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

March 01, 2023

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

RE: Red Hill AFFF Assessment Sampling
23B0160

Enclosed are the results of analyses for samples received by our laboratory on 2/23/2023. 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,

Greg Salata For Gregory Salata
Project Manager

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

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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 analytes 6:2FTS and PFMBA recovered above the upper control limit in the SC00809-LCV1.

The analyte PFDoS recovered above the upper control limit in the SC00809-CCV2.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23B0160-01	AF-RHMW225401-WGN01B-2302W3	Water	02/22/2023 12:30	02/23/2023

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Project: Red Hill AFFF Assessment Sampling
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Containers Received

Lab ID	Container Type	Count	Preservation Check
23B0160-01	500mL P	2	

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

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Sample Results

**Sample: AF-RHMW225401-WGN01B-2302W3
23B0160-01 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.71 J	1.5	0.73	0.19	ng/L	02/28/23	1	EPA 1633	BCB0396
PFPEA	1.4	0.73	0.36	0.059	ng/L	02/28/23	1	EPA 1633	BCB0396
PFHXA	1.0	0.36	0.18	0.050	ng/L	02/28/23	1	EPA 1633	BCB0396
PFHPA	0.76	0.36	0.18	0.037	ng/L	02/28/23	1	EPA 1633	BCB0396
PFOA	1.1	0.36	0.18	0.14	ng/L	02/28/23	1	EPA 1633	BCB0396
PFNA	0.16 J	0.36	0.18	0.074	ng/L	02/28/23	1	EPA 1633	BCB0396
PFDA	0.18 U	0.36	0.18	0.092	ng/L	02/28/23	1	EPA 1633	BCB0396
PFUnA	0.18 U	0.36	0.18	0.15	ng/L	02/28/23	1	EPA 1633	BCB0396
PFDOA	0.18 U	0.36	0.18	0.10	ng/L	02/28/23	1	EPA 1633	BCB0396
PFTRDA	0.27 U	0.36	0.27	0.19	ng/L	02/28/23	1	EPA 1633	BCB0396
PFTEDA	0.18 U	0.36	0.18	0.18	ng/L	02/28/23	1	EPA 1633	BCB0396
PFBS	0.71	0.36	0.18	0.033	ng/L	02/28/23	1	EPA 1633	BCB0396
PFPEs	0.13 J	0.36	0.18	0.057	ng/L	02/28/23	1	EPA 1633	BCB0396
PFHXS	1.1	0.36	0.18	0.029	ng/L	02/28/23	1	EPA 1633	BCB0396
PFHPS	0.18 U	0.36	0.18	0.047	ng/L	02/28/23	1	EPA 1633	BCB0396
PFOS	1.1	0.36	0.18	0.058	ng/L	02/28/23	1	EPA 1633	BCB0396
PFNS	0.18 U	0.36	0.18	0.11	ng/L	02/28/23	1	EPA 1633	BCB0396
PFDS	0.18 U	0.36	0.18	0.14	ng/L	02/28/23	1	EPA 1633	BCB0396
PFDOS	0.18 U	0.36	0.18	0.11	ng/L	02/28/23	1	EPA 1633	BCB0396
4:2FTS	0.73 U	1.5	0.73	0.26	ng/L	02/28/23	1	EPA 1633	BCB0396
6:2FTS	0.73 U	1.5	0.73	0.29	ng/L	02/28/23	1	EPA 1633	BCB0396
8:2FTS	0.73 U	1.5	0.73	0.075	ng/L	02/28/23	1	EPA 1633	BCB0396
PFOSA	0.18 U	0.36	0.18	0.095	ng/L	02/28/23	1	EPA 1633	BCB0396
NMeFOSA	0.73 U	1.5	0.73	0.43	ng/L	02/28/23	1	EPA 1633	BCB0396
NEtFOSA	0.73 U	1.5	0.73	0.37	ng/L	02/28/23	1	EPA 1633	BCB0396
NMeFOSAA	0.18 U	0.36	0.18	0.096	ng/L	02/28/23	1	EPA 1633	BCB0396
NEtFOSAA	0.18 U	0.36	0.18	0.10	ng/L	02/28/23	1	EPA 1633	BCB0396
NMeFOSE	1.1 U	1.5	1.1	0.92	ng/L	02/28/23	1	EPA 1633	BCB0396
NEtFOSE	1.1 U	1.5	1.1	0.95	ng/L	02/28/23	1	EPA 1633	BCB0396
HFPO-DA	0.36 U	0.73	0.36	0.16	ng/L	02/28/23	1	EPA 1633	BCB0396
ADONA	0.36 U	0.73	0.36	0.11	ng/L	02/28/23	1	EPA 1633	BCB0396
PFEESA	0.36 U	0.73	0.36	0.099	ng/L	02/28/23	1	EPA 1633	BCB0396
PFMPA	0.36 U	0.73	0.36	0.049	ng/L	02/28/23	1	EPA 1633	BCB0396
PFMBA	0.36 U	0.73	0.36	0.082	ng/L	02/28/23	1	EPA 1633	BCB0396
NFDHA	0.36 U	0.73	0.36	0.27	ng/L	02/28/23	1	EPA 1633	BCB0396
9CL-PF3ONS	0.36 U	0.73	0.36	0.19	ng/L	02/28/23	1	EPA 1633	BCB0396
11CL-PF3OUDS	0.36 U	0.73	0.36	0.19	ng/L	02/28/23	1	EPA 1633	BCB0396
3:3FTCA	0.73 U	1.5	0.73	0.52	ng/L	02/28/23	1	EPA 1633	BCB0396
5:3FTCA	0.73 U	1.5	0.73	0.40	ng/L	02/28/23	1	EPA 1633	BCB0396
7:3FTCA	0.73 U	1.5	0.73	0.50	ng/L	02/28/23	1	EPA 1633	BCB0396
<hr/>									
Surrogate: 13C4-PFBA	97.3%		10-130			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C5-PFPEA	101%		35-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C5-PFHXA	95.9%		55-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C4-PFHPA	95.1%		55-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C8-PFOA	97.0%		60-140			02/28/23	1	EPA 1633	BCB0396

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Sample Results (Continued)

Sample: AF-RHMW225401-WGN01B-2302W3 (Continued)
23B0160-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	92.5%		55-140			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C6-PFDA	106%		50-140			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C7-PFUnA	114%		30-140			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C2-PFDOA	108%		10-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C2-PFTEDA	91.7%		10-130			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C3-PFBS	98.2%		55-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C3-PFHXS	105%		55-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C8-PFOS	99.4%		45-140			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C2-4:2FTS	119%		60-200			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C2-6:2FTS	100%		60-200			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C2-8:2FTS	139%		50-200			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C8-PFOA	71.8%		30-130			02/28/23	1	EPA 1633	BCB0396
Surrogate: D3-NMEFOA	39.7%		15-130			02/28/23	1	EPA 1633	BCB0396
Surrogate: D5-NETFOA	45.8%		10-130			02/28/23	1	EPA 1633	BCB0396
Surrogate: D3-NMEFOA	133%		45-200			02/28/23	1	EPA 1633	BCB0396
Surrogate: D5-NETFOA	135%		10-200			02/28/23	1	EPA 1633	BCB0396
Surrogate: D7-NMEFOSE	39.2%		10-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: D9-NETFOSE	54.6%		10-150			02/28/23	1	EPA 1633	BCB0396
Surrogate: 13C3-HFPO-DA	97.4%		25-160			02/28/23	1	EPA 1633	BCB0396

