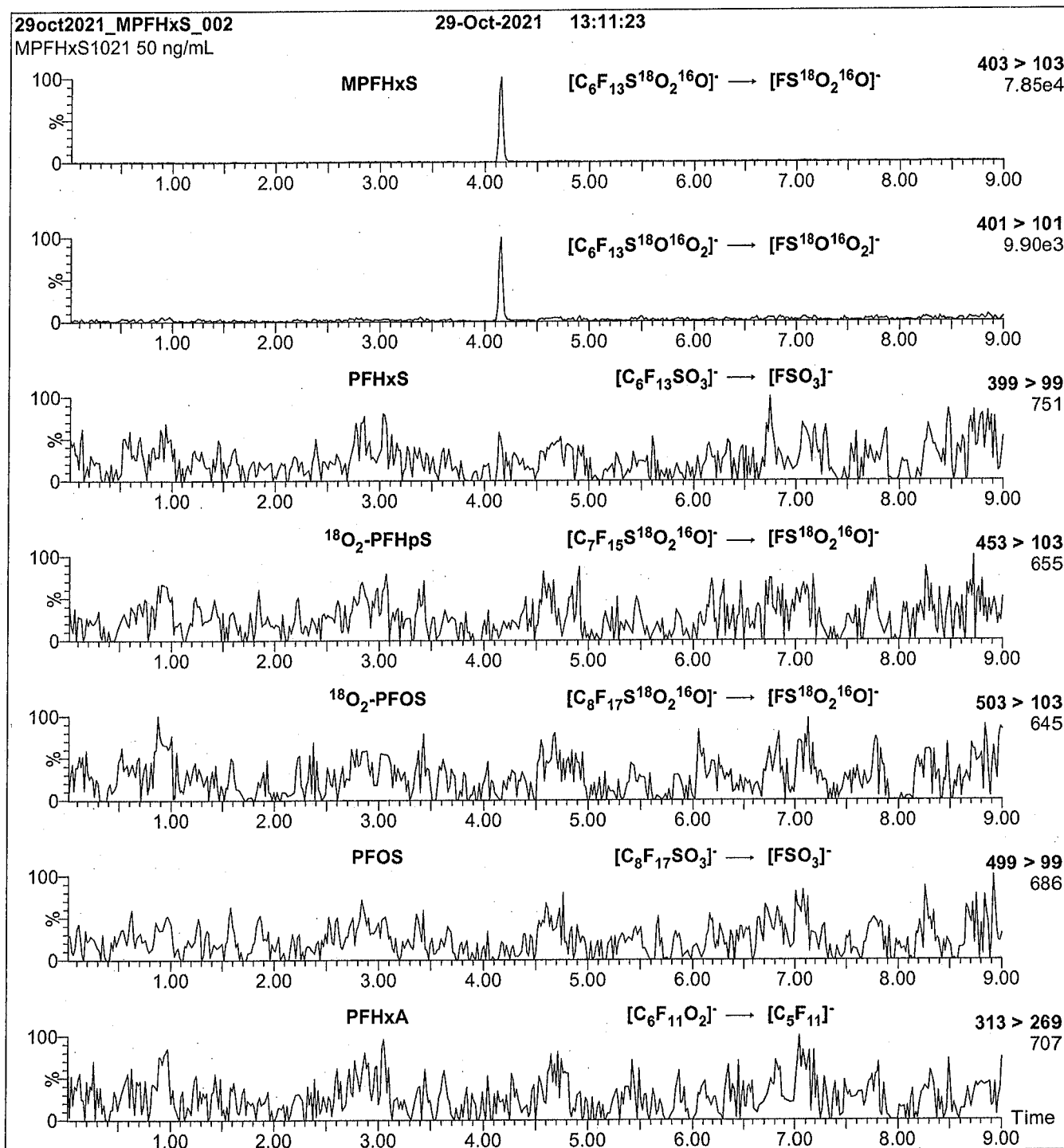
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 μ 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

Calbiochem[®]



Certificate of Analysis

Taurodeoxycholic Acid, Sodium Salt - CAS 1180-95-6 - Calbiochem

Batch Number: 3761825
Material Number: 580221-5GM
Molecular Formula: C₂₆H₄₄NO₆S · Na
Molecular Weight: 521.7
CAS Number: 1180-95-6

Quality Release Date: 05 OCT 2021
Recommended Retest Date: 30 SEP 2023

Analytical Data

Test	Tolerance	Result
Solubility:		H ₂ O (100 mg/ml)
Chloride:		<0.01%
Loss on drying:	≤5.0 %	0.1%
Color:		White
Form:		Powder
TLC:	≥95.0 %	≥95.00%
IR:		Conforms to reference
Optical rotation:	35.0 ° - 39.0 °	+36.38°
Water by Karl Fischer:	≤5.0 %	2.86%
Carbon:	≥0.00 %	57.78%
Hydrogen:	≥0.00 %	8.32 %
Nitrogen:	≥0.00 %	2.77 %

Storage and Handling: +15°C to +30°C

This lot conforms to specifications established by EMD Millipore Corporation for this product.

Issued by **Jamie Thomas**

This document has been electronically produced and is valid without a signature

Quality Control/ Assurance Signature

05 OCT 2021

Date

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Technical Support NA +1-800-221-1975 | email: www.millipore.com/techservices | www.calbiochem.com

Technical Support All Other Countries - Contact Your Local Office

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Darmstadt, Germany

580221-5GM/09-MAY-2018/EA

Analytical Standard Record

22A0123

Description:	PFAS Taurodeoxycholic Acid, Sodium Salt	Expires:	09/30/2023
Standard Type:	Other	Prepared:	10/05/2021
Solvent:	n/a	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:54 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID		516-50-7	1	ug/mL

Analytical Standard Record

22A0123

Description:	PFAS Taurodeoxycholic Acid, Sodium Salt	Expires:	09/30/2023
Standard Type:	Other	Prepared:	10/05/2021
Solvent:	n/a	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:54 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID		516-50-7	1	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

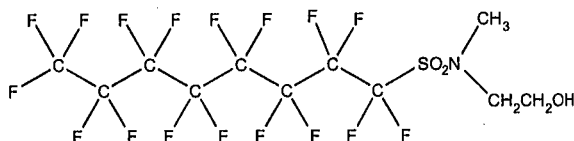


WELLINGTON LABORATORIES

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: C₁₁H₈F₁₇NO₃S **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:

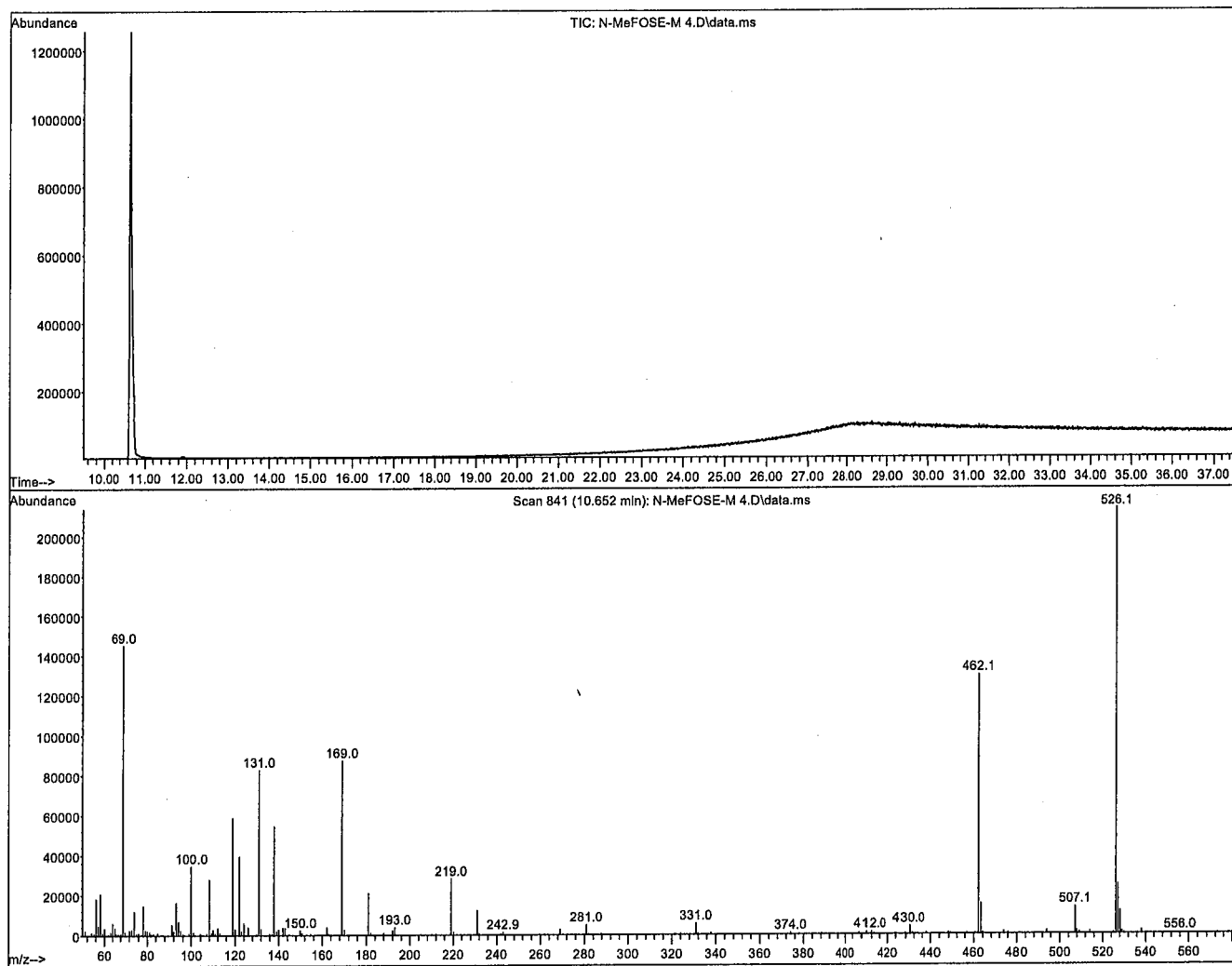
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at 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 μ m film thickness) Agilent J&W

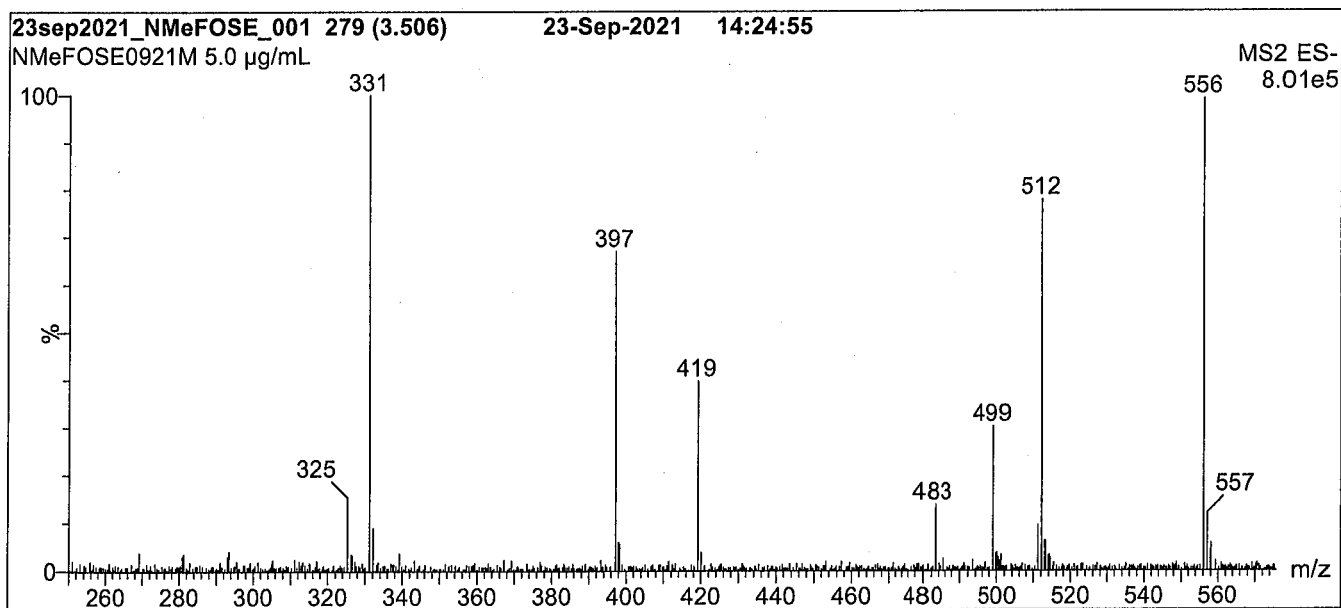
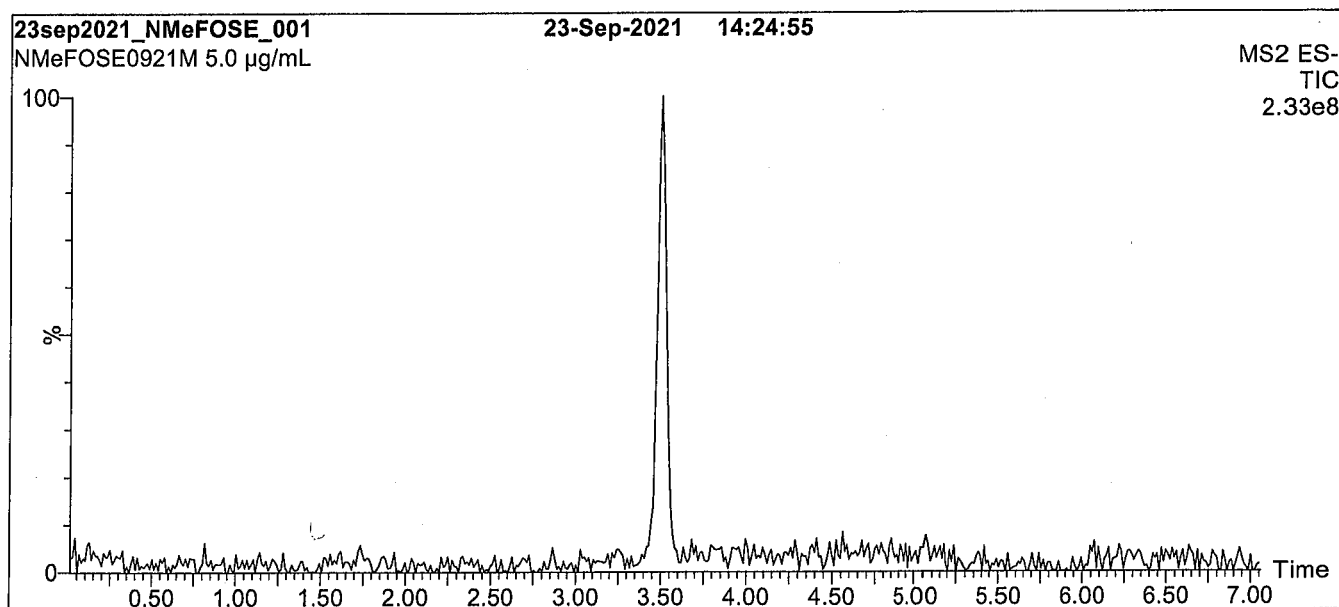
Flow: Constant at 1 mL/min

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 RP₁₈
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H₂O / 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)

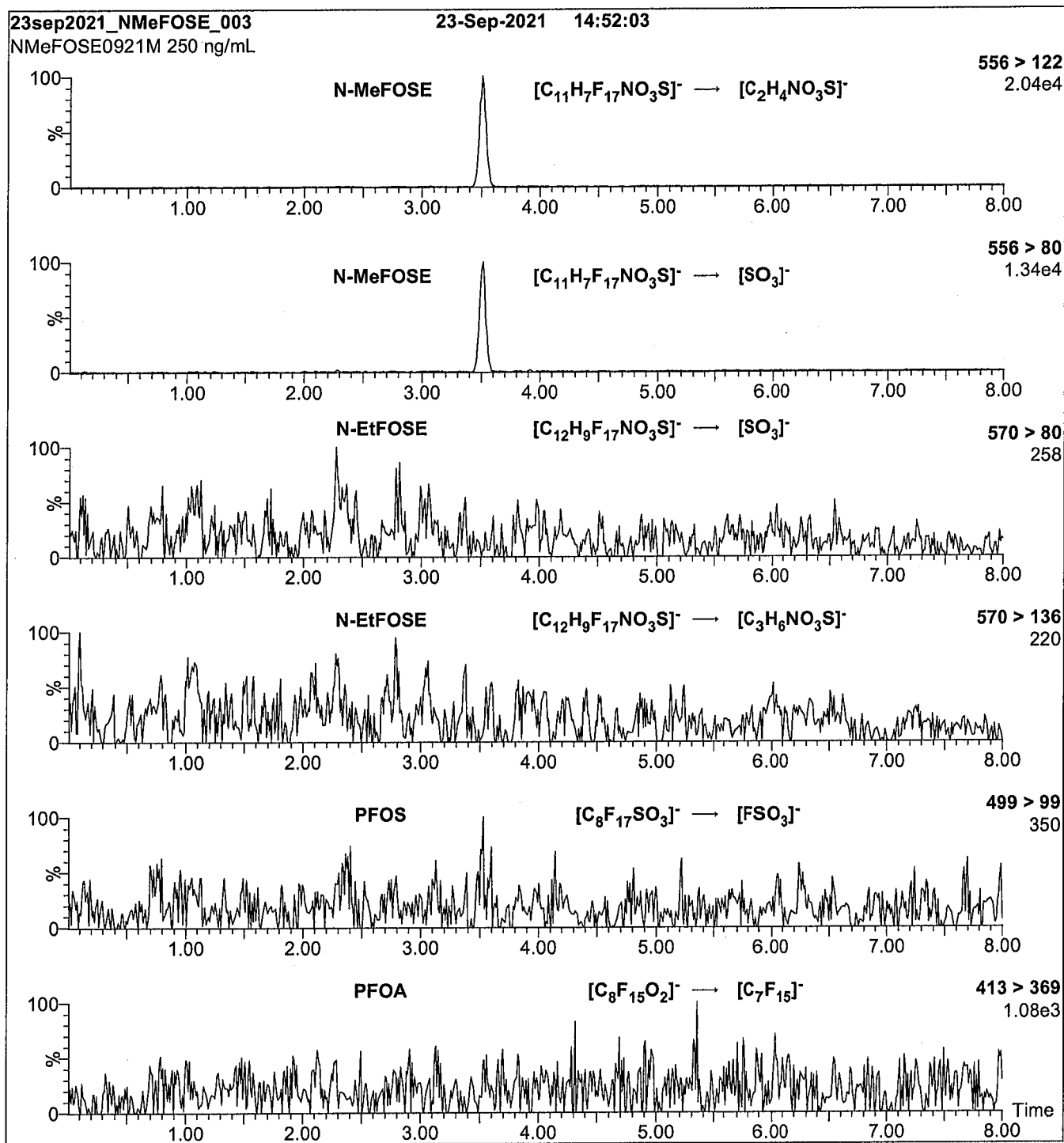
Source: Electrospray (negative)

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 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 36

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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#: NMeFOSE0921M)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

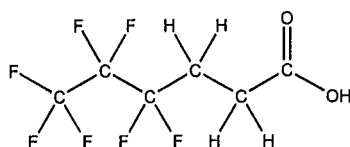
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE		24448-09-7	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA **LOT NUMBER:** FPrPA0122
COMPOUND: 3-Perfluoropropyl propanoic acid **22C0308**
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) 02/03/2022
EXPIRY DATE: (mm/dd/yyyy) 02/03/2027
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 <1% of the unsaturated 3:3 telomer acid ($C_6H_3F_7O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 02/04/2022
 B.G. Chittim, General Manager (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:

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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.