AECOM Honolulu 1001 Bishop Street, Suite 1600 Honolulu, HI 96813	Project: Red Hill AFFF Assessment Sampling Project Number: Red Hill AFFF Assessment Sampling Project Manager: Watson Tanji	Reported: 03/01/2023 20:13
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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: BCB0396 - EPA 1633

Blank (BCB0396-BLK1)

Prepared: 02/23/23 08:50 Analyzed: 02/28/23 19:31

	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	0.20 U	0.40	0.20	0.15
PFNA	0.20 U	0.40	0.20	0.082
PFDA	0.20 U	0.40	0.20	0.10
PFUnA	0.20 U	0.40	0.20	0.16
PFDOA	0.20 U	0.40	0.20	0.11
PFTRDA	0.30 U	0.40	0.30	0.20
PFTEDA	0.20 U	0.40	0.20	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	0.114 J	0.40	0.20	0.064
PFNS	0.20 U	0.40	0.20	0.12
PFDS	0.20 U	0.40	0.20	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	31.9	32.0	99.8	10-130
13C5-PFPEA	16.3	16.0	102	35-150
13C5-PFHXA	8.01	8.00	100	55-150

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

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

Reported: 03/01/2023 20:13

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 (BCB0396-BLK1)						Prepared: 02/23/23 08:50 Analyzed: 02/28/23 19:31				
	ng/L									
<i>Surrogates</i>										
13C4-PFHPA	8.33				8.00		104	55-150		
13C8-PFOA	7.53				8.00		94.1	60-140		
13C9-PFNA	4.28				4.00		107	55-140		
13C6-PFDA	4.08				4.00		102	50-140		
13C7-PFUnA	4.57				4.00		114	30-140		
13C2-PFDOA	4.43				4.00		111	10-150		
13C2-PFTEDA	4.51				4.00		113	10-130		
13C3-PFBS	7.51				8.00		93.9	55-150		
13C3-PFHXS	8.23				8.00		103	55-150		
13C8-PFOS	7.85				8.00		98.1	45-140		
13C2-4:2FTS	14.2				16.0		88.5	60-200		
13C2-6:2FTS	16.7				16.0		105	60-200		
13C2-8:2FTS	16.0				16.0		100	50-200		
13C8-PFOA	7.62				8.00		95.2	30-130		
D3-NMEFOSA	5.22				8.00		65.3	15-130		
D5-NETFOSA	5.50				8.00		68.7	10-130		
D3-NMEFOSAA	16.4				16.0		103	45-200		
D5-NETFOSAA	15.8				16.0		98.5	10-200		
D7-NMEFOSE	51.1				80.0		63.9	10-150		
D9-NETFOSAE	71.3				80.0		89.1	10-150		
13C3-HFPO-DA	33.3				32.0		104	25-160		

LCS (BCB0396-BS1)

Prepared: 02/23/23 08:50 Analyzed: 02/28/23 19:44

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
PFBA	17.3				16.0		108	58-148		
PFPEA	8.67				8.00		108	54-152		
PFHXA	4.21				4.00		105	55-152		
PFHPA	4.09				4.00		102	54-154		
PFOA	4.13				4.00		103	52-161		
PFNA	3.95				4.00		98.8	59-149		
PFDA	3.76				4.00		94.1	52-147		
PFUnA	3.76				4.00		94.0	48-159		
PFDOA	4.16				4.00		104	64-142		
PFTRDA	3.64				4.00		91.1	49-148		
PFTEDA	3.85				4.00		96.2	47-161		
PFBS	3.96				3.54		112	62-144		
PFPEA	3.72				3.76		99.1	59-151		
PFHXS	3.84				3.66		105	57-146		
PFHPS	4.10				3.82		107	55-152		
PFOS	3.95				3.72		106	58-149		
PFNS	3.98				3.84		104	52-148		
PFDS	3.70				3.86		95.8	51-147		
PFDOS	4.17				3.88		107	36-145		
4:2FTS	17.0				15.0		113	67-146		
6:2FTS	15.3				15.2		100	61-151		
8:2FTS	17.9				15.4		117	63-152		
PFOSA	4.62				4.00		116	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 (BCB0396-BS1)						Prepared: 02/23/23 08:50		Analyzed: 02/28/23 19:44		
	ng/L									
NMeFOSA	17.2				16.0		108	63-145		
NETFOSA	17.9				16.0		112	65-139		
NMeFOSAA	4.14				4.00		103	58-144		
NETFOSAA	4.02				4.00		101	59-146		
NMeFOSE	18.1				16.0		113	71-136		
NETFOSE	16.5				16.0		103	69-137		
HFPO-DA	8.21				8.00		103	63-144		
ADONA	9.11				7.56		120	68-146		
PFEESA	7.94				7.12		111	56-151		
PFMPA	8.84				8.00		110	51-145		
PFMBA	9.04				8.00		113	55-148		
NFDHA	7.23				8.00		90.4	48-161		
9CL-PF3ONS	8.79				7.48		118	56-156		
11CL-PF3OUDS	7.92				7.56		105	46-156		
3:3FTCA	15.8				16.0		99.0	62-129		
5:3FTCA	14.8				16.0		92.5	63-134		
7:3FTCA	16.0				16.0		99.8	50-138		
Surrogates										
13C4-PFBA	33.1				32.0		103	10-130		
13C5-PFPEA	16.3				16.0		102	35-150		
13C5-PFHXA	8.39				8.00		105	55-150		
13C4-PFHFA	8.70				8.00		109	55-150		
13C8-PFOA	8.81				8.00		110	60-140		
13C9-PFNA	4.12				4.00		103	55-140		
13C6-PFDA	4.32				4.00		108	50-140		
13C7-PFUnA	4.45				4.00		111	30-140		
13C2-PFDOA	4.54				4.00		113	10-150		
13C2-PFTEDA	4.12				4.00		103	10-130		
13C3-PFBS	7.42				8.00		92.8	55-150		
13C3-PFHXS	8.40				8.00		105	55-150		
13C8-PFOS	7.68				8.00		96.0	45-140		
13C2-4:2FTS	14.9				16.0		93.3	60-200		
13C2-6:2FTS	16.5				16.0		103	60-200		
13C2-8:2FTS	16.5				16.0		103	50-200		
13C8-PFOA	6.95				8.00		86.9	30-130		
D3-NMEFOSA	4.90				8.00		61.3	15-130		
D5-NETFOSA	5.23				8.00		65.4	10-130		
D3-NMEFOSAA	15.2				16.0		94.9	45-200		
D5-NETFOSAA	14.7				16.0		91.7	10-200		
D7-NMEFOSE	47.2				80.0		59.0	10-150		
D9-NETFOSAE	69.7				80.0		87.1	10-150		
13C3-HFPO-DA	32.3				32.0		101	25-160		