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:

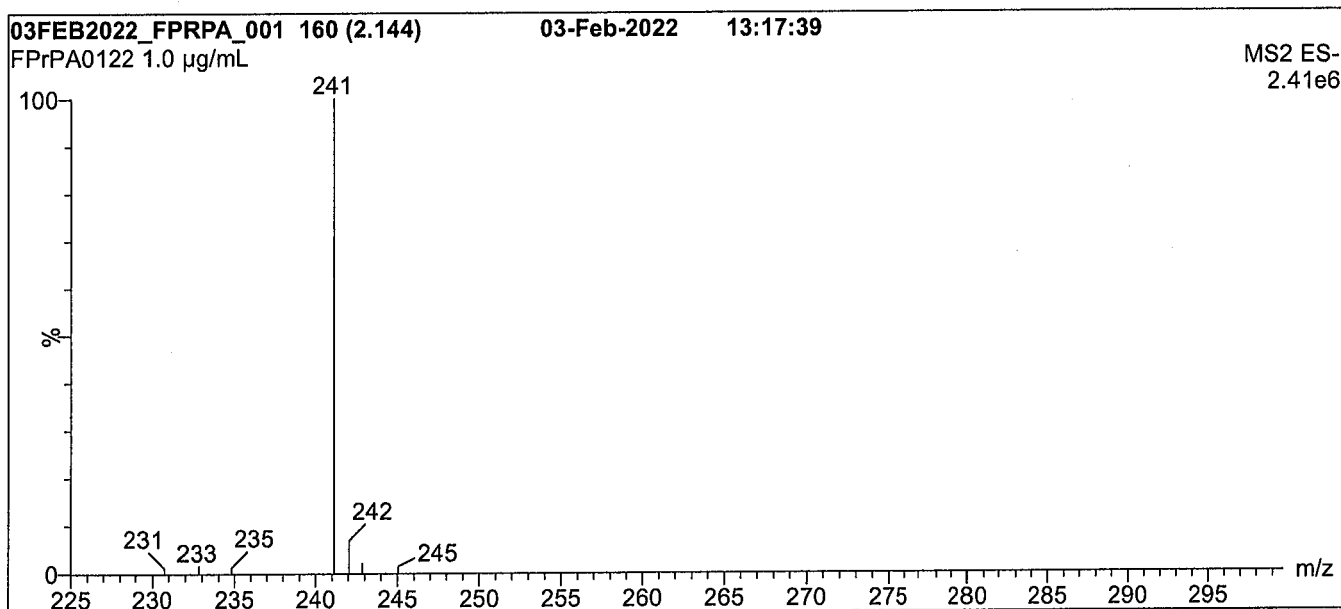
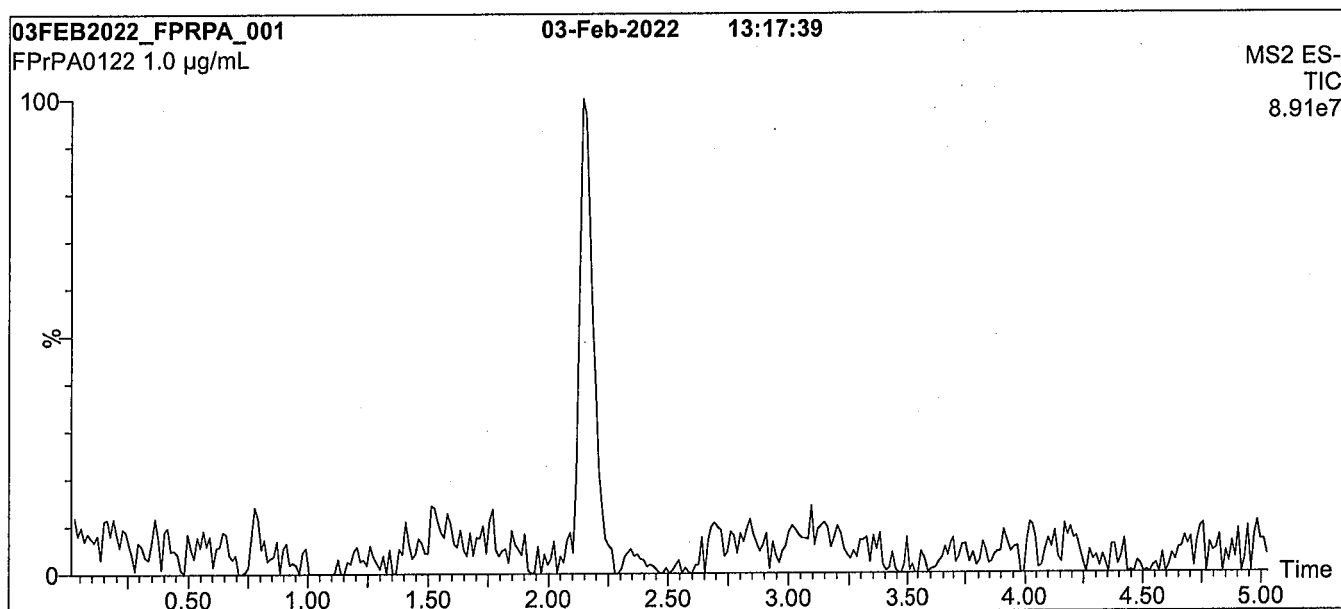
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at 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 RP₁₈
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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)

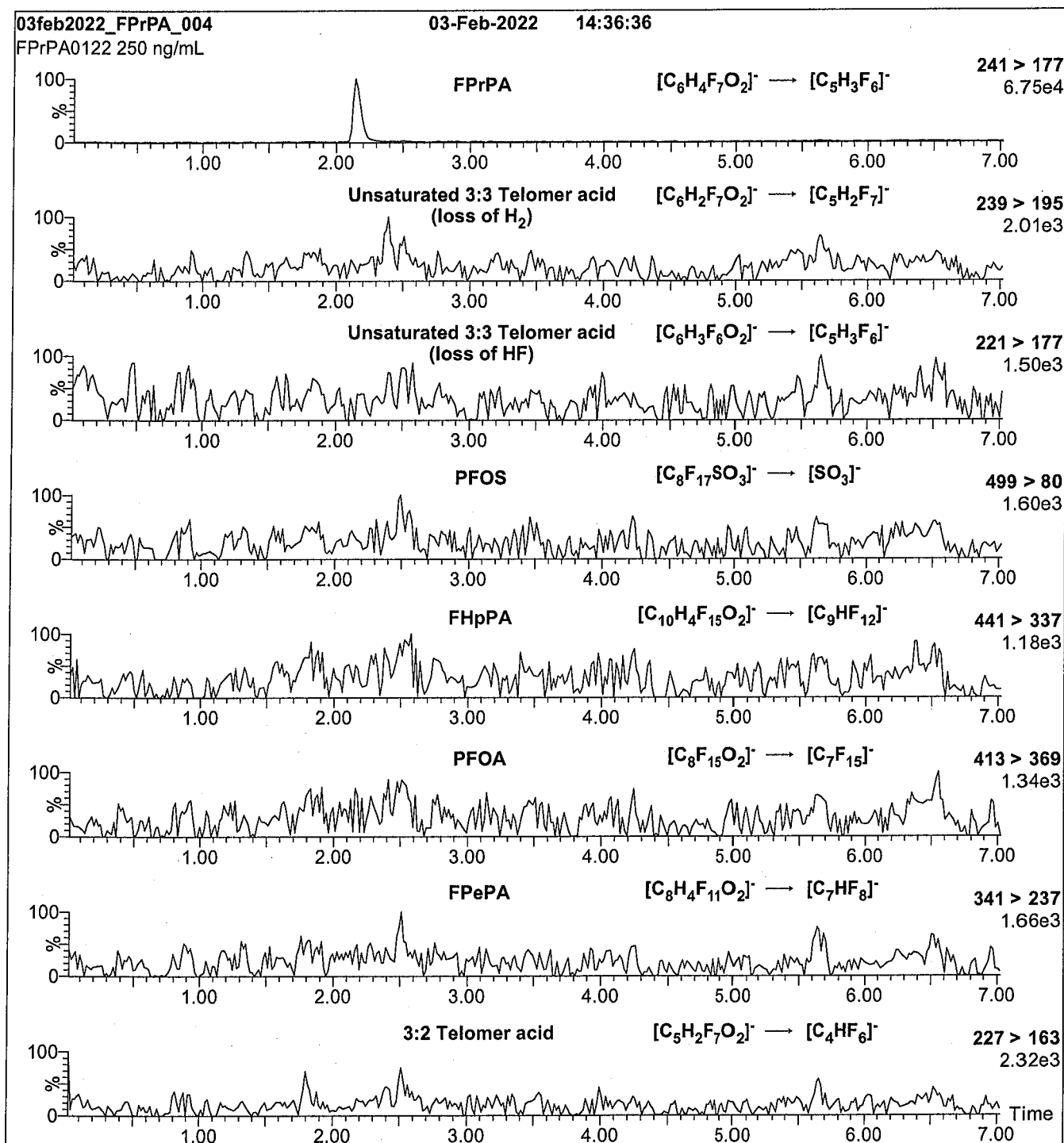
Source: Electrospray (negative)

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)

MS Parameters:

Mobile phase: Same as Figure 1

Collision Gas (mbar) = 3.33e-3

Flow: 300 μ L/min

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

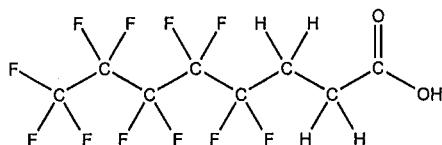


WELLINGTON LABORATORIES

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

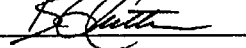
DOCUMENTATION/ DATA ATTACHED:

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 ^1H 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

INTENDED USE:

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$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

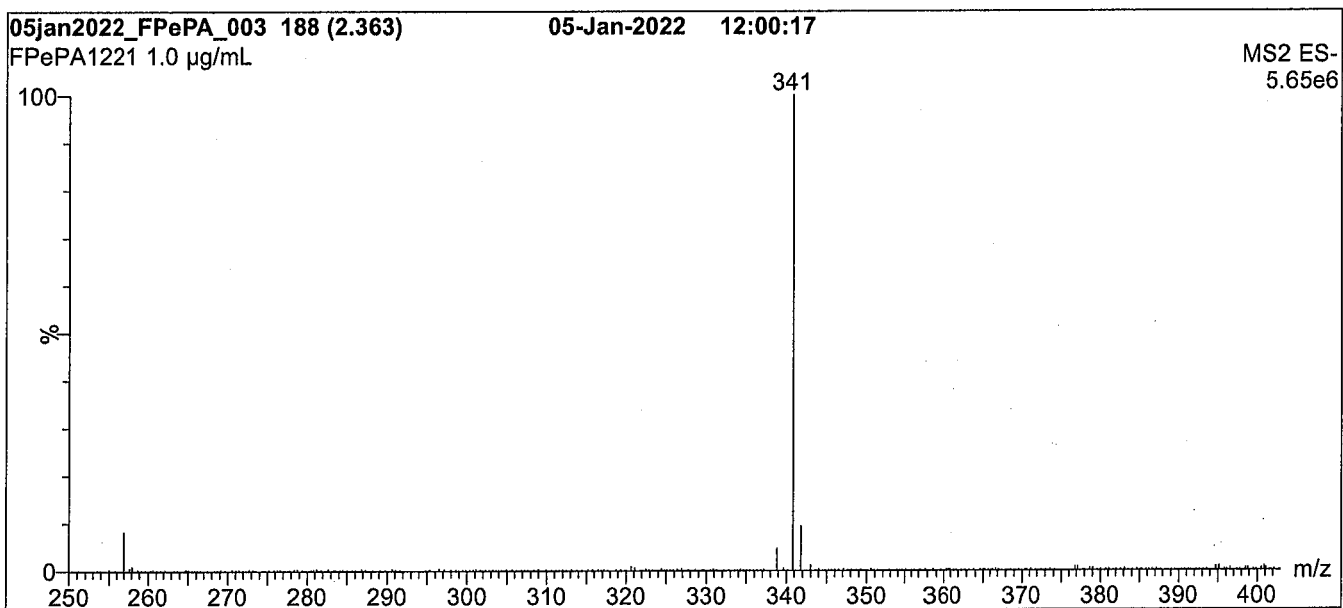
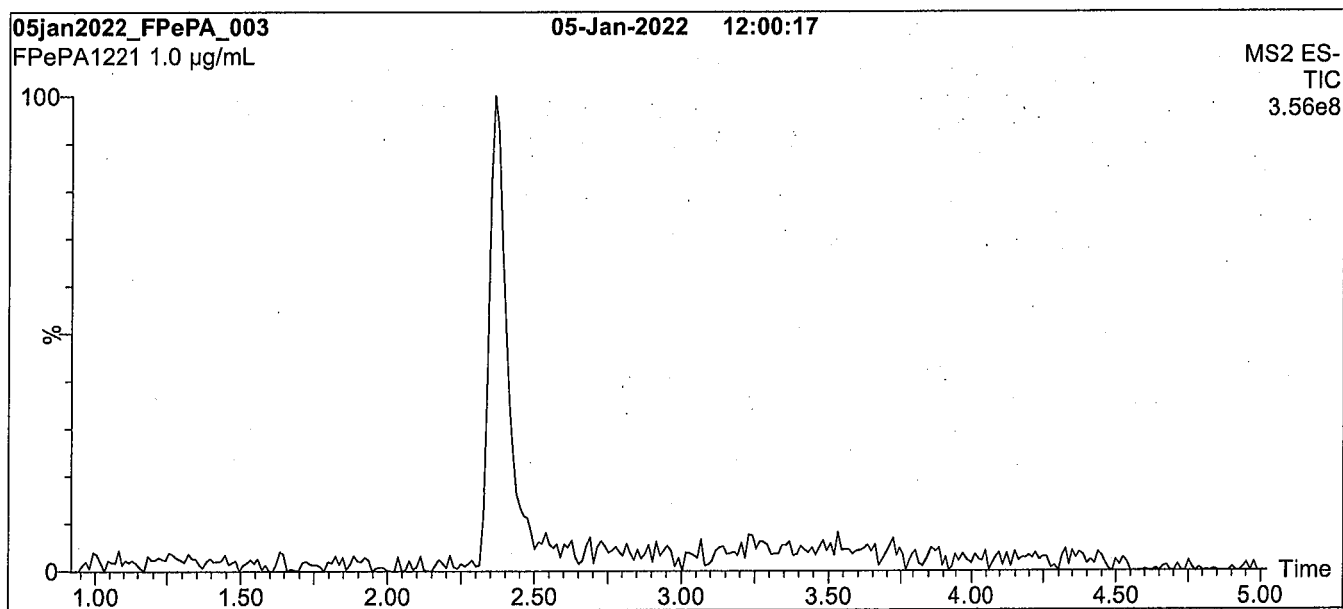
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Figure 1: FPePA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
 Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 µm, 2.1 x 100 mm

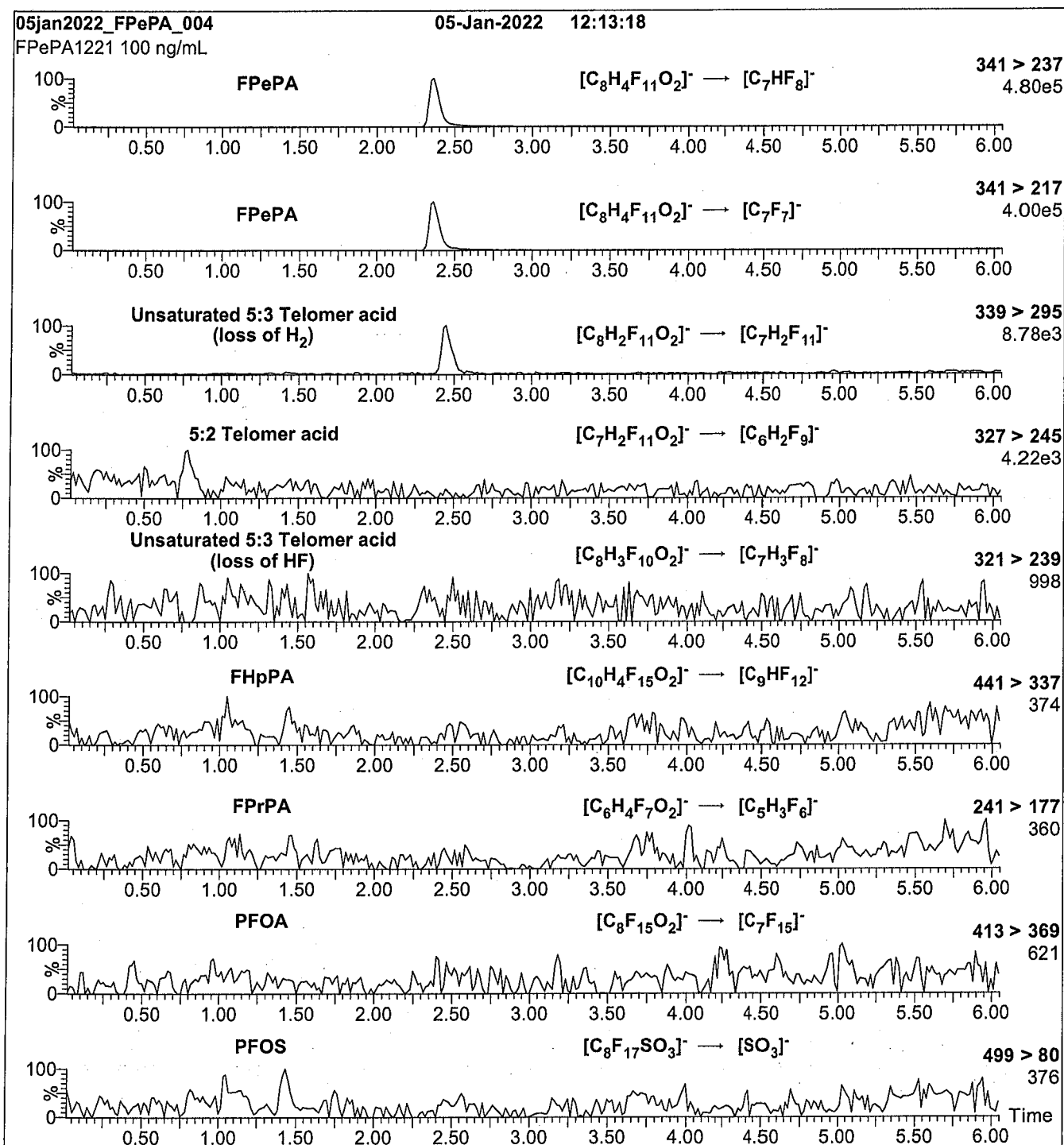
Mobile phase: Gradient
 Start: 45% H₂O / 55% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min and hold for
 3 min before returning to initial conditions in 0.75 min.
 Time: 12 min