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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
MRL Check (BCB0396-MRL1)						Prepared: 02/23/23 08:50		Analyzed: 02/28/23 19:57		
	ng/L									
PFBA	1.44 J				1.60		90.3	44-157		
PFPEA	0.686 J				0.800		85.8	57-148		
PFHXA	0.390 J				0.400		97.6	62-149		
PFHPA	0.351 J				0.400		87.7	56-150		
PFOA	0.410				0.400		102	57-161		
PFNA	0.373 J				0.400		93.2	53-157		
PFDA	0.353 J IR1,				0.400		88.2	43-158		
PFUnA	0.351 J				0.400		87.6	50-155		
PFDOA	0.385 J				0.400		96.3	60-141		
PFTRDA	0.301 J				0.400		75.2	52-140		
PFTEDA	0.412				0.400		103	52-156		
PFBS	0.319 J				0.354		90.0	63-145		
PFPEs	0.320 J				0.376		85.1	58-144		
PFHXS	0.326 J				0.366		89.2	44-158		
PFHPS	0.327 J				0.382		85.5	51-150		
PFOS	0.432				0.372		116	43-162		
PFNS	0.318 J				0.384		82.8	46-151		
PFDS	0.299 J				0.386		77.6	50-144		
PFDOS	0.362 J IR1,				0.388		93.3	30-138		
4:2FTS	1.32 J				1.50		88.2	52-158		
6:2FTS	1.35 J				1.52		88.9	48-158		
8:2FTS	1.25 J				1.54		81.1	46-165		
PFOSA	0.365 J				0.400		91.3	47-163		
NMeFOSA	1.49 J				1.60		93.4	54-155		
NETFOSA	1.41 J				1.60		88.2	49-156		
NMeFOSAA	0.343 J				0.400		85.8	32-160		
NETFOSAA	0.300 J MIS,				0.400		74.9	51-154		
NMeFOSE	1.77				1.60		111	56-151		
NETFOSE	1.42 J				1.60		88.7	60-147		
HFPO-DA	0.653 J				0.800		81.6	58-154		
ADONA	0.648 J				0.756		85.7	61-148		
PFEESA	0.633 J				0.712		89.0	56-144		
PFMPA	0.752 J				0.800		94.0	48-150		
PFMBA	0.749 J				0.800		93.6	49-154		
NFDHA	0.651 J				0.800		81.4	47-160		
9CL-PF3ONS	0.710 J				0.748		94.9	44-167		
11CL-PF3OUDS	0.690 J				0.756		91.2	36-158		
3:3FTCA	1.21 J				1.60		75.5	32-161		
5:3FTCA	1.10 J				1.60		68.6	39-156		
7:3FTCA	1.55 J				1.60		97.0	36-149		
Surrogates										
13C4-PFBA	34.8				32.0		109	10-130		
13C5-PFPEA	16.1				16.0		101	35-150		
13C5-PFHXA	7.72				8.00		96.5	55-150		
13C4-PFHPA	8.36				8.00		104	55-150		
13C8-PFOA	8.48				8.00		106	60-140		
13C9-PFNA	3.86				4.00		96.4	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
Project Manager: Watson Tanji

Reported: 03/01/2023 20:13

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 (BCB0396-MRL1)						Prepared: 02/23/23 08:50 Analyzed: 02/28/23 19:57				
	ng/L									
Surrogates										
13C6-PFDA	4.74				4.00		119	50-140		
13C7-PFUnA	4.88				4.00		122	30-140		
13C2-PFDOA	4.88				4.00		122	10-150		
13C2-PFTEDA	4.06				4.00		101	10-130		
13C3-PFBS	8.20				8.00		102	55-150		
13C3-PFHXS	8.56				8.00		107	55-150		
13C8-PFOS	8.61				8.00		108	45-140		
13C2-4:2FTS	14.7				16.0		92.2	60-200		
13C2-6:2FTS	16.7				16.0		105	60-200		
13C2-8:2FTS	17.0				16.0		106	50-200		
13C8-PFOA	8.10				8.00		101	30-130		
D3-NMEFOA	5.29				8.00		66.1	15-130		
D5-NETFOA	5.92				8.00		74.0	10-130		
D3-NMEFOSAA	17.8				16.0		111	45-200		
D5-NETFOSAA	18.1				16.0		113	10-200		
D7-NMEFOSE	52.2				80.0		65.3	10-150		
D9-NETFOSE	75.3				80.0		94.2	10-150		
13C3-HFPO-DA	33.2				32.0		104	25-160		

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

Reported: 03/01/2023 20:13

Notes and Definitions

Item	Definition
CV2	Calibration verification recovered above the upper control limit
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
MI5	Manual integration, whole peak was not integrated
U	Not detected
Dry	Sample results reported on a dry weight basis.
DL	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

CUSTODY SEAL
AECOM (808)-521-3051

Initials: MG Date 04/22/23

PFAS

SAMPLE DATA

FORM I

ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0160-01
		File ID:	S2023-02-28B (10)
Sampled:	02/22/23 12:30	Prepared:	02/24/23 08:56
		Analyzed:	02/28/23 20:10
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	550.64 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0396	Sequence:	SC00809
		Calibration:	2309009

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.71 J	1.5	0.73	0.19	
PFPEA	1.4	0.73	0.36	0.059	
PFHXA	1.0	0.36	0.18	0.050	
PFHPA	0.76	0.36	0.18	0.037	
PFOA	1.1	0.36	0.18	0.14	
PFNA	0.16 J	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.092	
PFUnA	0.18 U	0.36	0.18	0.15	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.19	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.71	0.36	0.18	0.033	
PFPEs	0.13 J	0.36	0.18	0.057	
PFHXS	1.1	0.36	0.18	0.029	
PFHPS	0.18 U	0.36	0.18	0.047	
PFOS	1.1	0.36	0.18	0.058	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.73 U	1.5	0.73	0.26	
6:2FTS	0.73 U	1.5	0.73	0.29	
8:2FTS	0.73 U	1.5	0.73	0.075	
PFOSA	0.18 U	0.36	0.18	0.095	
NMeFOSA	0.73 U	1.5	0.73	0.43	
NEtFOSA	0.73 U	1.5	0.73	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.096	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.5	1.1	0.92	
NEtFOSE	1.1 U	1.5	1.1	0.95	
HFPO-DA	0.36 U	0.73	0.36	0.16	

FORM I

ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0160-01
		File ID:	S2023-02-28B (10)
Sampled:	02/22/23 12:30	Prepared:	02/24/23 08:56
		Analyzed:	02/28/23 20:10
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	550.64 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0396	Sequence:	SC00809
		Calibration:	2309009

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.73	0.36	0.11	
PFEESA	0.36 U	0.73	0.36	0.099	
PFMPA	0.36 U	0.73	0.36	0.049	
PFMBA	0.36 U	0.73	0.36	0.082	
NFDHA	0.36 U	0.73	0.36	0.27	
9CL-PF3ONS	0.36 U	0.73	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.73	0.36	0.19	
3:3FTCA	0.73 U	1.5	0.73	0.52	
5:3FTCA	0.73 U	1.5	0.73	0.40	
7:3FTCA	0.73 U	1.5	0.73	0.50	



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0160-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (10)
 Acquired: 2023/02/28 - 20:10

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 75236	(3.51, 1.00) (0.00, N/A, 0.0)	60.5	N/A 0.0 0.0	0.1967	N/A			
PFPeA	(263.0 / 219.0) 260298 (263.0 / 69.0) 3231	(4.48, 1.00) (0.00, N/A, -0.2)	445.1 32.4	0.0124 104.1 92.8	0.3885	N/A			
PFHxA	(313.0 / 269.0) 227083 (313.0 / 119.0) 20601	(5.40, 1.00) (0.00, N/A, -1.0)	386.8 6655.4	0.0907 97.0 81.8	0.2770	N/A			
PFHpA	(363.0 / 319.0) 152391 (363.0 / 169.0) 55970	(6.21, 1.00) (0.00, N/A, -0.4)	563.3 288.7	0.3673 116.3 113.3	0.2101	N/A			
PFOA	(413.0 / 369.0) 271608 (413.0 / 169.0) 93310	(6.92, 1.00) (0.01, N/A, 0.7)	1038.9 88253.5	0.3435 101.5 100.7	0.3066	N/A			
PFNA	(463.0 / 419.0) 34041 (463.0 / 169.0) 7784	(7.52, 1.00) (-0.01, N/A, -0.1)	308.3 1332.2	0.2287 97.7 98.9	0.0441	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) 11825 (713.0 / 169.0) 3056	(9.26, 1.00) (0.00, N/A, 2.8)	128.0 121.6	0.2584 118.2 117.4	0.0148	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0160-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (10)
 Acquired: 2023/02/28 - 20:10

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 286092 (299.0 / 99.0) 164710	(5.37 , 1.00) (0.00 , N/A , 0.0)	274.1 293.3	0.5757 91.5 96.7	0.1950	N/A			
PFPeS	(349.0 / 80.0) 95751 (349.0 / 99.0) 23511	(6.28 , 0.89) (N/A , 0.02 , 0.9)	102.3 456577.8	0.2455 73.4 69.1	0.0370	N/A			
PFHxS	(399.0 / 80.0) 695518 (399.0 / 99.0) 237194	(7.05 , 1.00) (0.00 , N/A , 0.1)	1247.8 812.0	0.3410 106.6 103.2	0.3060	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) 968145 (499.0 / 99.0) 178819	(8.19 , 0.99) (-0.09 , N/A , -5.4)	53.0 81.0	0.1847 84.0 87.1	0.2976	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) 15346 (427.0 / 81.0) 17868	(6.65 , 1.00) (0.00 , N/A , 0.3)	123.8 64.2	1.1643 137.4 136.3	0.0648	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0160-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (10)
 Acquired: 2023/02/28 - 20:10

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] 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			
NEIFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 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			
NEIFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

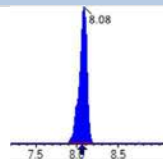
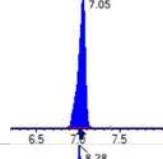
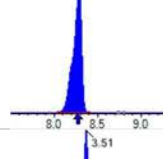
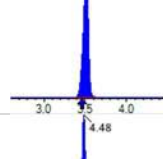
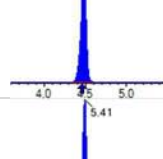
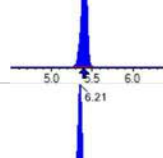
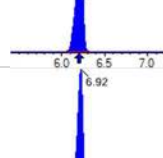
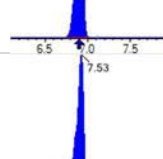
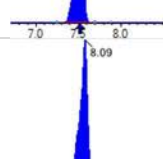
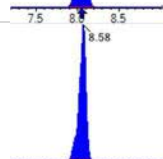
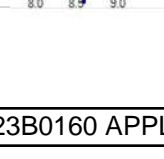


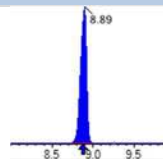
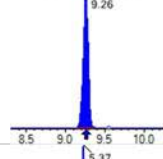
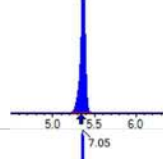
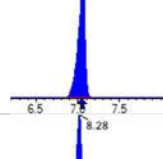
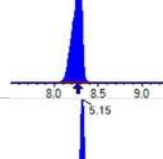
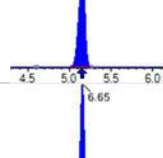
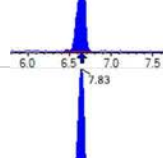
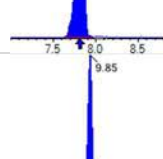
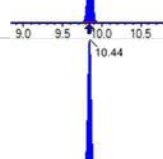
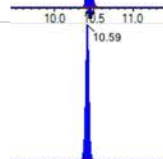
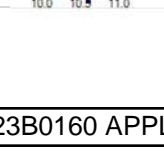
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0160-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (10)
 Acquired: 2023/02/28 - 20:10

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 390761	(3.51, N/A) (N/A, 0.05, N/A)	975.0	N/A	1.1526 [1.0000]	115.3% { 125.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 674293	(5.41, N/A) (N/A, 0.02, N/A)	957.4	N/A	1.1337 [1.0000]	113.4% { 131.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 885471	(6.91, N/A) (N/A, 0.02, N/A)	1137.6	N/A	1.0886 [1.0000]	108.9% { 119.2% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 885360	(7.53, N/A) (N/A, 0.03, N/A)	811.0	N/A	1.1594 [1.0000]	115.9% { 122.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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
13C2_PFDA_IIS	(515.0 / 470.1) 856807	(8.08, N/A) (N/A, 0.02, N/A)	925.1	N/A	1.1935 [1.0000]	119.4% { 132.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1300886	(7.05, N/A) (N/A, 0.02, N/A)	1173.2	N/A	1.0563 [1.0000]	105.6% { 121.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2256275	(8.28, N/A) (N/A, 0.02, N/A)	651.8	N/A	1.2713 [1.0000]	127.1% { 139.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3617668	(3.51, N/A) (N/A, 0.05, N/A)	2688.7	N/A	7.7858 [8.0000]	97.3% { 123.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 3041208	(4.48, N/A) (N/A, 0.02, N/A)	1773.2	N/A	4.0478 [4.0000]	101.2% { 130.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1756865	(5.41, N/A) (N/A, 0.02, N/A)	2400.6	N/A	1.9176 [2.0000]	95.9% { 130.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1624394	(6.21, N/A) (N/A, 0.01, N/A)	1755.6	N/A	1.9010 [2.0000]	95.1% { 128.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1838920	(6.92, N/A) (N/A, 0.01, N/A)	1429.5	N/A	1.9403 [2.0000]	97.0% { 119.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 816289	(7.53, N/A) (N/A, 0.02, N/A)	850.9	N/A	0.9252 [1.0000]	92.5% { 122.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 1050500	(8.09, N/A) (N/A, 0.03, N/A)	1276.8	N/A	1.0593 [1.0000]	105.9% { 167.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 1123070	(8.58, N/A) (N/A, 0.02, N/A)	1426.1	N/A	1.1431 [1.0000]	114.3% { 155.9% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 980619	(8.89, N/A) (N/A, 0.02, N/A)	1185.1	N/A	1.0762 [1.0000]	107.6% { 155.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 868955	(9.26, N/A) (N/A, 0.00, N/A)	1102.2	N/A	0.9174 [1.0000]	91.7% { 127.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5161424	(5.37, N/A) (N/A, 0.03, N/A)	2484.2	N/A	1.9634 [2.0000]	98.2% { 120.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2885743	(7.05, N/A) (N/A, 0.02, N/A)	1625.7	N/A	2.1011 [2.0000]	105.1% { 135.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5894592	(8.28, N/A) (N/A, 0.03, N/A)	1107.2	N/A	1.9886 [2.0000]	99.4% { 146.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 769334	(5.15, N/A) (N/A, 0.02, N/A)	827.1	N/A	4.7781 [4.0000]	119.5% { 153.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 725816	(6.65, N/A) (N/A, 0.02, N/A)	433.0	N/A	3.9982 [4.0000]	100.0% { 128.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1064037	(7.83, N/A) (N/A, 0.02, N/A)	629.8	N/A	5.5427 [4.0000]	138.6% { 170.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7842016	(9.85, N/A) (N/A, 0.01, N/A)	3218.2	N/A	1.4362 [2.0000]	71.8% { 103.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 931826	(10.44, N/A) (N/A, 0.01, N/A)	1923.9	N/A	0.7948 [2.0000]	39.7% { 56.7% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 940036	(10.59, N/A) (N/A, 0.00, N/A)	2514.8	N/A	0.9157 [2.0000]	45.8% { 62.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0160-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (10)
 Acquired: 2023/02/28 - 20:10