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 μ 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

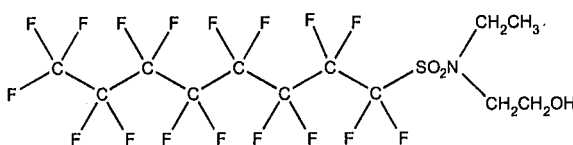
Analyte	Parent	CAS Number	Concentration	Units
5:3FTCA		914637-49-3	50	ug/mL



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: C₁₂H₁₀F₁₇NO₃S **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:

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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:

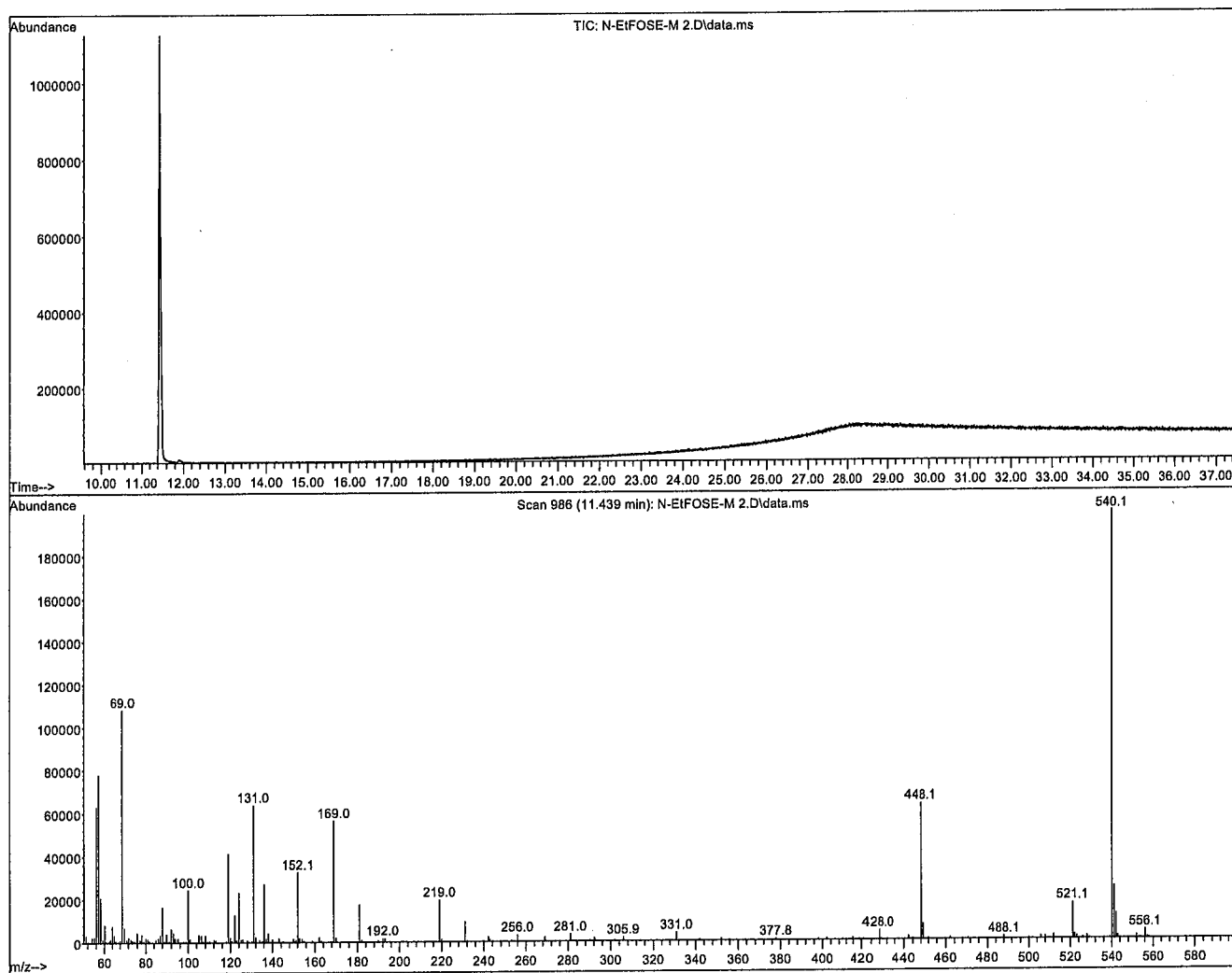
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at info@well-labs.com

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 μ m film thickness) Agilent J&W

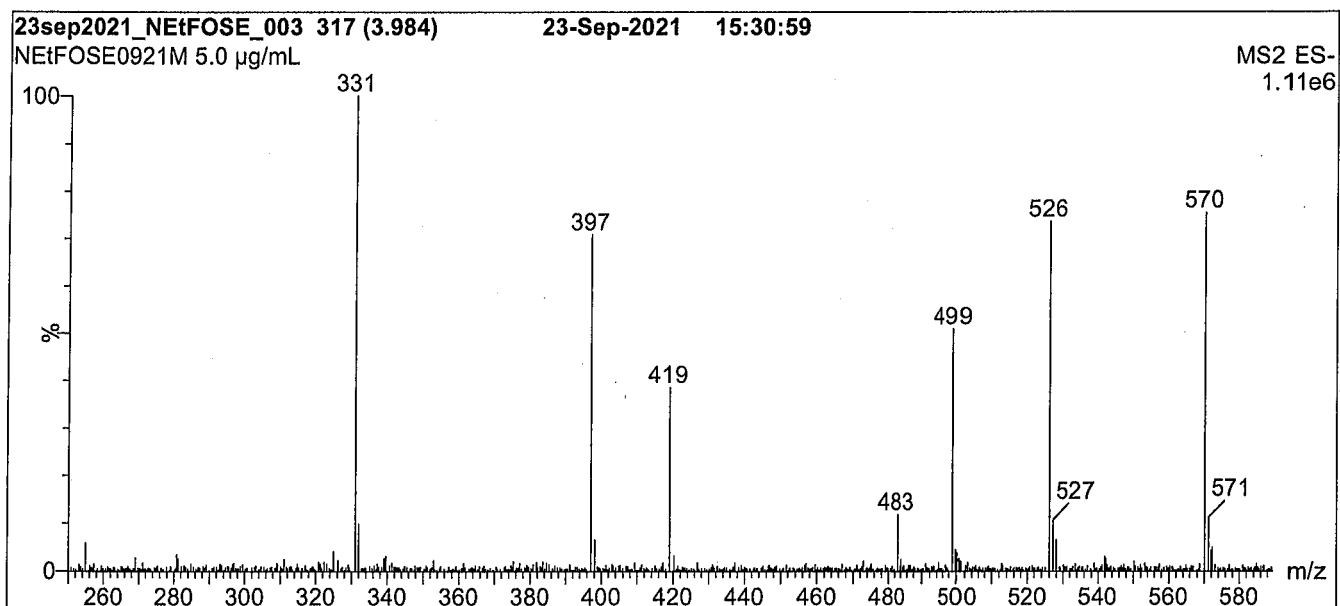
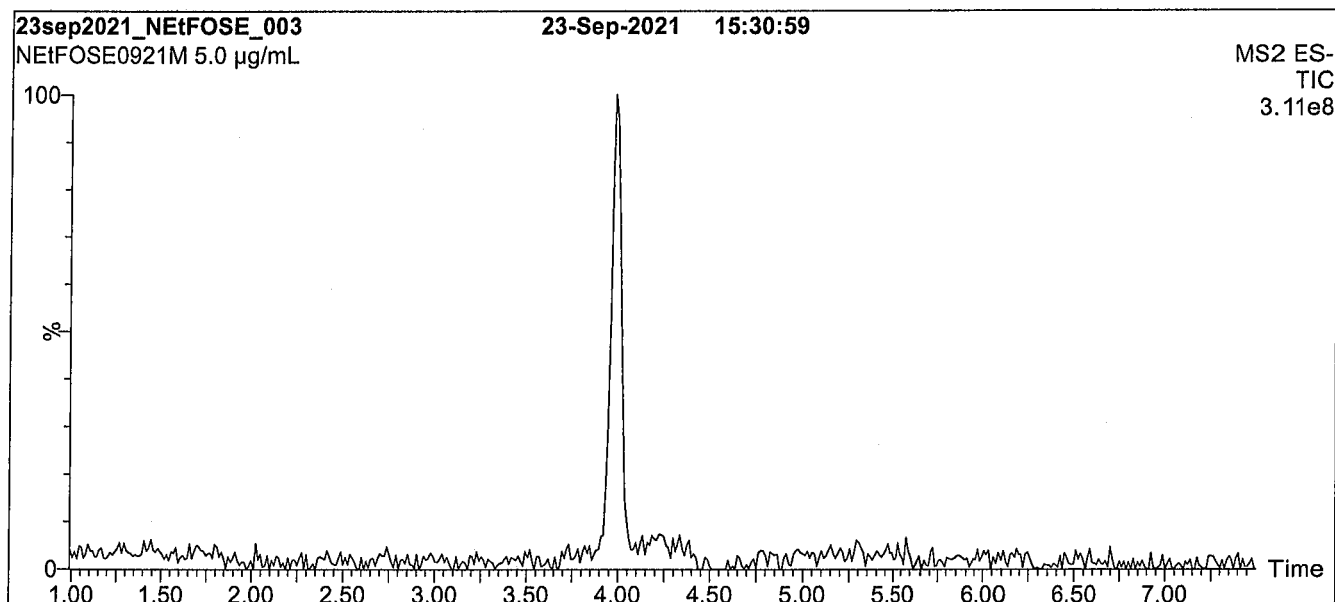
Flow: Constant at 1 mL/min

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 RP₁₈
1.7 µm, 2.1 x 100 mm

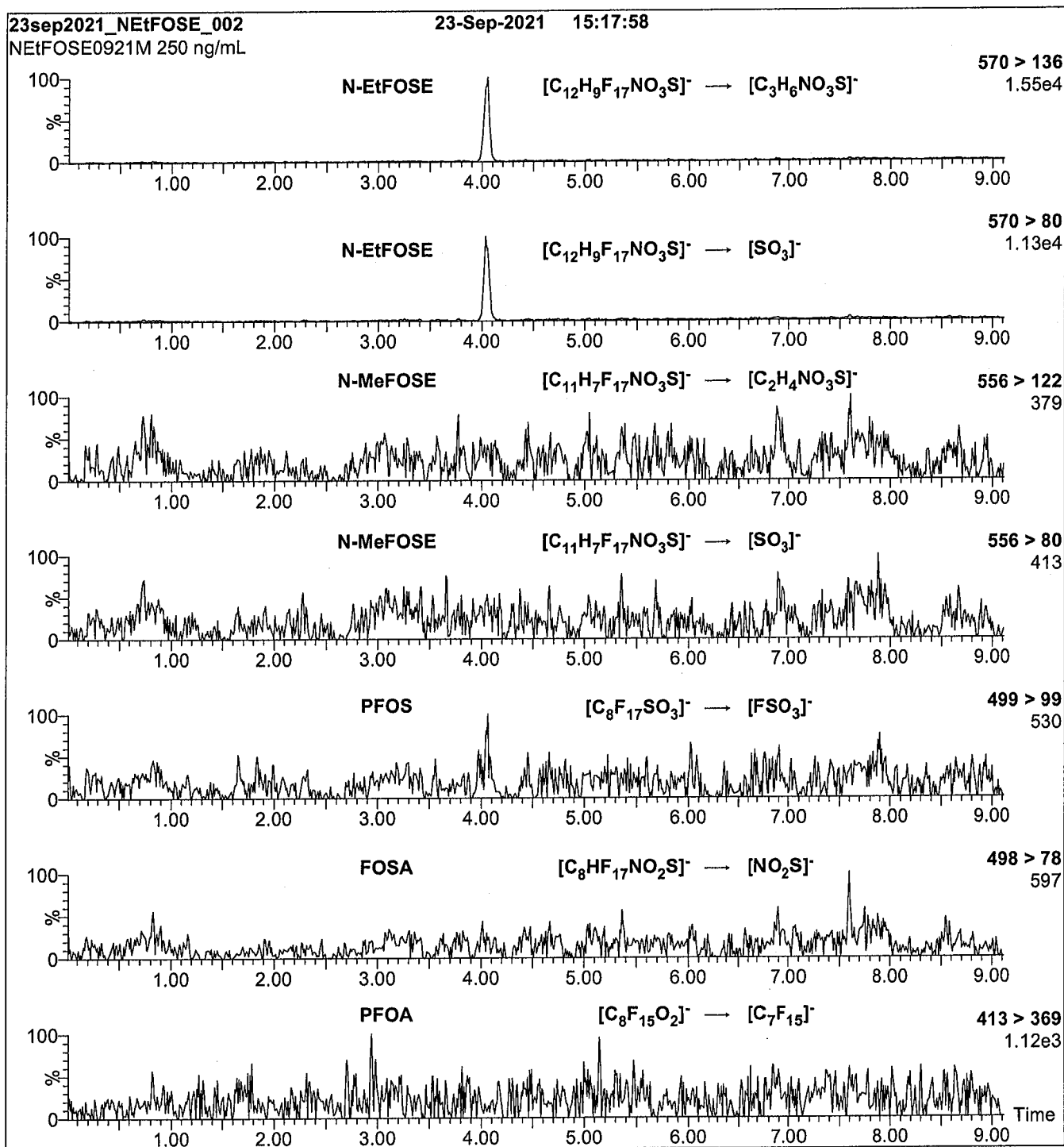
Mobile phase: Gradient
Start: 30% H₂O / 70% MeOH
Ramp to 90% organic over 8 min and hold for
1.5 min before returning to initial conditions in 1 min.
Time: 12 min

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 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 32

Analytical Standard Record

22C0310

Description:	PFAS - SAS NETFOSE 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:	NETFOSE0921M)
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NETFOSE		1691-99-2	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:

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:

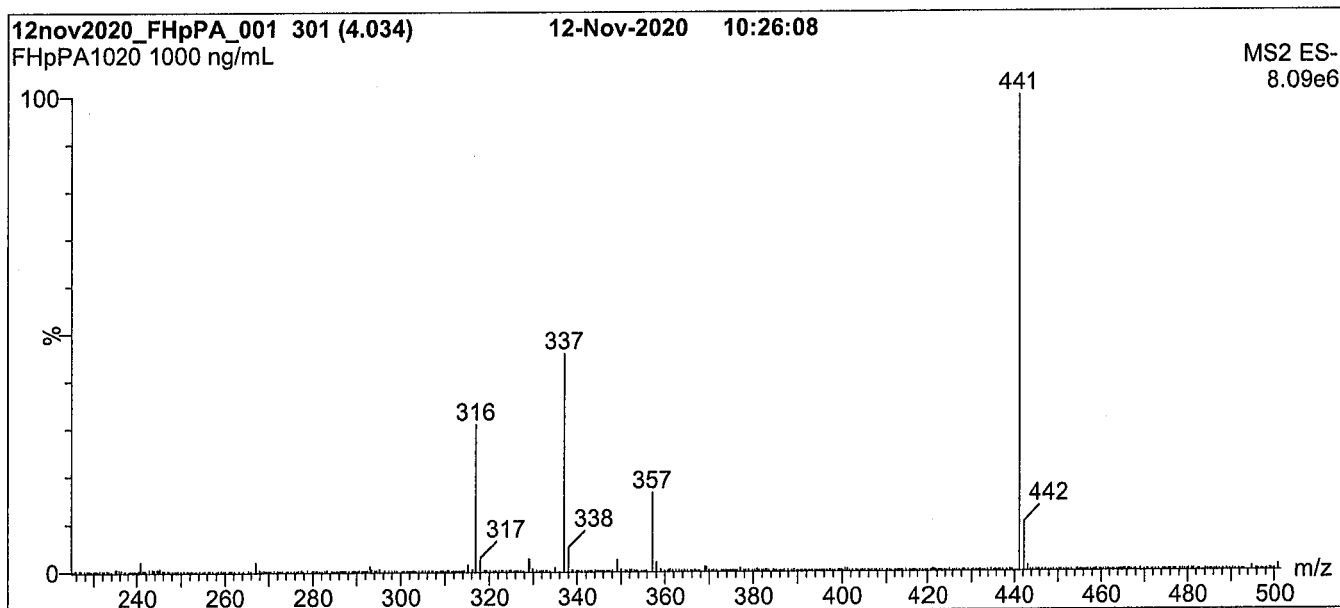
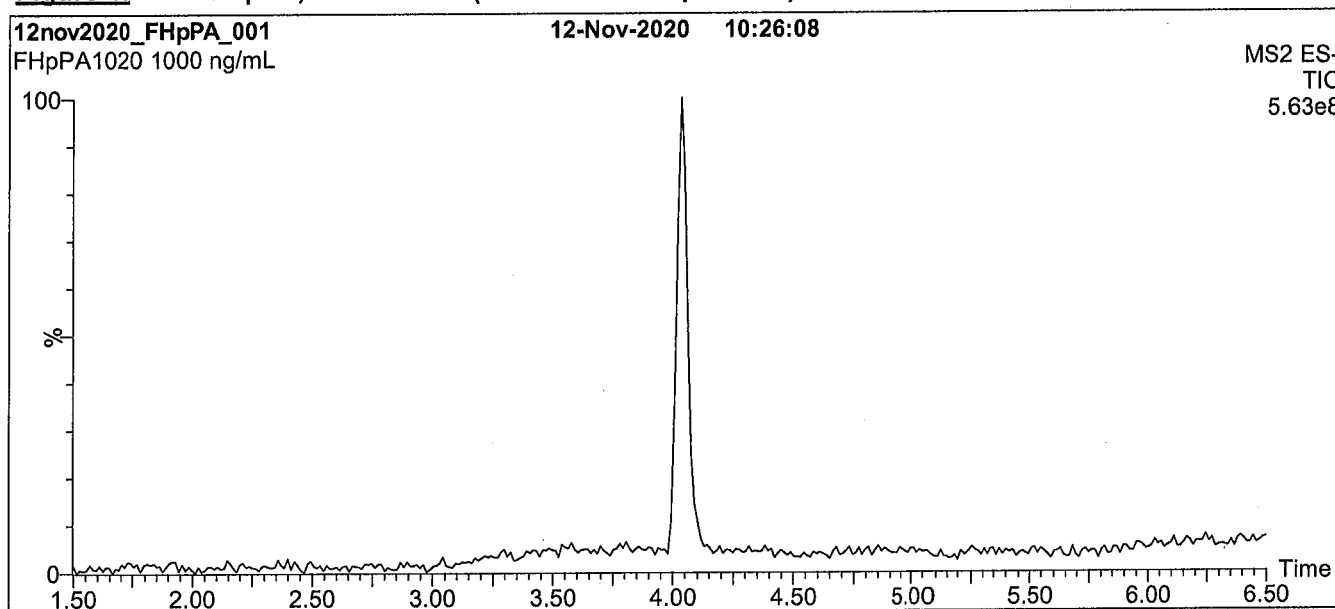
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