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 2208630	(8.24 , N/A) (N/A , 0.02 , N/A)	2148.7	N/A	5.3091 [4.0000]	132.7% { 174.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1911265	(8.49 , N/A) (N/A , 0.02 , N/A)	2989.3	N/A	5.3952 [4.0000]	134.9% { 191.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3133434	(10.38 , N/A) (N/A , 0.01 , N/A)	1597.0	N/A	7.8499 [20.0000]	39.2% { 55.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4988188	(10.54 , N/A) (N/A , 0.01 , N/A)	1600.5	N/A	10.9246 [20.0000]	54.6% { 74.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4484807	(5.71 , N/A) (N/A , 0.02 , N/A)	2519.8	N/A	7.7902 [8.0000]	97.4% { 130.0% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW225401-WGN01B-2302W3 (23B0160-01) . ng/L		Lab File ID: S2023-02-28B (10)		Analyzed: 02/28/23 20:10
13C4-PFBA	29.1	97.3	10 - 130	
13C5-PFPEA	14.5	101	35 - 150	
13C5-PFHXA	7.26	95.9	55 - 150	
13C4-PFHPA	7.26	95.1	55 - 150	
13C8-PFOA	7.26	97.0	60 - 140	
13C9-PFNA	3.63	92.5	55 - 140	
13C6-PFDA	3.63	106	50 - 140	
13C7-PFUnA	3.63	114	30 - 140	
13C2-PFDOA	3.63	108	10 - 150	
13C2-PFTEDA	3.63	91.7	10 - 130	
13C3-PFBS	7.26	98.2	55 - 150	
13C3-PFHXS	7.26	105	55 - 150	
13C8-PFOS	7.26	99.4	45 - 140	
13C2-4:2FTS	14.5	119	60 - 200	
13C2-6:2FTS	14.5	100	60 - 200	
13C2-8:2FTS	14.5	139	50 - 200	
13C8-PFOSA	7.26	71.8	30 - 130	
D3-NMEFOSA	7.26	39.7	15 - 130	
D5-NETFOSA	7.26	45.8	10 - 130	
D3-NMEFOSAA	14.5	133	45 - 200	
D5-NETFOSAA	14.5	135	10 - 200	
D7-NMEFOSE	72.6	39.2	10 - 150	
D9-NETFOSSE	72.6	54.6	10 - 150	
13C3-HFPO-DA	29.1	97.4	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCB0396-BLK1) . ng/L				
	Lab File ID: S2023-02-28B (7)			Analyzed: 02/28/23 19:31
13C4-PFBA	32.0	99.8	10 - 130	
13C5-PFPEA	16.0	102	35 - 150	
13C5-PFHXA	8.00	100	55 - 150	
13C4-PFHPA	8.00	104	55 - 150	
13C8-PFOA	8.00	94.1	60 - 140	
13C9-PFNA	4.00	107	55 - 140	
13C6-PFDA	4.00	102	50 - 140	
13C7-PFUnA	4.00	114	30 - 140	
13C2-PFDOA	4.00	111	10 - 150	
13C2-PFTEDA	4.00	113	10 - 130	
13C3-PFBS	8.00	93.9	55 - 150	
13C3-PFHXS	8.00	103	55 - 150	
13C8-PFOS	8.00	98.1	45 - 140	
13C2-4:2FTS	16.0	88.5	60 - 200	
13C2-6:2FTS	16.0	105	60 - 200	
13C2-8:2FTS	16.0	100	50 - 200	
13C8-PFOSA	8.00	95.2	30 - 130	
D3-NMEFOSA	8.00	65.3	15 - 130	
D5-NETFOSA	8.00	68.7	10 - 130	
D3-NMEFOSAA	16.0	103	45 - 200	
D5-NETFOSAA	16.0	98.5	10 - 200	
D7-NMEFOSE	80.0	63.9	10 - 150	
D9-NETFOSSE	80.0	89.1	10 - 150	
13C3-HFPO-DA	32.0	104	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCB0396-BS1) . ng/L	Lab File ID: S2023-02-28B (8)			Analyzed: 02/28/23 19:44
13C4-PFBA	32.0	103	10 - 130	
13C5-PFPEA	16.0	102	35 - 150	
13C5-PFHXA	8.00	105	55 - 150	
13C4-PFHPA	8.00	109	55 - 150	
13C8-PFOA	8.00	110	60 - 140	
13C9-PFNA	4.00	103	55 - 140	
13C6-PFDA	4.00	108	50 - 140	
13C7-PFUnA	4.00	111	30 - 140	
13C2-PFDOA	4.00	113	10 - 150	
13C2-PFTEDA	4.00	103	10 - 130	
13C3-PFBS	8.00	92.8	55 - 150	
13C3-PFHXS	8.00	105	55 - 150	
13C8-PFOS	8.00	96.0	45 - 140	
13C2-4:2FTS	16.0	93.3	60 - 200	
13C2-6:2FTS	16.0	103	60 - 200	
13C2-8:2FTS	16.0	103	50 - 200	
13C8-PFOSA	8.00	86.9	30 - 130	
D3-NMEFOSA	8.00	61.3	15 - 130	
D5-NETFOSA	8.00	65.4	10 - 130	
D3-NMEFOSAA	16.0	94.9	45 - 200	
D5-NETFOSAA	16.0	91.7	10 - 200	
D7-NMEFOSE	80.0	59.0	10 - 150	
D9-NETFOSE	80.0	87.1	10 - 150	
13C3-HFPO-DA	32.0	101	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCB0396-MRL1) . ng/L				
		Lab File ID: S2023-02-28B (9)		Analyzed: 02/28/23 19:57
13C4-PFBA	32.0	109	10 - 130	
13C5-PFPEA	16.0	101	35 - 150	
13C5-PFHXA	8.00	96.5	55 - 150	
13C4-PFHPA	8.00	104	55 - 150	
13C8-PFOA	8.00	106	60 - 140	
13C9-PFNA	4.00	96.4	55 - 140	
13C6-PFDA	4.00	119	50 - 140	
13C7-PFUnA	4.00	122	30 - 140	
13C2-PFDOA	4.00	122	10 - 150	
13C2-PFTEDA	4.00	101	10 - 130	
13C3-PFBS	8.00	102	55 - 150	
13C3-PFHXS	8.00	107	55 - 150	
13C8-PFOS	8.00	108	45 - 140	
13C2-4:2FTS	16.0	92.2	60 - 200	
13C2-6:2FTS	16.0	105	60 - 200	
13C2-8:2FTS	16.0	106	50 - 200	
13C8-PFOSA	8.00	101	30 - 130	
D3-NMEFOSA	8.00	66.1	15 - 130	
D5-NETFOSA	8.00	74.0	10 - 130	
D3-NMEFOSAA	16.0	111	45 - 200	
D5-NETFOSAA	16.0	113	10 - 200	
D7-NMEFOSE	80.0	65.3	10 - 150	
D9-NETFOSSE	80.0	94.2	10 - 150	
13C3-HFPO-DA	32.0	104	25 - 160	

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-BLK1
Sampled:		Prepared:	02/23/23 08:50
Solids:		Preparation:	EPA 1633
Batch:	BCB0396	Sequence:	SC00809
Column:	1	Calibration:	2309009
		Instrument:	Saphira
		File ID:	S2023-02-28B (7)
		Analyzed:	02/28/23 19:31
		Dilution:	1

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	0.20 U	0.40	0.20	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	0.20 U	0.40	0.20	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	0.20 U	0.40	0.20	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	0.114 J	0.40	0.20	0.064	J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	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:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-BLK1
Sampled:		File ID:	S2023-02-28B (7)
Solids:		Prepared:	02/23/23 08:50
Batch:	BCB0396	Analyzed:	02/28/23 19:31
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2309009
		Instrument:	Saphira
		Sequence:	SC00809