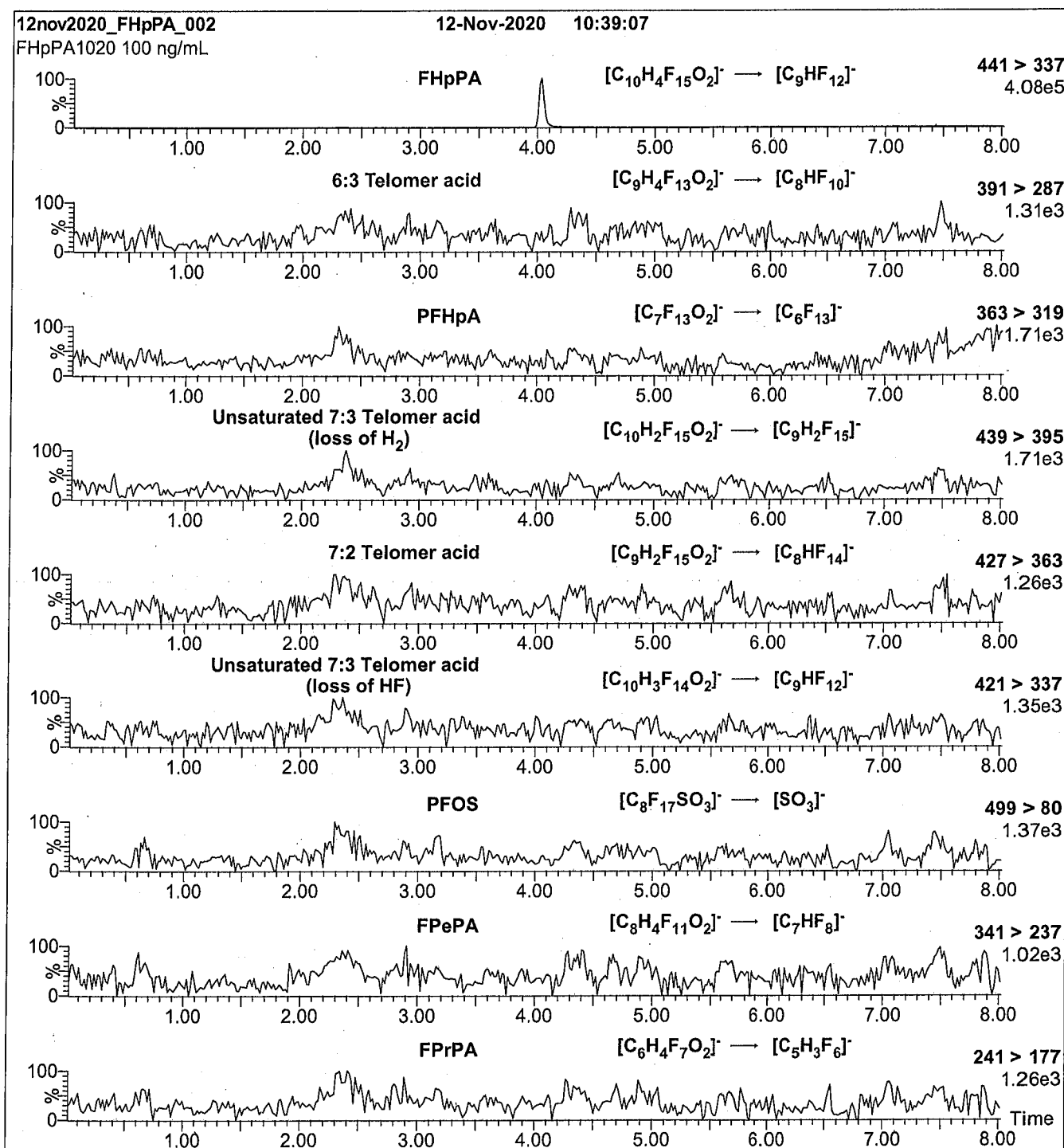
Source: Electrospray (negative)

Capillary Voltage (kV) = 0.50

Cone Voltage (V) = 28.50

Desolvation Temperature ($^{\circ}$ 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 μ 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#: FHpPA1020)
Final Volume (mls):	1	Department:	PFAS
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#: FHpPA1020)
Final Volume (mls):	1	Department:	FHpPA
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

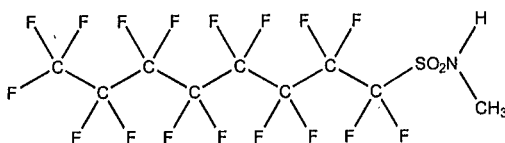
Analyte	Parent	CAS Number	Concentration	Units
7:3FTCA		812-70-4	50	ug/mL



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: $C_9H_4F_{17}NO_2S$ **MOLECULAR WEIGHT:** 513.17
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **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
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

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HANDLING:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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LIMITED WARRANTY:

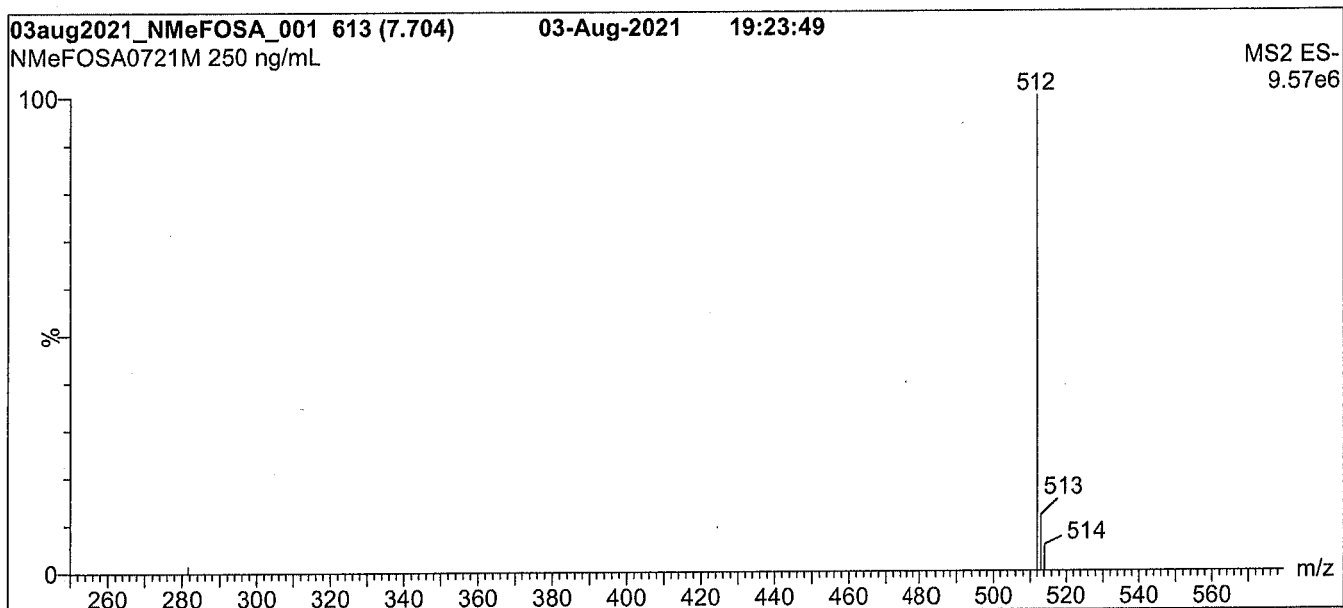
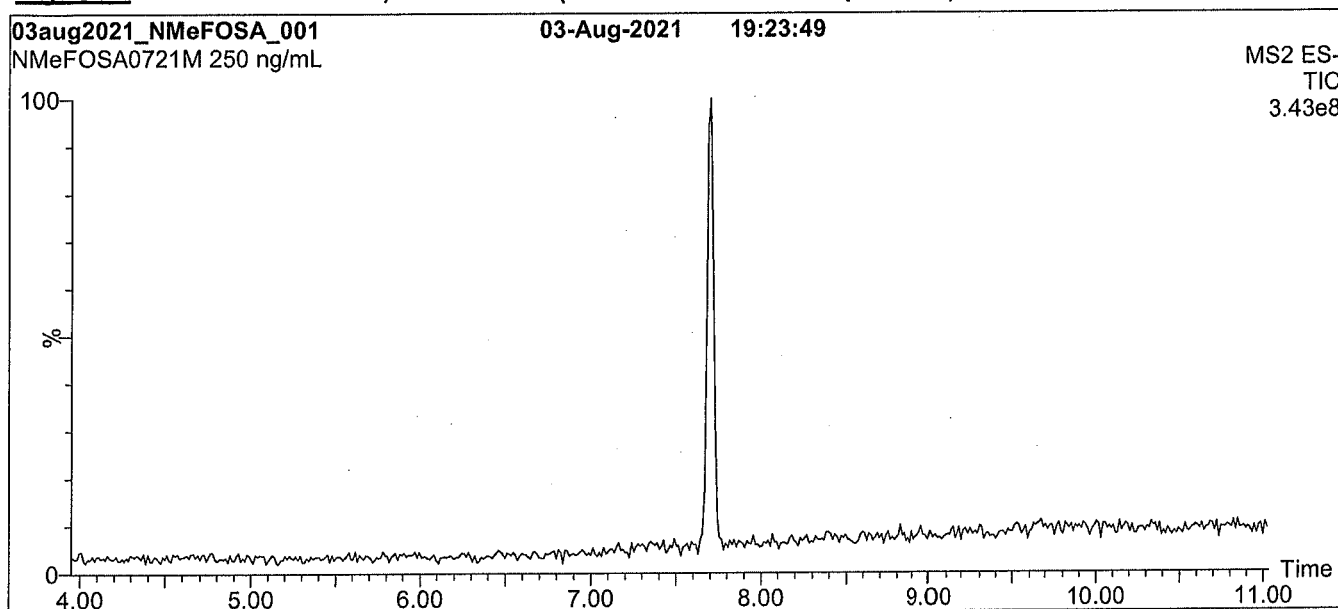
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QUALITY MANAGEMENT:

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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 RP₁₈
1.7 μ m, 2.1 x 100 mm

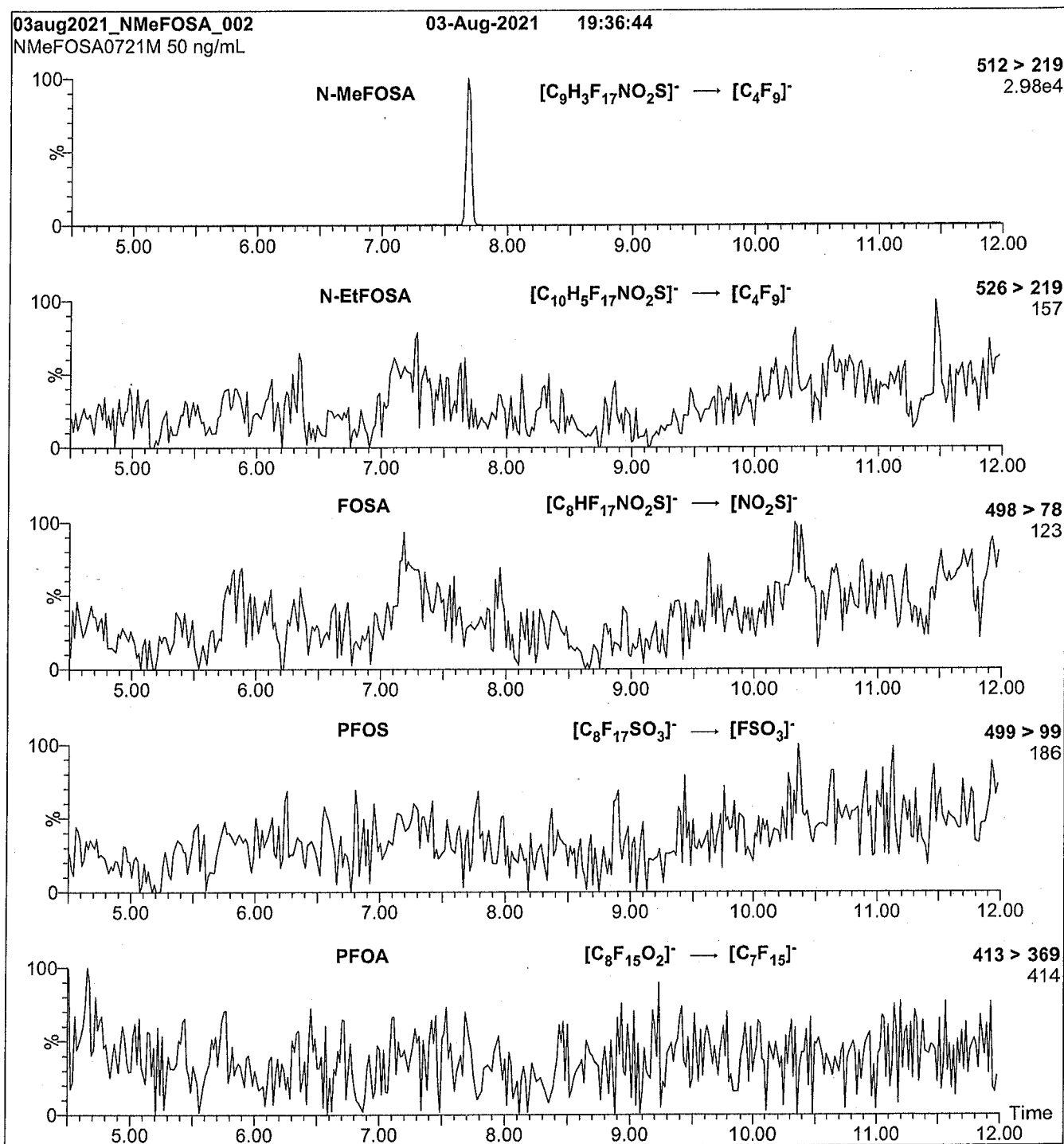
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 μ 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

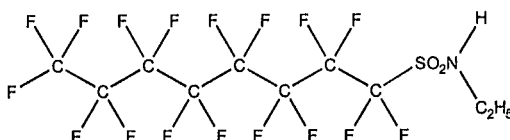
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL



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:

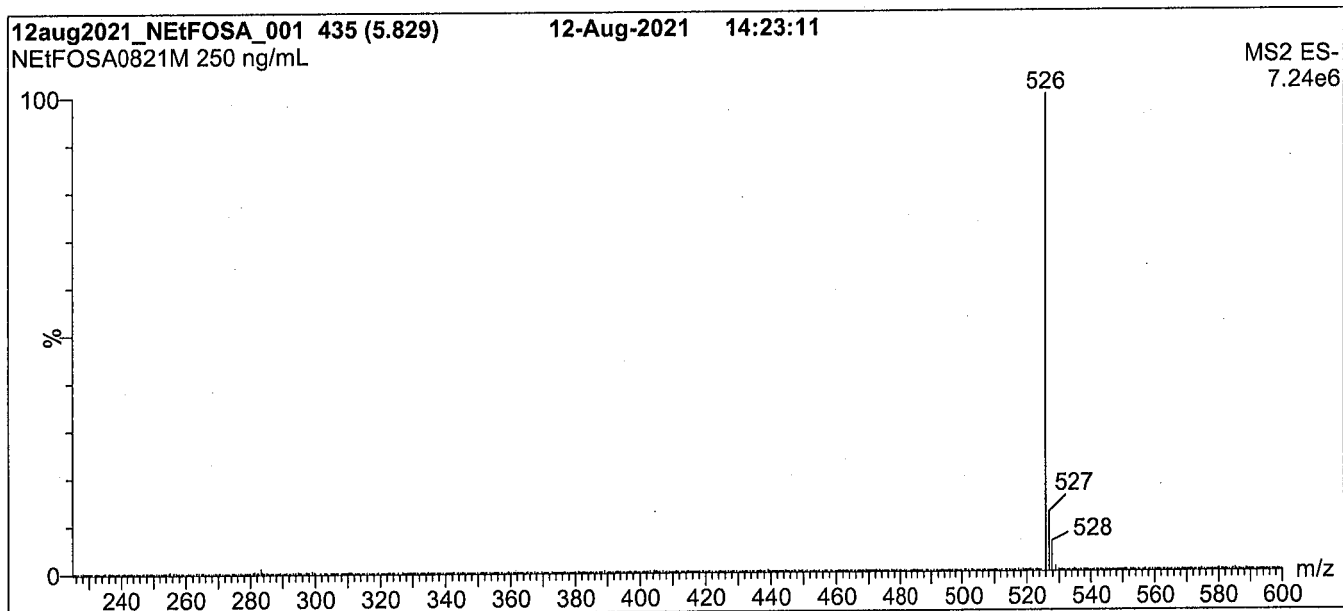
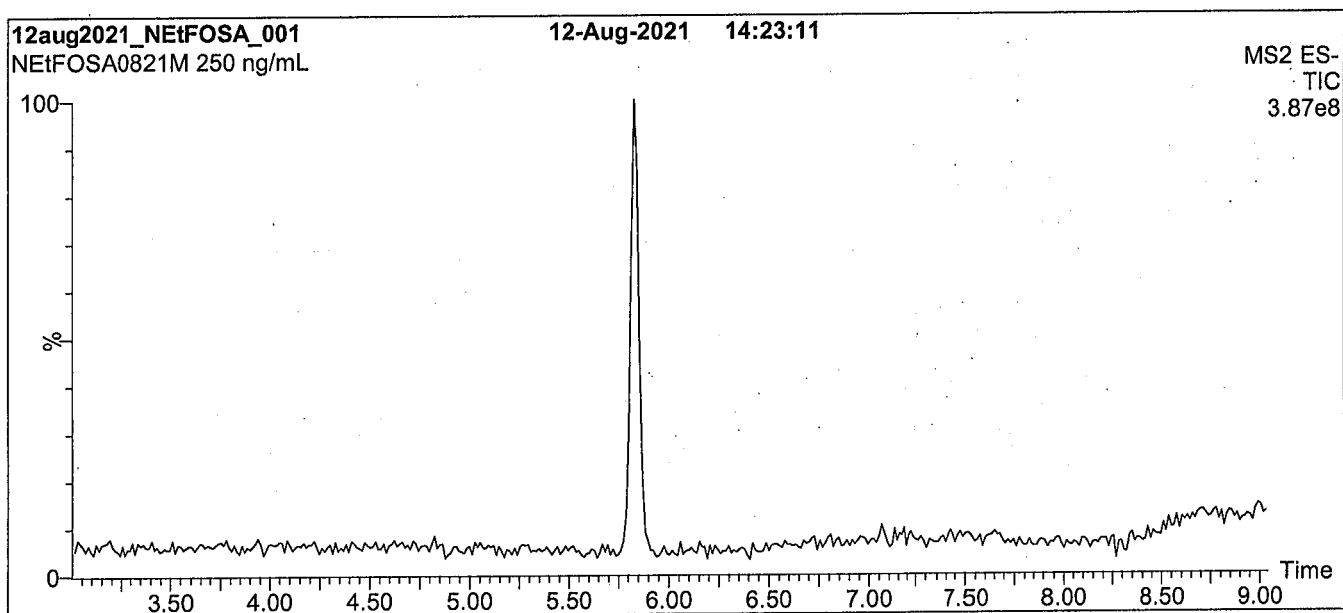
- See page 2 for further details.