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: 23B0160

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Water

Preparation: EPA 1633

Batch: BCB0396

Laboratory ID: BCB0396-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	17.3	108	58 - 148
PFPEA	8.00	8.67	108	54 - 152
PFHXA	4.00	4.21	105	55 - 152
PFHPA	4.00	4.09	102	54 - 154
PFOA	4.00	4.13	103	52 - 161
PFNA	4.00	3.95	98.8	59 - 149
PFDA	4.00	3.76	94.1	52 - 147
PFUnA	4.00	3.76	94.0	48 - 159
PFDOA	4.00	4.16	104	64 - 142
PFTRDA	4.00	3.64	91.1	49 - 148
PFTEDA	4.00	3.85	96.2	47 - 161
PFBS	3.54	3.96	112	62 - 144
PFPEs	3.76	3.72	99.1	59 - 151
PFHXS	3.66	3.84	105	57 - 146
PFHPS	3.82	4.10	107	55 - 152
PFOS	3.72	3.95	106	58 - 149
PFNS	3.84	3.98	104	52 - 148
PFDS	3.86	3.70	95.8	51 - 147
PFDOS	3.88	4.17	107	36 - 145
4:2FTS	15.0	17.0	113	67 - 146
6:2FTS	15.2	15.3	100	61 - 151
8:2FTS	15.4	17.9	117	63 - 152
PFOSA	4.00	4.62	116	61 - 148
NMeFOSA	16.0	17.2	108	63 - 145
NEtFOSA	16.0	17.9	112	65 - 139
NMeFOSAA	4.00	4.14	103	58 - 144
NEtFOSAA	4.00	4.02	101	59 - 146
NMeFOSE	16.0	18.1	113	71 - 136
NEtFOSE	16.0	16.5	103	69 - 137
HFPO-DA	8.00	8.21	103	63 - 144
ADONA	7.56	9.11	120	68 - 146
PFEESA	7.12	7.94	111	56 - 151
PFMPA	8.00	8.84	110	51 - 145
PFMBA	8.00	9.04	113	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23B0160

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Water

Preparation: EPA 1633

Batch: BCB0396

Laboratory ID: BCB0396-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	7.23	90.4	48 - 161
9CL-PF3ONS	7.48	8.79	118	56 - 156
11CL-PF3OUDS	7.56	7.92	105	46 - 156
3:3FTCA	16.0	15.8	99.0	62 - 129
5:3FTCA	16.0	14.8	92.5	63 - 134
7:3FTCA	16.0	16.0	99.8	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 = 0.42284 x (std. dev. = 0.03761) (weighting: None)	%RSE=8.9
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.44057 x (std. dev. = 0.04807) (weighting: None)	%RSE=10.9
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.46662 x (std. dev. = 0.02871) (weighting: None)	%RSE=6.2
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.44650 x (std. dev. = 0.02803) (weighting: None)	%RSE=6.3
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.48177 x (std. dev. = 0.04560) (weighting: None)	%RSE=9.5
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.94459 x (std. dev. = 0.08740) (weighting: None)	%RSE=9.3
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.99147 x (std. dev. = 0.10952) (weighting: None)	%RSE=11.0
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.87937 x (std. dev. = 0.09881) (weighting: None)	%RSE=11.2
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.87244 x (std. dev. = 0.08918) (weighting: None)	%RSE=10.2
PFTrDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.83953 x (std. dev. = 0.08426) (weighting: None)	%RSE=10.0
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.91950 x (std. dev. = 0.07289) (weighting: None)	%RSE=7.9
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.25153 x (std. dev. = 0.02274) (weighting: None)	%RSE=9.0
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.84236 x (std. dev. = 0.10508) (weighting: None)	%RSE=12.5
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.71750 x (std. dev. = 0.07265) (weighting: None)	%RSE=10.1
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.42835 x (std. dev. = 0.03867) (weighting: None)	%RSE=9.0
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.51179 x (std. dev. = 0.04829) (weighting: None)	%RSE=9.4
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.53002 x (std. dev. = 0.07450) (weighting: None)	%RSE=14.1
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.59101 x (std. dev. = 0.06075) (weighting: None)	%RSE=10.3
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.27466 x (std. dev. = 0.03210) (weighting: None)	%RSE=11.7
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.63771 x (std. dev. = 0.41713) (weighting: None)	%RSE=15.8
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.23810 x (std. dev. = 0.13799) (weighting: None)	%RSE=11.1
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.07578 x (std. dev. = 0.07559) (weighting: None)	%RSE=7.0
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.38855 x (std. dev. = 0.04463) (weighting: None)	%RSE=11.5
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.71767 x (std. dev. = 0.15099) (weighting: None)	%RSE=8.8
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.94294 x (std. dev. = 0.24785) (weighting: None)	%RSE=12.8
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.21367 x (std. dev. = 0.01792) (weighting: None)	%RSE=8.4
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.21793 x (std. dev. = 0.01891) (weighting: None)	%RSE=8.7
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.20956 x (std. dev. = 0.01758) (weighting: None)	%RSE=8.4
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.20209 x (std. dev. = 0.01915) (weighting: None)	%RSE=9.5
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.20496 x (std. dev. = 0.01868) (weighting: None)	%RSE=9.1
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.71708 x (std. dev. = 0.11283) (weighting: None)	%RSE=15.7
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = 1.66491 x (std. dev. = 0.23461) (weighting: None)	%RSE=14.1
11Cl-Pf3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 0.82728 x (std. dev. = 0.09326) (weighting: None)	%RSE=11.3
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.02602 x (std. dev. = 0.00252) (weighting: None)	%RSE=9.7
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.26681 x (std. dev. = 0.02199) (weighting: None)	%RSE=8.2
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.47968 x (std. dev. = 0.06527) (weighting: None)	%RSE=13.6
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 1.03498 x (std. dev. = 0.13837) (weighting: None)	%RSE=13.4
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.11264 x (std. dev. = 0.01032) (weighting: None)	%RSE=9.2
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.38591 x (std. dev. = 0.04577) (weighting: None)	%RSE=11.9
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.51906 x (std. dev. = 0.04487) (weighting: None)	%RSE=8.6
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 339023.8558 x	%RSD=16.5
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 594763.6140 x	%RSD=7.6
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 813434.6289 x	%RSD=7.5
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 763620.2538 x	%RSD=7.6