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

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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H₂O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ 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#: NETFOSA0821M)
Final Volume (mls):	1	Department:	NETFOSA
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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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 or contact us directly at info@well-labs.com

Table A: PFAC-MXF; Components and Concentrations (ng/mL; \pm 5% in Methanol/Water (<1%))

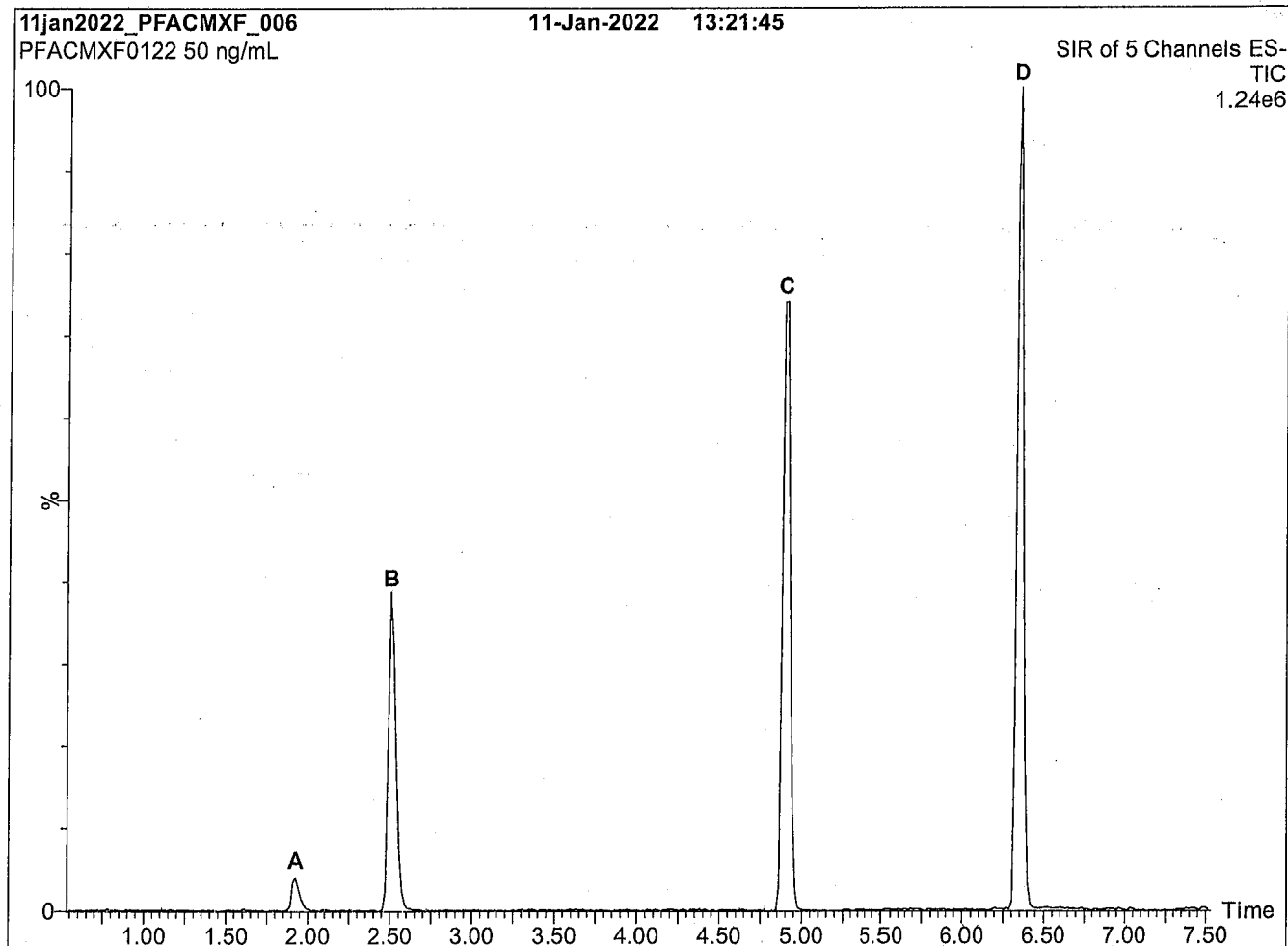
Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxananoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	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)

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 RP₁₈
 1.7 μ m, 2.1 x 100 mm

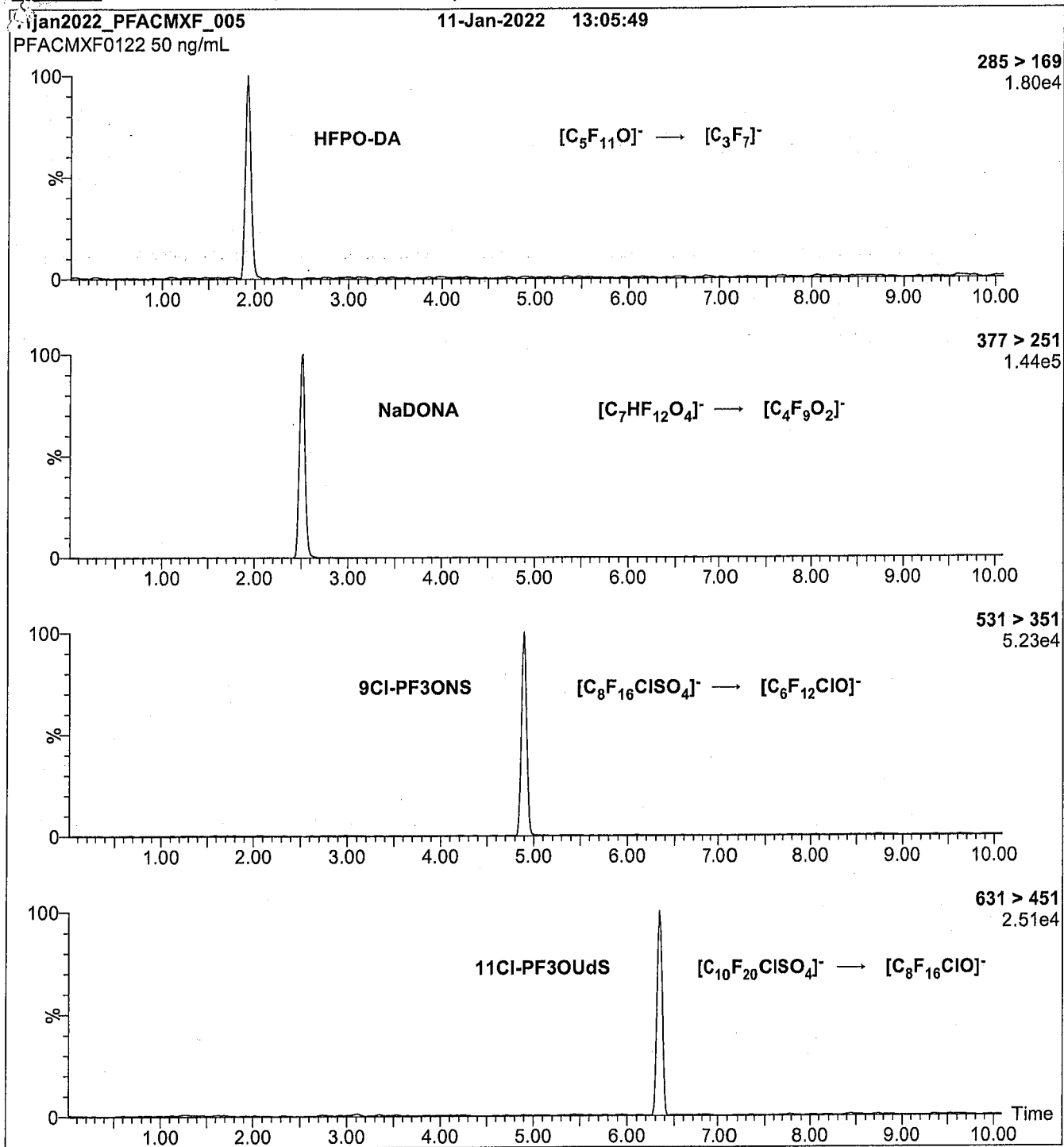
Mobile phase: Gradient
 Start: 45% H₂O / 55% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 8 min and hold for 2 min
 before returning to initial conditions in 0.75 min.
 Time: 12 min

Flow: 300 μ 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 μ 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	Expires:	01/11/2025
Standard Type:	Other	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	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 (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₅, C₇, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ 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.

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x_1, x_2, \dots, x_n on which it depends is:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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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 ^a	N-MeFOSAA: linear isomer	0.760		20
	N-MeFOSAA: Σ branched isomers	0.240		17
N-ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	0.775		22
	N-EtFOSAA: Σ 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 perfluorohexadisulfonate ^c	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: Σ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctadisulfonate ^d	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: Σ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decadisulfonate	L-PFDs	1.00	0.965	24
Sodium perfluoro-1-dodecadisulfonate	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-perfluorodecane sulfonate	8:2Fts	4.00	3.84	16

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

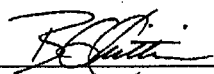
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d 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 B: br-NMeFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$	0.2	
7	Other Unidentified Isomers		1.1	

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Table C: br-NEtFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ 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 ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ 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**	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CFSO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	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	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{CCF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	0.2	
7	Other Unidentified Isomers		0.5	

* Percent of total perfluorohexanesulfonate isomers only.

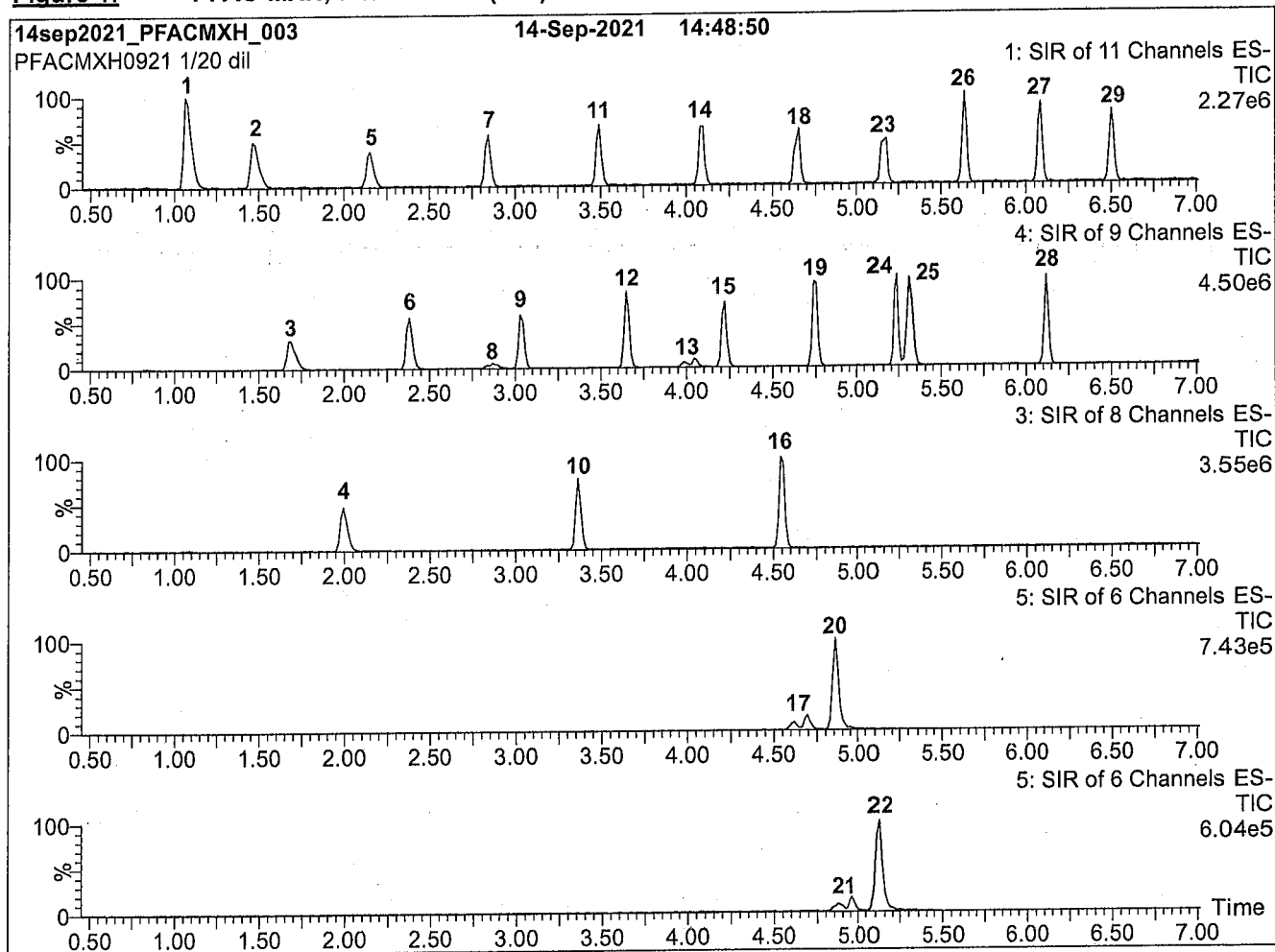
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Table E: PFOSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR	
1	Potassium perfluoro-1-octanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF(SO ₃ ⁻)K ⁺ CF ₃	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF(CF ₃)SO ₃ ⁻ K ⁺ CF ₃	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF(CF ₃)CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF(CF ₃)CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF(CF ₃)CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF(CF ₃)CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CCF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF ₂ CCF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF(CF ₃)CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF(CF ₃)CF ₂ CF(CF ₃)CF ₂ SO ₃ ⁻ K ⁺ CF ₃	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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (2-74)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

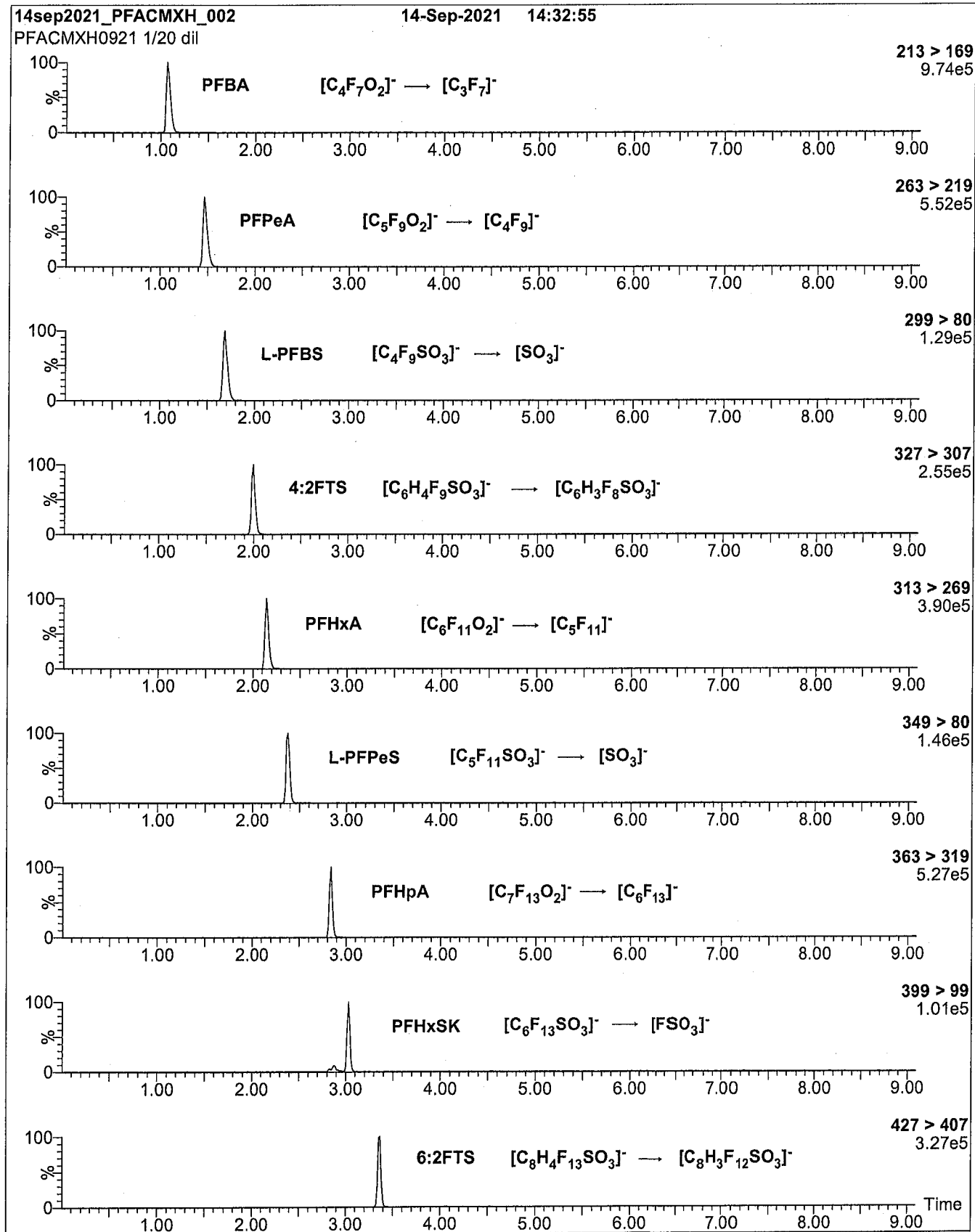
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

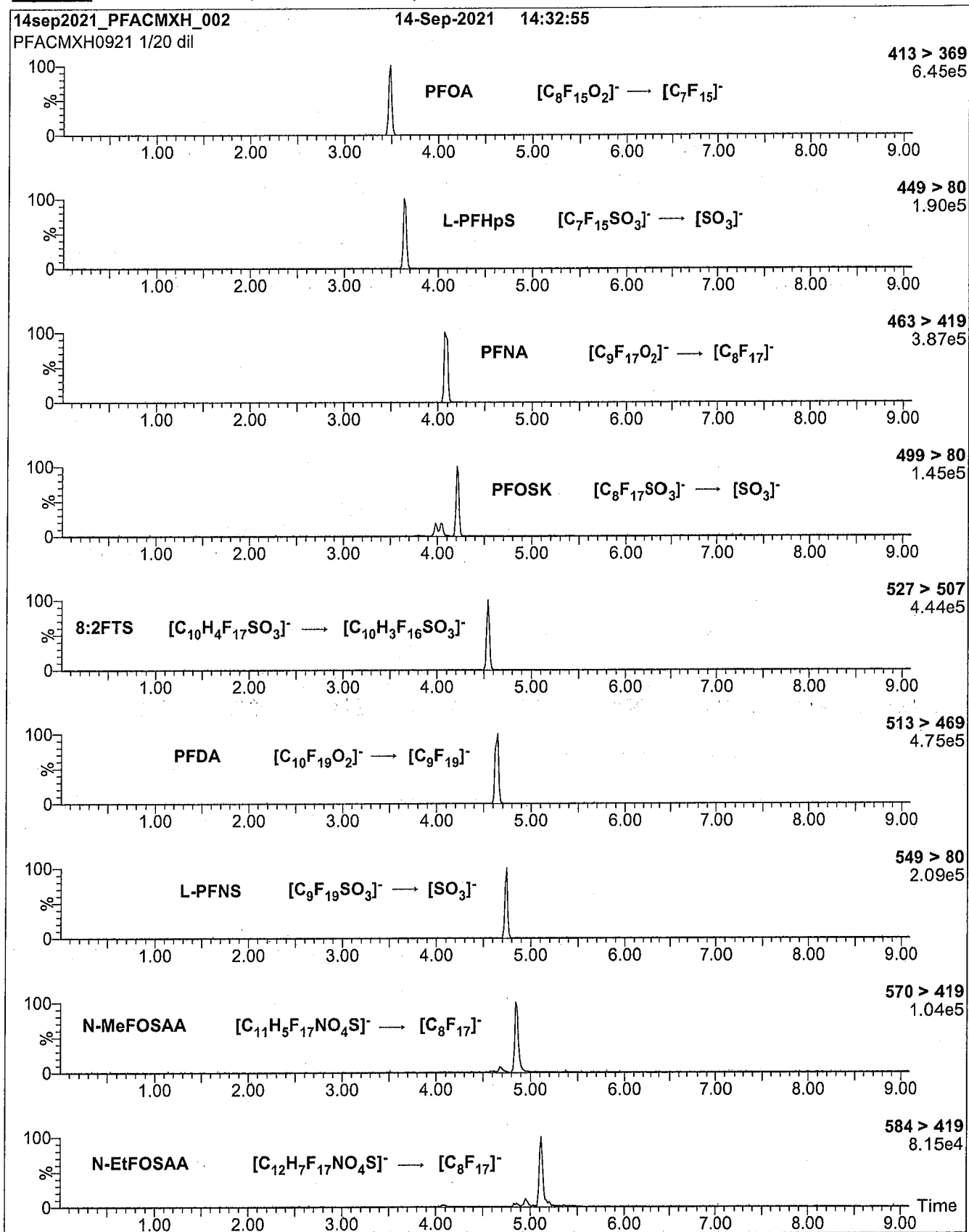
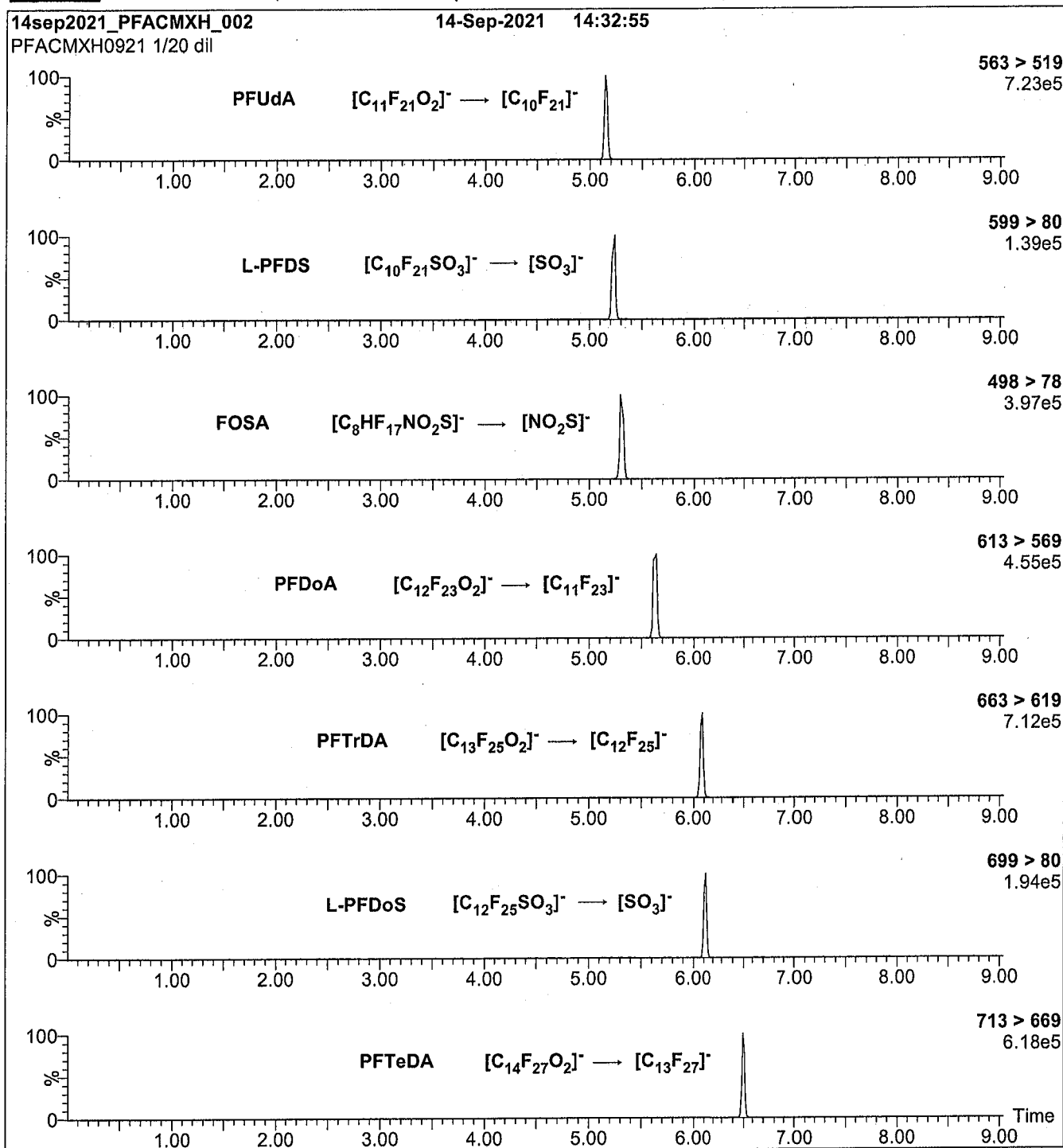
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

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 μ 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:	Lizabeth 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**

PRODUCT CODE: PFAC-MXG
LOT NUMBER: PFACMXG0222
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 02/07/2022
LAST TESTED: (mm/dd/yyyy) 02/22/2022
EXPIRY DATE: (mm/dd/yyyy) 02/22/2027
RECOMMENDED STORAGE: 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).



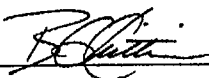
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: PFAC-MXG; Components and Concentrations (ng/mL; \pm 5% in methanol/water (<1%))

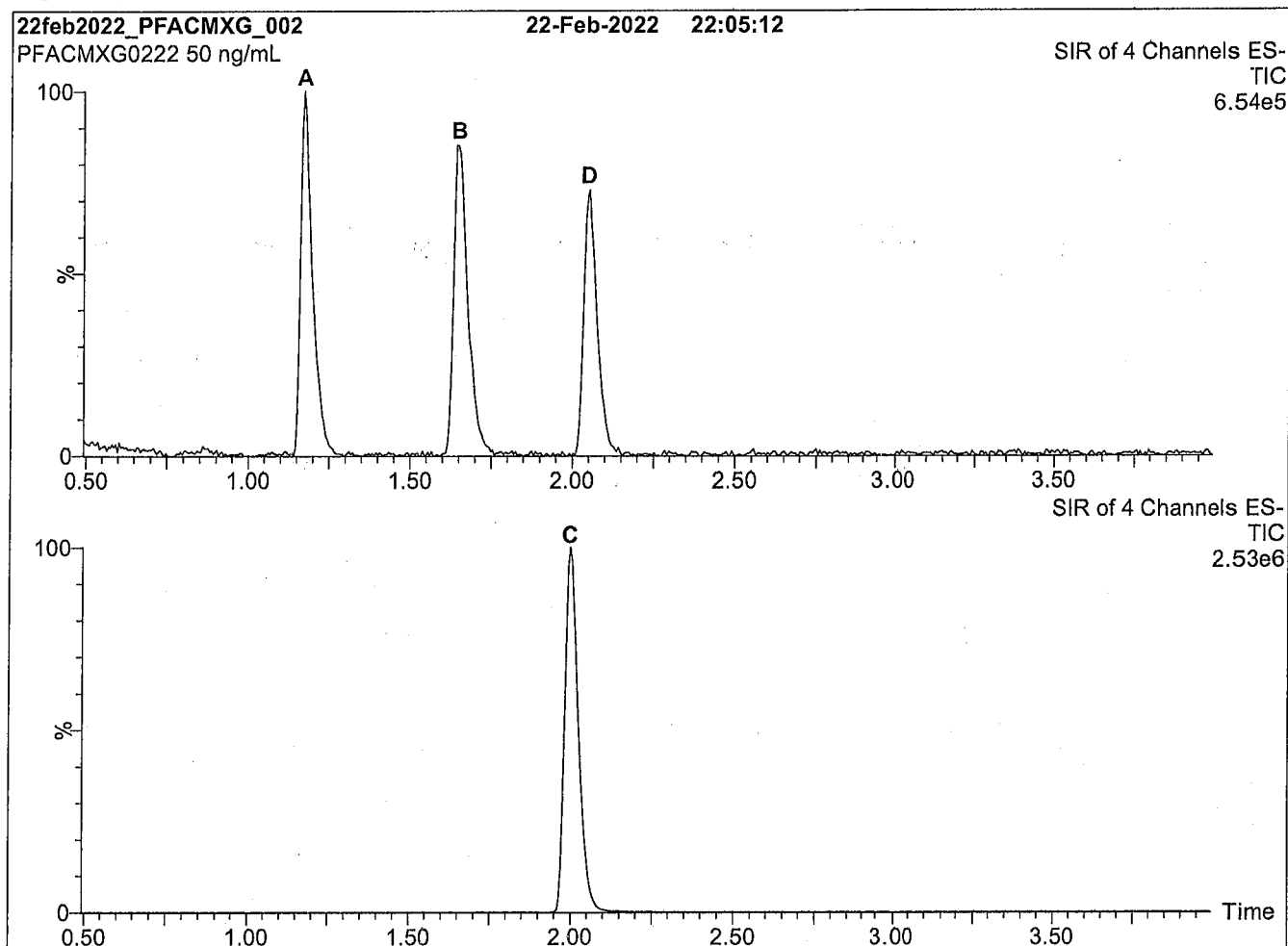
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

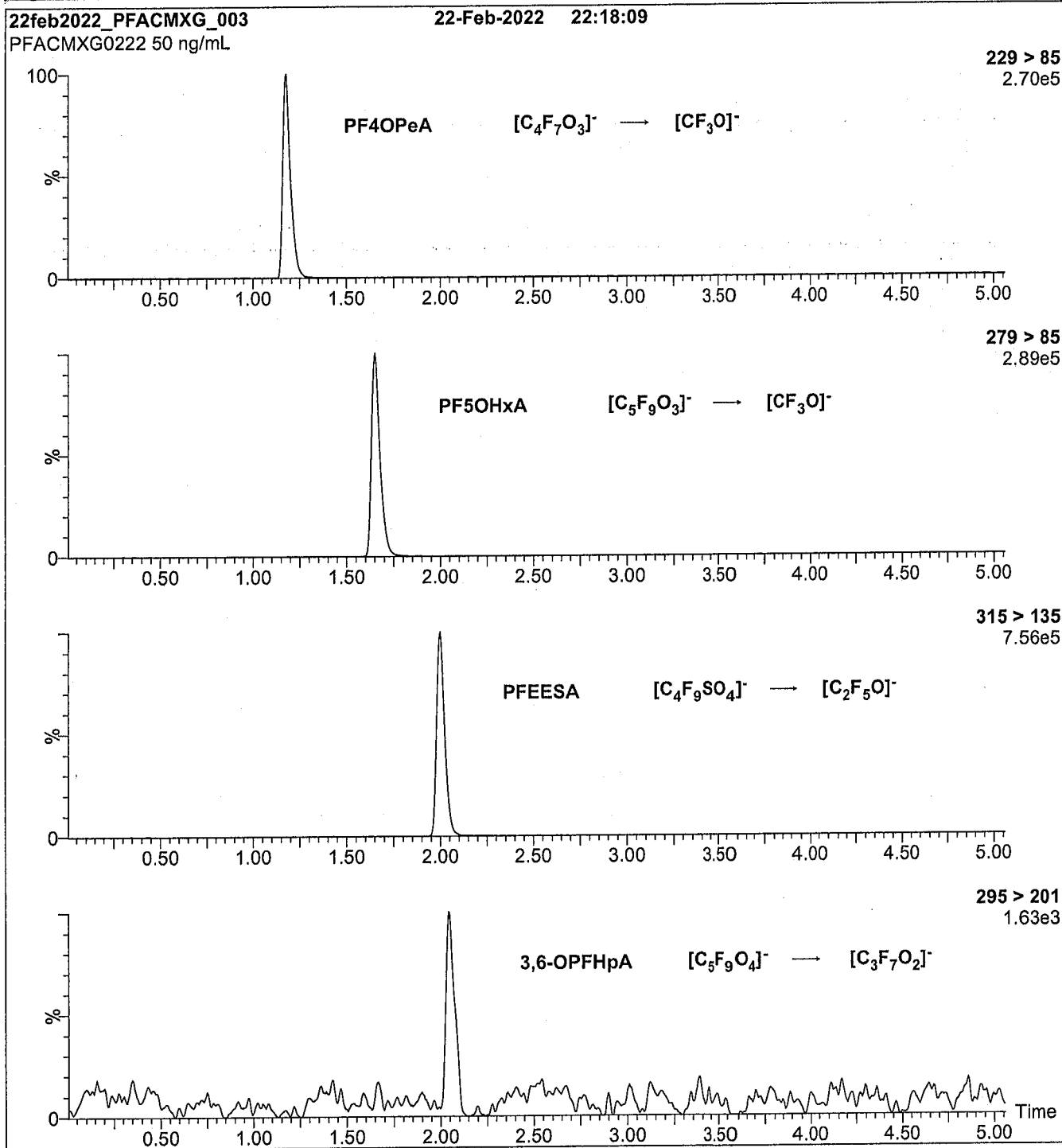
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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 μ 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

22F0445

Description:	TDCA 1000ug/mL	Expires:	09/19/2023
Standard Type:	Other	Prepared:	01/12/2022
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	25	Department:	PFAS
Vials:	1	Last Edit:	11/14/2022 14:31 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID	22A0123	516-50-7	1000	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22A0123	PFAS Taurodeoxycholic Acid, Sodium Salt neat	10/09/2021	Calbiochem	3761825	09/30/2023	06/22/2022 13:01 by DAG	25000

Analytical Standard Record

22F0446

Description:	TCDA 100ug/mL	Expires:	09/19/2023
Standard Type:	Other	Prepared:	01/13/2022
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	3	Department:	PFAS
Vials:	1	Last Edit:	06/22/2022 13:05 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID	22F0445	516-50-7	100	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22F0445	TCDA 1000ug/mL	01/12/2022	Calbiochem	3761825	09/19/2023	06/22/2022 13:05 by DAG	0.3

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	HHpPA1020	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

Analytical Standard Record

22J0297

Description:	T-PFOA	Expires:	01/27/2027
Standard Type:	Other	Prepared:	01/27/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFOA0122)
Vials:	1	Last Edit:	10/18/2022 12:59 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA		335-67-1	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: T-PFOA **LOT NUMBER:** TPFOA0122
COMPOUND: Ammonium perfluorooctanoate (Technical Grade)
STRUCTURE: (see Table A) **CAS #:** 3825-26-1
 (for linear ammonium perfluorooctanoate)
MOLECULAR FORMULA: $C_8F_{15}O_2NH_4$
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ (gravimetric)
CHEMICAL PURITY: Technical material
SOLVENT(S): Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy) 01/27/2022
EXPIRY DATE: (mm/dd/yyyy) 01/27/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)
 Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

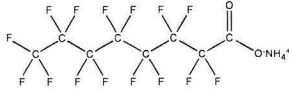
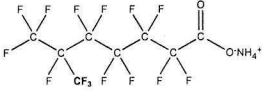
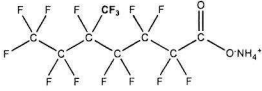
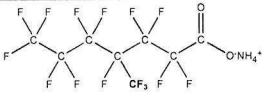
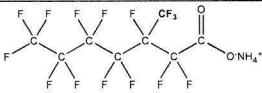
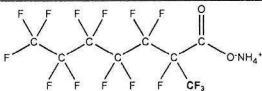
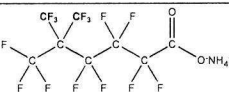
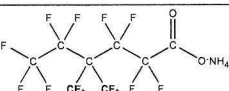
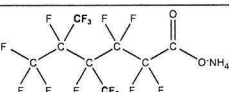
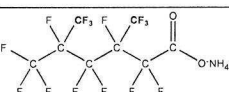
- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only*.
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

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Certified By: 
 B.G. Chittim, General Manager **Date:** 01/27/2022
 (mm/dd/yyyy)

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Table A: T-PFOA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	Ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9.0
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4.0
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3.0
6	Ammonium 2-trifluoromethylperfluoroheptanoate		
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		0.50
9	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ¹⁹F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: PFOSA0922)
Final Volume (mls):	1	Department:	PFOSA
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL



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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-FOSA

Perfluorooctanesulfonamide
Isomeric Mix

<u>PRODUCT CODE:</u>	br-FOSA
<u>LOT NUMBER:</u>	brFOSA0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Isopropanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/14/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	10/07/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 754-91-6 (for linear isomer).

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Table A: br-FOSA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	Perfluoro-1-octanesulfonamide	CF ₃ (CF ₂) ₇ SO ₂ NH ₂	66.6
2	Perfluoro-1-methyl-1-heptanesulfonamide**	CF ₃ (CF ₂) ₅ CF(SO ₂ NH ₂) CF ₃	0.8
3	Perfluoro-2-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₄ CF(CF ₃)SO ₂ NH ₂ CF ₃	0.3
4	Perfluoro-3-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₃ CF(CF ₃) ₂ SO ₂ NH ₂ CF ₃	4.2
5	Perfluoro-4-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₂ CF(CF ₃) ₂ SO ₂ NH ₂ CF ₃	3.5
6	Perfluoro-5-methyl-1-heptanesulfonamide	CF ₃ CF ₂ CF(CF ₃) ₄ SO ₂ NH ₂ CF ₃	7.8
7	Perfluoro-6-methyl-1-heptanesulfonamide	CF ₃ CF(CF ₃) ₅ SO ₂ NH ₂ CF ₃	16.8
8	Perfluoro-5,5-dimethyl-1-hexanesulfonamide	CF ₃ CF ₃ C(CF ₃) ₄ SO ₂ NH ₂ CF ₃	0.2

* Percent of total perfluorooctanesulfonamide isomers only.

** Systematic Name: Perfluoro-2-octanesulfonamide.

Certified By: 
B.G. Chittim, General Manager

Date: 11/15/2022
(mm/dd/yyyy)

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: PFOSA0922)
Final Volume (mls):	1	Department:	PFOSA
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Analytical Standard Record

22J0301

Description:	br-NMeFOSA	Expires:	08/23/2027
Standard Type:	Other	Prepared:	08/23/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: br-NMeFOSA0822)
Final Volume (mls):	1	Department:	
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL

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DOCUMENTATION****br-NMeFOSA****N-Methylperfluorooctanesulfonamide
Isomeric Mix**

PRODUCT CODE: br-NMeFOSA
LOT NUMBER: brNMeFOSA0822
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 08/18/2022
LAST TESTED: (mm/dd/yyyy) 08/23/2022
EXPIRY DATE: (mm/dd/yyyy) 08/23/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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Table A: br-NMeFOSA; Isomeric Components and Percent Composition (by ^{19}F -NMR)*

Isomer	Compound	Structure	Percent Composition by ^{19}F -NMR
1	N-Methylperfluoro-1-octanesulfonamide	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NHCH}_3$	72.3
2	N-Methylperfluoro-3-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NHCH}_3$	2.1
3	N-Methylperfluoro-4-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NHCH}_3$	2.6
4	N-Methylperfluoro-5-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NHCH}_3$	6.7
5	N-Methylperfluoro-6-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NHCH}_3$	16.2
6	N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamide	$\text{CF}_3\text{C}(\text{CF}_3)(\text{CF}_2)_4\text{SO}_2\text{NHCH}_3$	0.04

* Percent of total N-methylperfluorooctanesulfonamide isomers only.