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 717883.6124 x	%RSD=5.2
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 1231554.2114 x	%RSD=5.7
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 1774838.7334 x	%RSD=7.8
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 9.5127 x	%RSD=7.3
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 4.4570 x	%RSD=8.2
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.7175 x	%RSD=5.1
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.5344 x	%RSD=4.4
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.1407 x	%RSD=5.7
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 0.9965 x	%RSD=7.1
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1574 x	%RSD=10.3
13C7_PFUxA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1467 x	%RSD=11.6
13C2_PFDxA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.0635 x	%RSD=10.6
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1055 x	%RSD=12.9
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 4.0416 x	%RSD=12.5
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.1115 x	%RSD=6.7
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.6275 x	%RSD=7.0
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4951 x	%RSD=10.4
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5582 x	%RSD=7.8
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5903 x	%RSD=8.3
13C8_PFOA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 4.8400 x	%RSD=11.3
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.0393 x	%RSD=8.6
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.9100 x	%RSD=12.3
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.7375 x	%RSD=7.1
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.6280 x	%RSD=9.0
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 3.5383 x	%RSD=9.7
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 4.0474 x	%RSD=13.2
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 6.8302 x	%RSD=4.0

x=Concentration Analyte

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

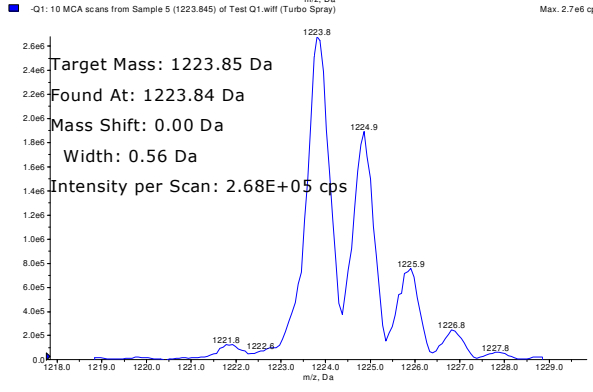
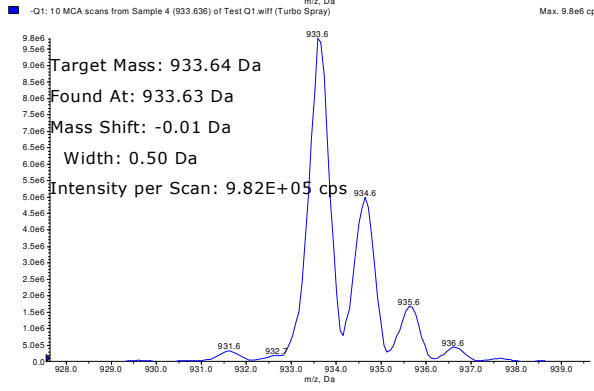
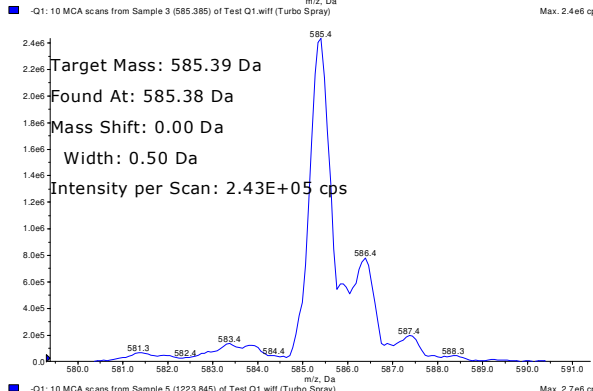
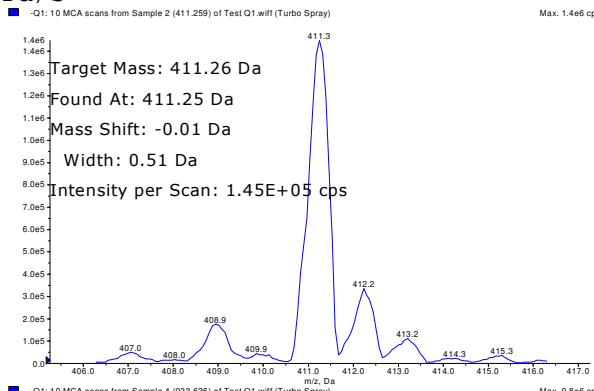
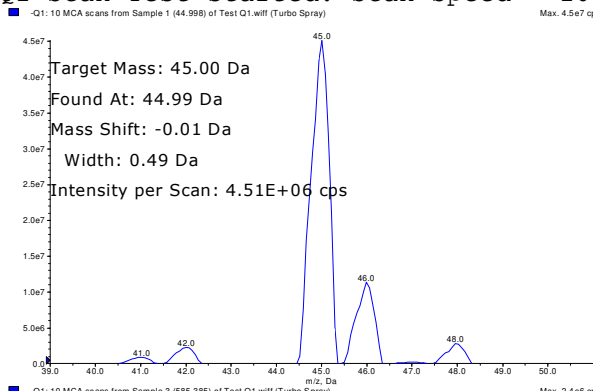
$$\text{Acid Factor} = \frac{\text{Molecular weight Acid}}{\text{Molecular weight Salt}}$$

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

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

Tune 2021-11-23 Q1 NEG @ 10Da/s

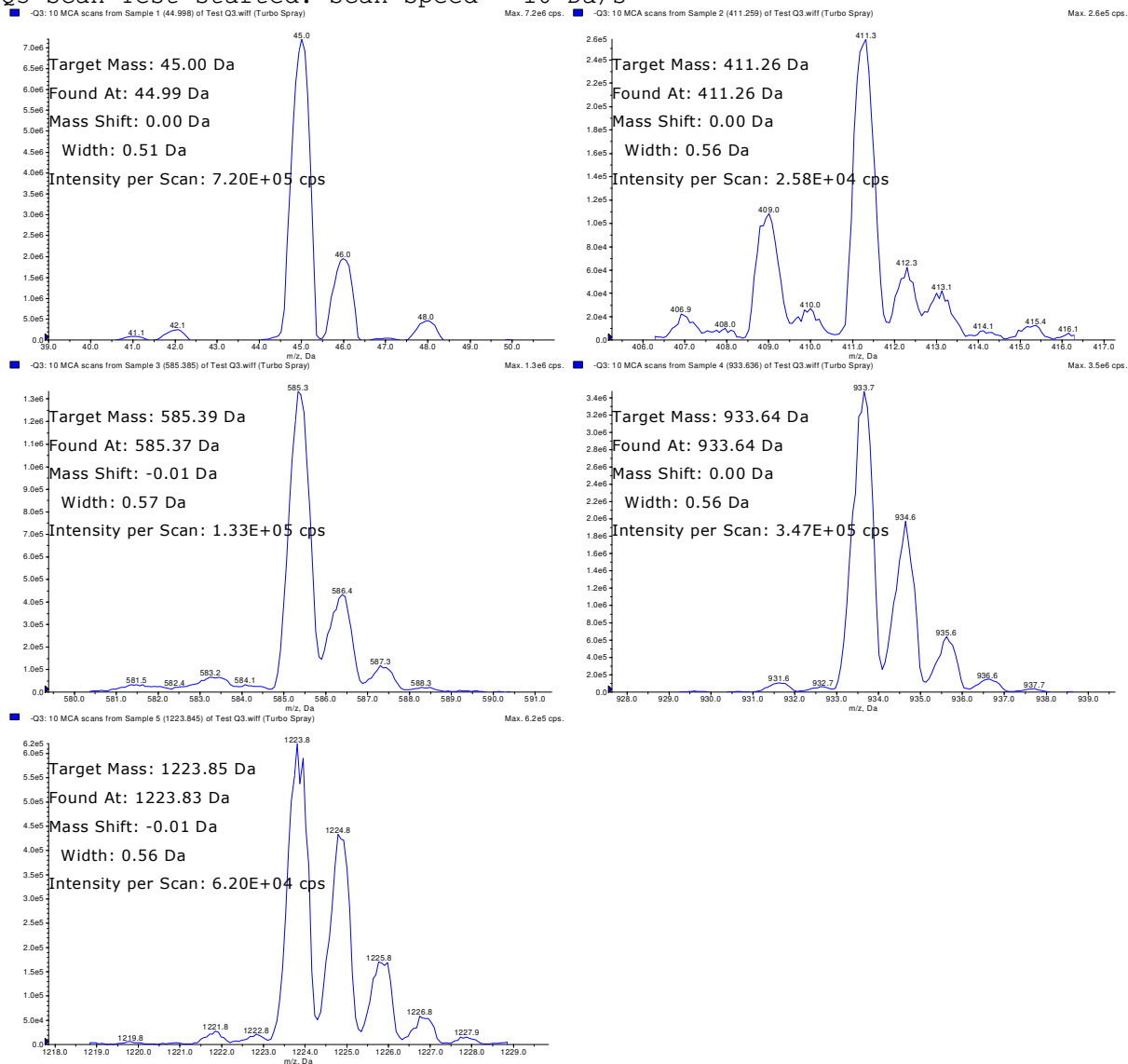
Q1 Scan Test started. Scan Speed = 10 Da/s