Certified By: _____



B.G. Chittim, General Manager

Date: 11/15/2022
(mm/dd/yyyy)

Analytical Standard Record

22J0301

Description:	br-NMeFOSA	Expires:	08/23/2027
Standard Type:	Other	Prepared:	08/23/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: br-NMeFOSA0822)
Final Volume (mls):	1	Department:	
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL

Analytical Standard Record

22J0302

Description:	br-NETFOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NETFOSA0922)
Final Volume (mls):	1	Department:	PPAS
Vials:	1	Last Edit:	10/18/2022 13:38 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NETFOSA		4151-50-2	50	ug/mL



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DOCUMENTATION

br-NEtFOSA

**N-Ethylperfluorooctanesulfonamide
Isomeric Mix**

<u>PRODUCT CODE:</u>	br-NEtFOSA
<u>LOT NUMBER:</u>	brNEtFOSA0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/23/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	10/07/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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Table A: br-NEtFOSA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	N-Ethylperfluoro-1-octanesulfonamide	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array}$	73.8
2	N-Ethylperfluoro-1-methyl-1-heptanesulfonamide**	$\text{CF}_3(\text{CF}_2)_5\text{CF}(\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array}) \begin{array}{c} \\ \text{CF}_3 \end{array}$	0.1
3	N-Ethylperfluoro-3-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array} \begin{array}{c} \\ \text{CF}_3 \end{array}$	2.3
4	N-Ethylperfluoro-4-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array} \begin{array}{c} \\ \text{CF}_3 \end{array}$	2.6
5	N-Ethylperfluoro-5-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array} \begin{array}{c} \\ \text{CF}_3 \end{array}$	6.2
6	N-Ethylperfluoro-6-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NH} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array} \begin{array}{c} \\ \text{CF}_3 \end{array}$	14.8
7	N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamide	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NH} \\ \\ \text{CF}_3 \end{array} \begin{array}{c} \\ \text{CH}_2\text{CH}_3 \end{array}$	0.2

* Percent of total N-ethylperfluorooctanesulfonamide isomers only.

** Systematic Name: N-Ethylperfluoro-2-octanesulfonamide.

Certified By: 
B.G. Chittim, General Manager

Date: 11/15/2022
(mm/dd/yyyy)

Analytical Standard Record

22J0303

Description:	br-NMeFOSE	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: br-NMeFOSE0922)
Final Volume (mls):	1	Department:	br-NMeFOSE0922)
Vials:	1	Last Edit:	10/18/2022 13:41 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NETFOSE		1691-99-2	50	ug/mL



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DOCUMENTATION

br-NMeFOSE

**2-(N-Methylperfluorooctanesulfonamido)ethanol
Isomeric Mix**

<u>PRODUCT CODE:</u>	br-NMeFOSE
<u>LOT NUMBER:</u>	brNMeFOSE0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/02/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 3: LC/MS Data (SIR)
 Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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Table A: br-NMeFOSE; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	2-(N-Methylperfluoro-1-octanesulfonamido)ethanol	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_3$	67.6
2	2-(N-Methylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	3.9
3	2-(N-Methylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	3.2
4	2-(N-Methylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	7.7
5	2-(N-Methylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	17.5
6	2-(N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	CF_3 $ $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $ \quad \quad \quad $ $\text{CF}_3 \quad \quad \quad \text{CH}_3$	0.2

* Percent of total 2-(N-methylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____


B.G. Chittim, General Manager

Date: 11/14/2022
(mm/dd/yyyy)

Analytical Standard Record

22J0304

Description:	br-NETFOSE	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NETFOSE1022)
Final Volume (mls):	1	Department:	PPAS
Vials:	1	Last Edit:	10/18/2022 13:43 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NETFOSE		1691-99-2	50	ug/mL



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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix

<u>PRODUCT CODE:</u>	br-NEtFOSE
<u>LOT NUMBER:</u>	brNEtFOSE1022
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/12/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-ethylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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Table A: br-NEtFOSE; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	2-(N-Ethylperfluoro-1-octanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \\ \text{CH}_2\text{CH}_3 \end{array}$	64.6
2	2-(N-Ethylperfluoro-2-methyl-1-heptanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_4\text{CF}(\text{CF}_2)\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	0.2
3	2-(N-Ethylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	4.1
4	2-(N-Ethylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	4.3
5	2-(N-Ethylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	8.8
6	2-(N-Ethylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	17.8
7	2-(N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH} \\ \qquad \qquad \\ \text{CF}_3 \qquad \qquad \text{CH}_2\text{CH}_3 \end{array}$	0.3

* Percent of total 2-(N-ethylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____

B.G. Chittim, General Manager

Date: 11/14/2022

(mm/dd/yyyy)

Analytical Standard Record

22J0420

Description:	PFAS RES-MIX 1000ng/mL	Expires:	04/24/2023
Standard Type:	Other	Prepared:	10/26/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/26/2022 10:16 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA	22J0297	335-67-1	1	ug/mL
PFOSA	22J0298	754-91-6	1	ug/mL
NMeFOSA	22J0301	31506-32-8	1	ug/mL
NEtFOSA	22J0302	4151-50-2	1	ug/mL
NMeFOSE	22J0303	24448-09-7	1	ug/mL
NEtFOSE	22J0304	1691-99-2	1	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22J0297	T-PFOA	01/27/2022	Wellington Laboratories	TPFOA0122	01/27/2027	10/18/2022 12:59	by HGH 0.02
22J0298	br-FOSA	09/14/2022	Wellington Laboratories	br-FOSA0922	10/07/2027	10/18/2022 13:03	by HGH 0.02
22J0301	br-NMeFOSA	08/23/2022	Wellington Laboratories	beNMeFOSA0822	08/23/2027	10/18/2022 13:37	by HGH 0.02
22J0302	br-NEtFOSA	10/07/2022	Wellington Laboratories	beNEtFOSA0922	10/07/2027	10/18/2022 13:38	by HGH 0.02
22J0303	br-NMeFOSE	10/07/2022	Wellington Laboratories	beNMeFOSE0922	10/07/2027	10/26/2022 10:16	by HGH 0.02
22J0304	br-NEtFOSE	10/07/2022	Wellington Laboratories	beNEtFOSE1022	10/07/2027	10/18/2022 13:43	by HGH 0.02

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:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
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

23A0022

Description:	PFOS 0.4mg/ml	Expires:	07/03/2023
Standard Type:	Other	Prepared:	01/04/2023
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	40	Department:	PFAS
Vials:	1	Last Edit:	01/04/2023 11:14 by DAG

Analyte	Parent	CAS Number	Concentration	Units
PFOS	23A0024	1763-23-1	400	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
23A0024	PFOS 40%	01/04/2023	Sigma-Aldrich	0000100807	11/10/2023	01/04/2023 11:14 by DAG	0.04

Analytical Standard Record

23A0024

Description:	PFOS 40%	Expires:	11/10/2023
Standard Type:	Other	Prepared:	01/04/2023
Solvent:	methanol 77283	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	01/04/2023 11:14 by DAG
Comments:	neat-77283		

Analyte	Parent	CAS Number	Concentration	Units
PFOS		1763-23-1	400000	ug/g

Analytical Standard Record

23A0025

Description:	PFOS 0.4ug/ml	Expires:	07/03/2023
Standard Type:	Other	Prepared:	01/04/2023
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	40	Department:	PFAS
Vials:	1	Last Edit:	01/04/2023 11:18 by DAG

Analyte	Parent	CAS Number	Concentration	Units
PFOS	23A0022	1763-23-1	0.4	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
23A0022	PFOS 0.4mg/ml	01/04/2023	In house	3761825	07/03/2023	01/04/2023 11:14 by DAG	0.04

Analytical Standard Record

23A0025

Description:	PFOS 0.4ug/ml	Expires:	07/03/2023
Standard Type:	Other	Prepared:	01/04/2023
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	40	Department:	PFAS
Vials:	1	Last Edit:	01/04/2023 11:18 by DAG

Analyte	Parent	CAS Number	Concentration	Units
PFOS	23A0022	1763-23-1	0.4	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
23A0022	PFOS 0.4mg/ml	01/04/2023	In house	3761825	07/03/2023	01/04/2023 11:14 by DAG	0.04

Analytical Standard Record

23A0201

Description:	PFAS - MIX MXG 2 ug/mL	Expires:	12/01/2027
Standard Type:	Other	Prepared:	11/30/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFAS MXG1122)
Vials:	1	Last Edit:	01/11/2023 14:56 by PAF
Lot Number:	PFACMXG1122		

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



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	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; \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: 12/09/2022
(mm/dd/yyyy)

Analytical Standard Record

23A0205

Description:	PFAS - MIX MXF 2 ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFASMXF0122)
Vials:	1	Last Edit:	01/11/2023 14:59 by PAF
Lot Number:	PFACMXF0122		

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

<u>PRODUCT CODE:</u>	PFAC-MXF
<u>LOT NUMBER:</u>	PFACMXF0122
<u>SOLVENT(S):</u>	Methanol / Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/10/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/11/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/11/2025
<u>RECOMMENDED STORAGE:</u>	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; ± 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)

Analytical Standard Record

23A0207

Description:	PFAS - MIX MXH 1 ug/mL	Expires:	08/08/2027
Standard Type:	Other	Prepared:	08/05/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFACMXH0822)
Vials:	1	Last Edit:	01/11/2023 15:06 by PAF
Lot Number:	PFACMXH0822		

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



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CERTIFICATE OF ANALYSIS
DOCUMENTATION

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 (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₅, C₇, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ 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	PFTTrDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		23
N-methylperfluorooctanesulfonamidoacetic acid ^a	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: Σ branched isomers	240		17
N-ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	775		22
	N-EtFOSAA: Σ 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 ^c	PFHxSK: linear isomer	811	741	9
	PFHxSK: Σ branched isomers	189	173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctadisulfonate ^d	PFOSK: linear isomer	788	732	15
	PFOSK: Σ 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

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

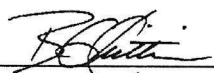
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d 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

23A0390

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	MPFACHIFES1022
Vials:	1	Last Edit:	01/23/2023 15:26 by ABK
Lot Number:	MPFACHIFES1022		

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-PFHHPA		13C4-PFHHPA	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

<u>PRODUCT CODE:</u>	MPFAC-HIF-ES
<u>LOT NUMBER:</u>	MPFACHIFES1022
<u>SOLVENT(S):</u>	Methanol/Isopropanol (1%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	10/28/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	11/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	11/23/2025
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} , C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4 , C_6 , and C_8), three mass-labelled (one ^{13}C and two ^2H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^2H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C -labelled components all have chemical purities >98% and isotopic purities of $\geq 99\%$. The individual ^2H -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

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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-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		22
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		17
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)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- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)

Analytical Standard Record

23A0419

Description:	PFAS - SAS PFHxDA 50ug/mL	Expires:	02/23/2027
Standard Type:	Analyte Spike	Prepared:	02/23/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFHxDA0222)
Vials:	1	Last Edit:	01/24/2023 13:23 by ABK
Lot Number:	PFHxDA0222		
Comments:	PFHxDA (Perfluoro-n-hexadecanoic acid) CAS: 67905-19-5		

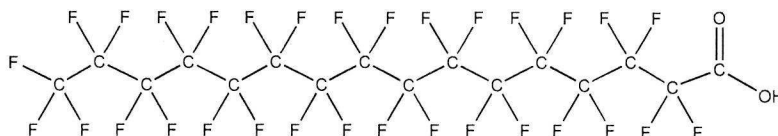
Analyte	Parent	CAS Number	Concentration	Units
				ug/mL



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxDA **LOT NUMBER:** PFHxDA0222
COMPOUND: Perfluoro-n-hexadecanoic acid
STRUCTURE: **CAS #:** 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$ **MOLECULAR WEIGHT:** 814.13
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/23/2022
EXPIRY DATE: (mm/dd/yyyy) 02/23/2027
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:** 03/08/2022
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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 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:

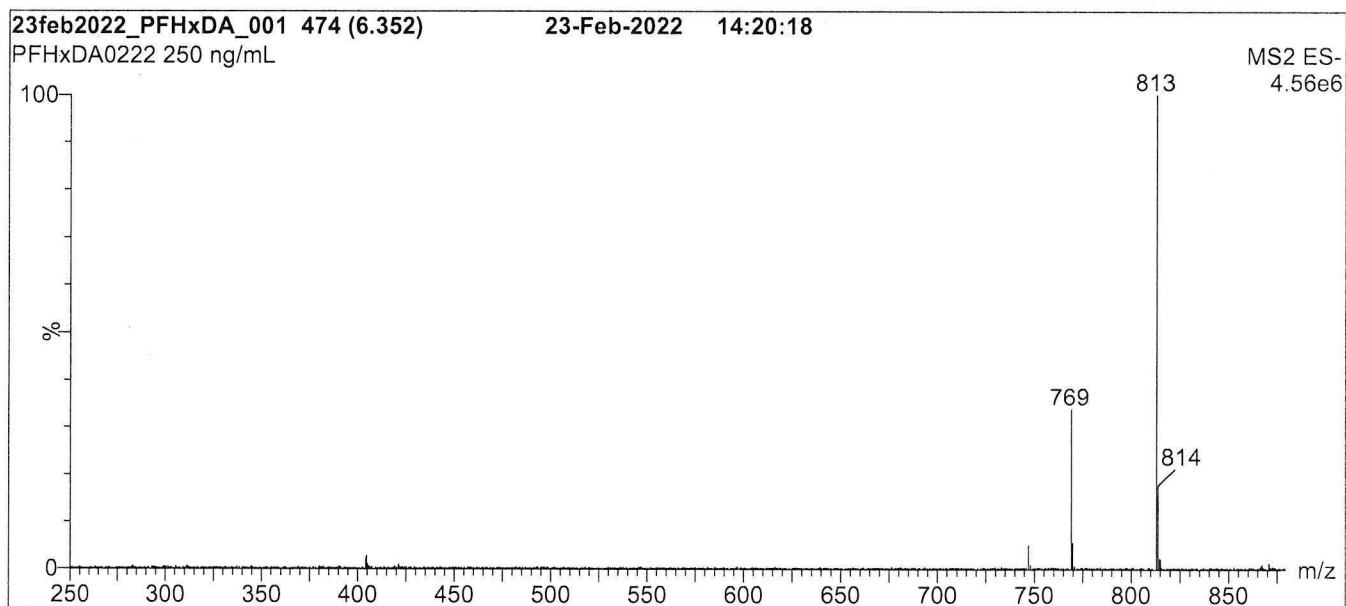
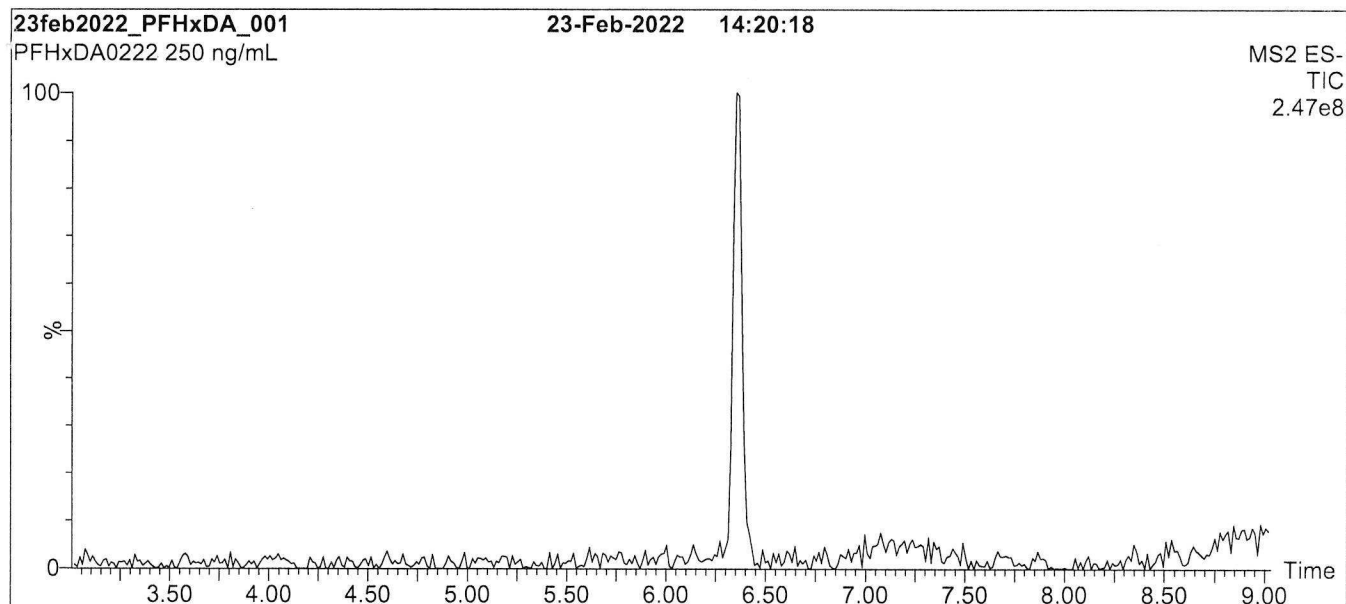
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at info@well-labs.com

Figure 1: PFHxDA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

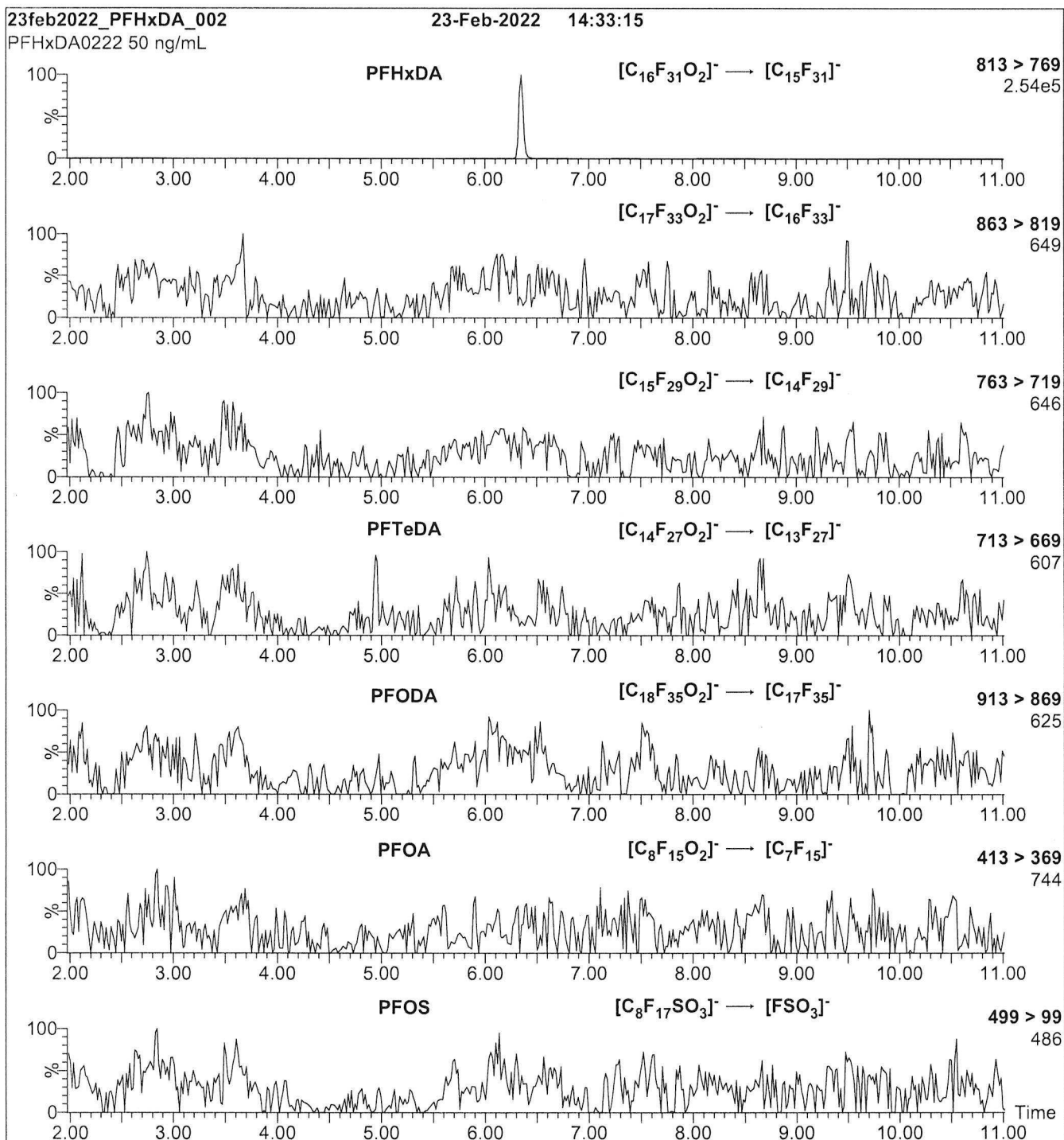
Start: 30% H₂O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ 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: PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (PFHxDA)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.24e-3

Collision Energy (eV) = 14

Analytical Standard Record

23A0420

Description:	PFAS - SAS PFODA 50ug/mL	Expires:	07/05/2027
Standard Type:	Analyte Spike	Prepared:	07/05/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFAS (Lot# PFODA0622)
Vials:	1	Last Edit:	01/24/2023 13:25 by ABK
Lot Number:	PFODA0622		
Comments:	PFODA (Perfluoro-n-octadecanoic acid) CAS: 16517-11-6		

Analyte	Parent	CAS Number	Concentration	Units
				ug/mL

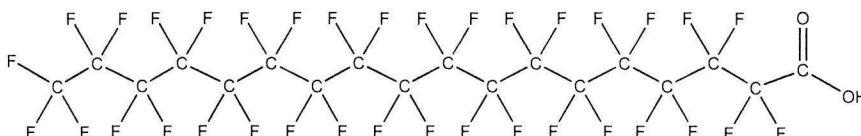


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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFODA **LOT NUMBER:** PFODA0622
COMPOUND: Perfluoro-n-octadecanoic acid

STRUCTURE: **CAS #:** 16517-11-6



MOLECULAR FORMULA: $C_{18}H_{35}O_2$ **MOLECULAR WEIGHT:** 914.14
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/05/2022
EXPIRY DATE: (mm/dd/yyyy) 07/05/2027
RECOMMENDED STORAGE: Store ampoule at ambient temperature in a 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.
- The solubility of this product in methanol is very sensitive to storage conditions and solvent composition. The stated validity period applies to the sealed ampoules stored at ambient temperature.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 07/05/2022
 (mm/dd/yyyy)

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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 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:

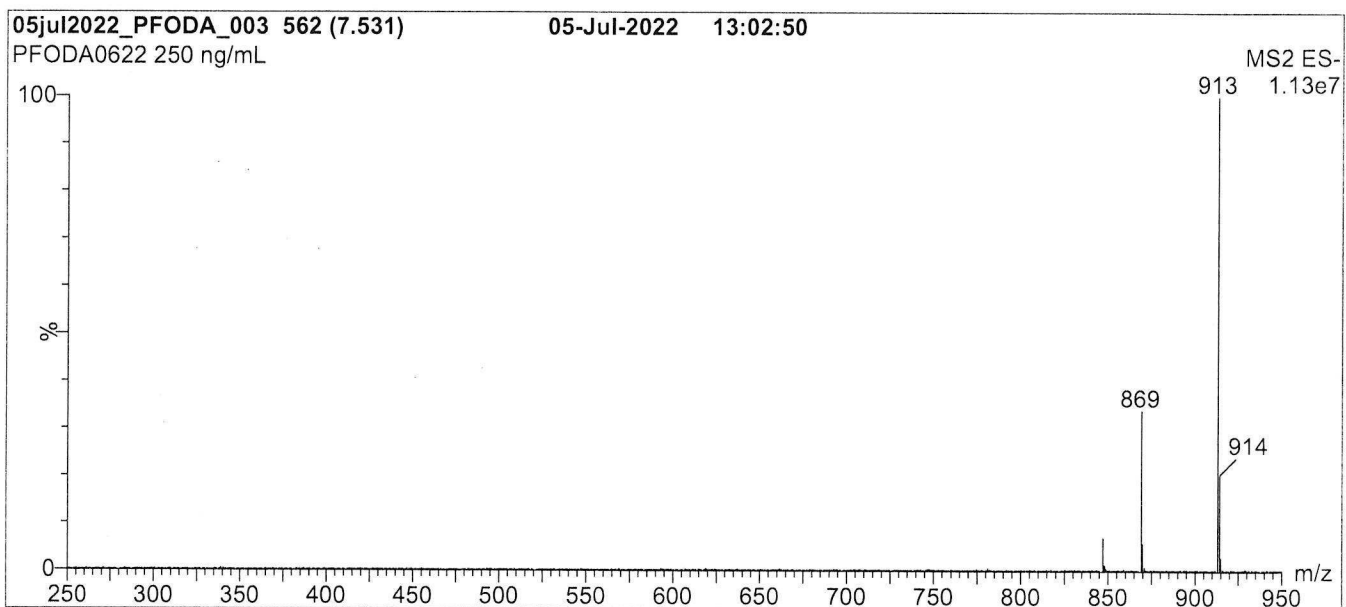
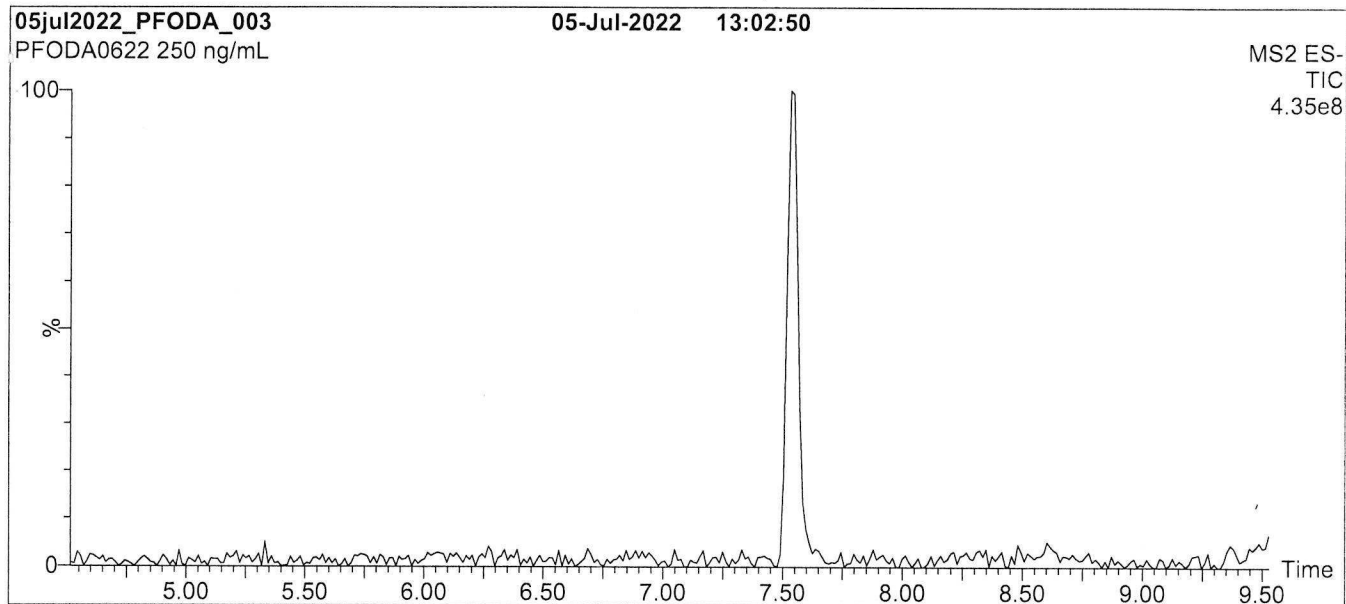
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 or contact us directly at info@well-labs.com

Figure 1: PFODA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H₂O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (250 - 950 amu)

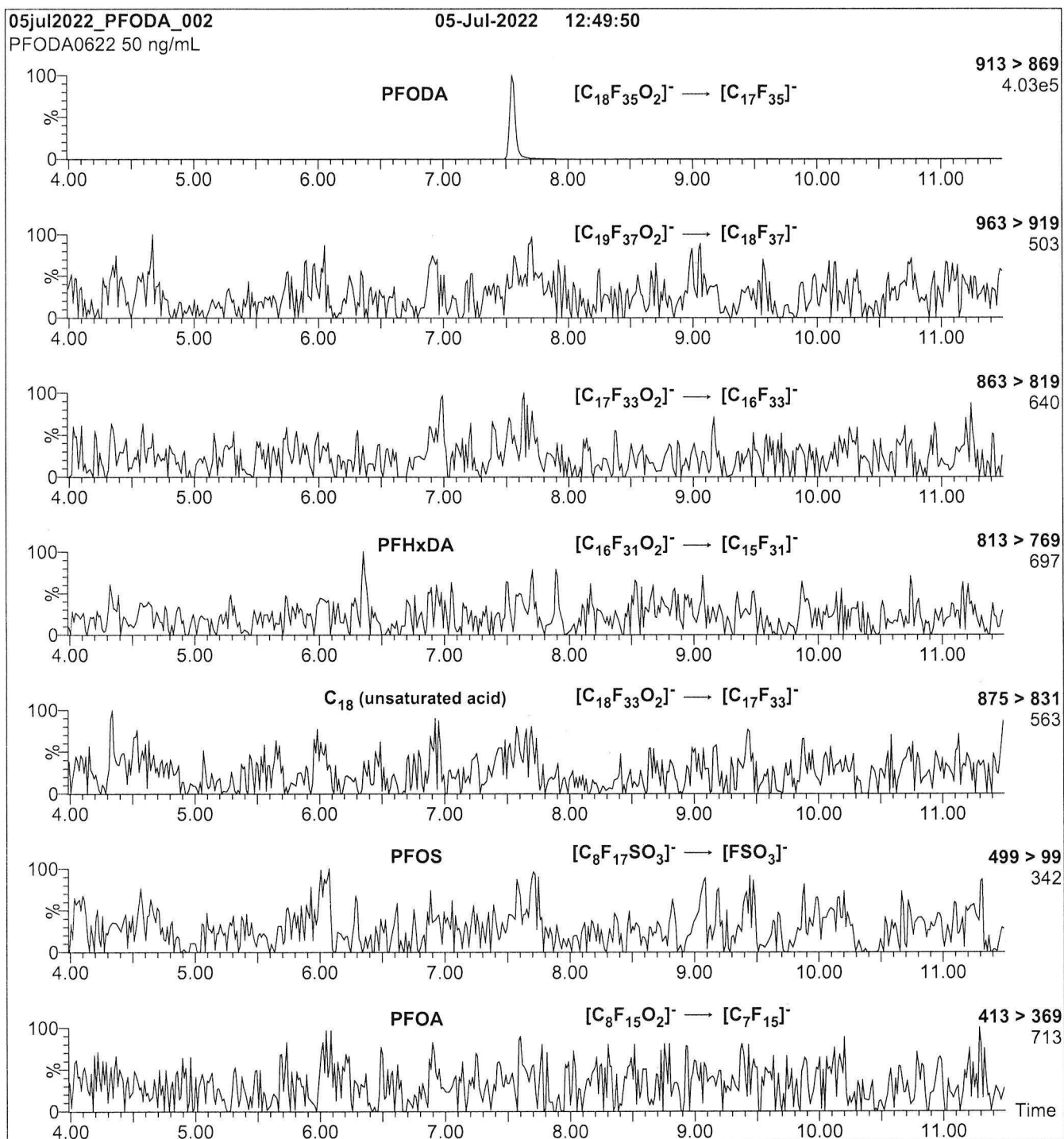
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 10.00

Desolvation Temperature ($^{\circ}$ C) = 500

Desolvation Gas Flow (L/hr) = 1000

Figure 2: PFODA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (PFODA)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.20e-3

Collision Energy (eV) = 15



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	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

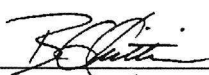
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Table A: PFAC-MXG; Components and Concentrations (ng/mL; \pm 5% in methanol/water (<1%))

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: 12/09/2022
(mm/dd/yyyy)



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF

Native Replacement PFAS Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXF
<u>LOT NUMBER:</u>	PFACMXF0122
<u>SOLVENT(S):</u>	Methanol / Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/10/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/11/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/11/2025
<u>RECOMMENDED STORAGE:</u>	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)



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH

Native PFAS Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXH
<u>LOT NUMBER:</u>	PFACMXH0822
<u>SOLVENT(S):</u>	Methanol/Isopropanol (2%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/05/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	08/08/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	08/08/2027
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₅, C₇, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ 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 PFH_xSK
 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	PFTTrDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		23
N-methylperfluorooctanesulfonamidoacetic acid ^a	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: Σ branched isomers	240		17
N-ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	775		22
	N-EtFOSAA: Σ branched isomers	225		21
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanesulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexanesulfonate ^c	PFHxSK: linear isomer	811	741	9
	PFHxSK: Σ branched isomers	189	173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctanesulfonate ^d	PFOSK: linear isomer	788	732	15
	PFOSK: Σ branched isomers	211	196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNs	1000	962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecanesulfonate	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-perfluorodecanesulfonate	8:2FTS	4000	3840	16

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

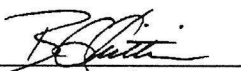
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d 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

23C0075

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	MPFACHIFES1022
Vials:	1	Last Edit:	03/05/2023 10:17 by ABK
Lot Number:	MPFACHIFES1022		

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

<u>PRODUCT CODE:</u>	MPFAC-HIF-ES
<u>LOT NUMBER:</u>	MPFACHIFES1022
<u>SOLVENT(S):</u>	Methanol/Isopropanol (1%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	10/28/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	11/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	11/23/2025
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} , C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4 , C_6 , and C_8), three mass-labelled (one ^{13}C and two ^2H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^2H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C -labelled components all have chemical purities >98% and isotopic purities of $\geq 99\%$. The individual ^2H -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-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		22
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		17
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)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- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)

Analytical Standard Record

23C0080

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	MPFACHIFES1022
Vials:	1	Last Edit:	03/05/2023 10:21 by ABK
Lot Number:	MPFACHIFES1022		

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

<u>PRODUCT CODE:</u>	MPFAC-HIF-ES
<u>LOT NUMBER:</u>	MPFACHIFES1022
<u>SOLVENT(S):</u>	Methanol/Isopropanol (1%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	10/28/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	11/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	11/23/2025
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} , C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4 , C_6 , and C_8), three mass-labelled (one ^{13}C and two ^2H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^2H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C -labelled components all have chemical purities >98% and isotopic purities of $\geq 99\%$. The individual ^2H -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-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		22
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		17
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)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- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)

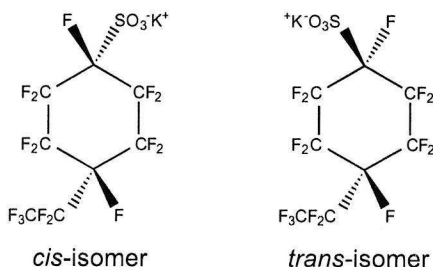


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFECHS **LOT NUMBER:** PFECHS0222
COMPOUND: Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

STRUCTURE: **CAS #:** 335-24-0



MOLECULAR FORMULA: $C_8F_{15}SO_3K$ **MOLECULAR WEIGHT:** 500.22
CONCENTRATION: 50.0 ± 2.5 µg/mL (K salt) **SOLVENT(S):** Methanol
 46.2 ± 2.3 µg/mL (PFECHS acid)
 46.1 ± 2.3 µg/mL (PFECHS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/28/2022
EXPIRY DATE: (mm/dd/yyyy) 03/28/2027
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 a mixture of the *cis/trans* isomers of PFECHS at a ratio of 1:1.27 (*cis:trans*).

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Certified By: _____


 B.G. Chittim, General Manager

Date: 03/30/2022
 (mm/dd/yyyy)

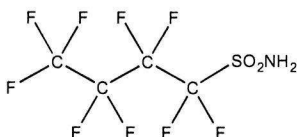
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FBSA-I **LOT NUMBER:** FBSA0123I
COMPOUND: Perfluoro-1-butananesulfonamide
STRUCTURE: **CAS #:** 30334-69-1



MOLECULAR FORMULA: C₄H₂F₉NO₂S **MOLECULAR WEIGHT:** 299.11
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Isopropanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/01/2023
EXPIRY DATE: (mm/dd/yyyy) 02/01/2028
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.

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Certified By:  **Date:** 02/02/2023
 B.G. Chittim, General Manager (mm/dd/yyyy)

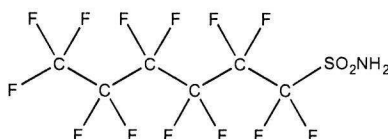
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FHxSA-I **LOT NUMBER:** FHxSA1221I
COMPOUND: Perfluoro-1-hexanesulfonamide
STRUCTURE: **CAS #:** 41997-13-1



MOLECULAR FORMULA: C₆H₂F₁₃NO₂S **MOLECULAR WEIGHT:** 399.13
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Isopropanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/29/2021
EXPIRY DATE: (mm/dd/yyyy) 12/29/2026
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 01/10/2022
 B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Analytical Standard Record

23C0439

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	MPFACHIFES1022
Vials:	1	Last Edit:	03/27/2023 10:49 by ABK
Lot Number:	MPFACHIFES1022		

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-PFHHPA		13C4-PFHHPA	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

<u>PRODUCT CODE:</u>	MPFAC-HIF-ES
<u>LOT NUMBER:</u>	MPFACHIFES1022
<u>SOLVENT(S):</u>	Methanol/Isopropanol (1%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	10/28/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	11/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	11/23/2025
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} , C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4 , C_6 , and C_8), three mass-labelled (one ^{13}C and two ^2H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^2H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C -labelled components all have chemical purities >98% and isotopic purities of $\geq 99\%$. The individual ^2H -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

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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-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		22
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		17
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)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- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)