Target Mass	Found At	Delta	Width	Intensity	0.4<Width<0.6
45.00	44.99	-0.01	0.49	4.51E+06	PASS
411.26	411.25	-0.01	0.51	1.45E+05	PASS
585.39	585.38	0.00	0.50	2.43E+05	PASS
933.64	933.63	-0.01	0.50	9.82E+05	PASS
1223.85	1223.84	0.00	0.56	2.68E+05	PASS

Tune 2021-11-23 Q3 NEG @ 10Da/s

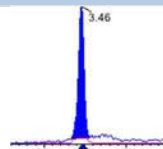
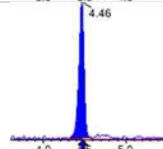
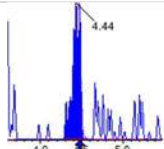
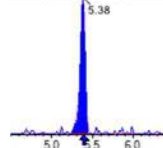
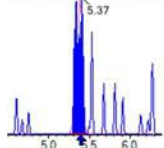
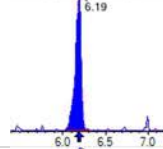
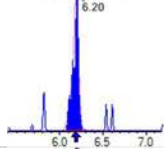
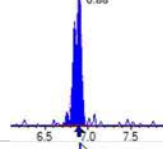
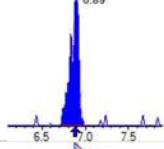
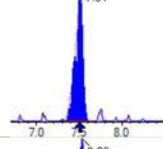
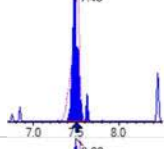
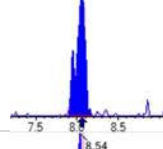
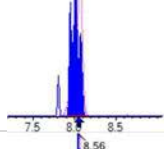
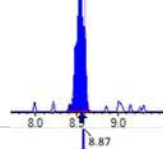
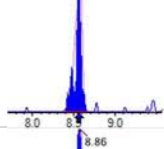
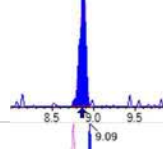
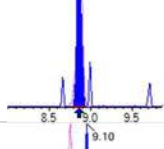
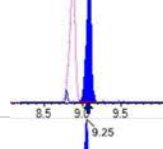
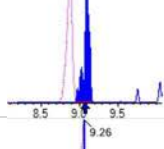
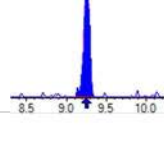
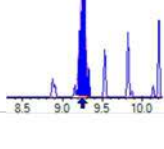
Q3 Scan Test started. Scan Speed = 10 Da/s



Target Mass	Found At	Delta	Width	Intensity	0.4<Width<0.6
45.00	44.99	0.00	0.51	7.20E+05	PASS
411.26	411.26	0.00	0.56	2.58E+04	PASS
585.39	585.37	-0.01	0.57	1.33E+05	PASS
933.64	933.64	0.00	0.56	3.47E+05	PASS
1223.85	1223.83	-0.01	0.56	6.20E+04	PASS

EPA 1633

Initial Calibration: SC00840

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, 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) 159187	(3.46, 1.00) (0.00, N/A, 0.0)	82.9	N/A 0.0 0.0	0.4193 [0.4000]	104.8%			
PFPeA	(263.0 / 219.0) 136655 (263.0 / 69.0) 3570	(4.46, 1.00) (0.00, N/A, 1.2)	278.7 339.0	0.0261 219.2 219.2	0.2242 [0.2000]	112.1%			
PFHxA	(313.0 / 269.0) 78998 (313.0 / 119.0) 8528	(5.38, 1.00) (0.00, N/A, 0.9)	368.0 4622.7	0.1079 115.4 115.4	0.1037 [0.1000]	103.7%			
PFHpA	(363.0 / 319.0) 78992 (363.0 / 169.0) 18800	(6.19, 1.00) (0.00, N/A, -0.6)	1838.3 291.6	0.2380 75.4 75.4	0.1110 [0.1000]	111.0%			
PFOA	(413.0 / 369.0) 101357 (413.0 / 169.0) 41752	(6.88, 1.00) (-0.01, N/A, -0.3)	630.4 550231.2	0.4119 121.8 121.8	0.1196 [0.1000]	119.6%			
PFNA	(463.0 / 419.0) 83364 (463.0 / 169.0) 11049	(7.51, 1.00) (0.01, N/A, 1.9)	6507.3 1653.9	0.1325 56.6 56.6	0.1172 [0.1000]	117.2%			
PFDA	(513.0 / 469.0) 102743 (513.0 / 169.0) 8244	(8.06, 1.00) (-0.01, N/A, 3.2)	136.6 156320.6	0.0802 64.7 64.7	0.1147 [0.1000]	114.7%			
PFUnA	(563.0 / 519.0) 90007 (563.0 / 169.0) 16176	(8.54, 1.00) (-0.02, N/A, -0.8)	96.0 114.7	0.1797 167.0 167.0	0.1225 [0.1000]	122.5%			IR2,
PFDoA	(613.0 / 569.0) 66395 (613.0 / 169.0) 10579	(8.87, 1.00) (0.00, N/A, 1.0)	131.6 124.0	0.1593 100.3 100.3	0.0872 [0.1000]	87.2%			
PFTTrDA	(663.0 / 619.0) 80259 (663.0 / 169.0) 22186	(9.09, 1.02) (N/A, 0.02, -0.5)	592.8 515.8	0.2764 101.8 101.8	0.1095 [0.1000]	109.5%			
PFTeDA	(713.0 / 669.0) 85816 (713.0 / 169.0) 12133	(9.25, 1.00) (0.00, N/A, -0.5)	175.8 40.7	0.1414 64.7 64.7	0.1107 [0.1000]	110.7%			

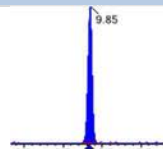
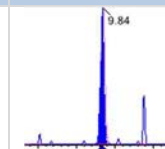
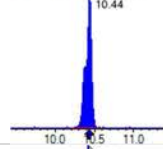
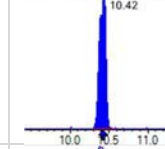
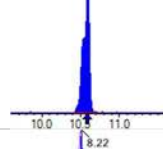
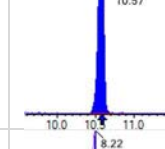
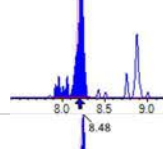
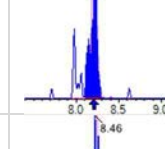
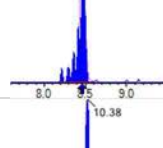
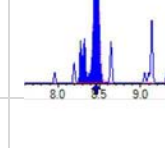
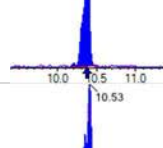
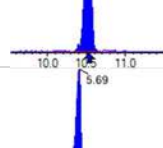
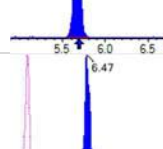
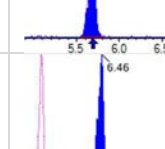
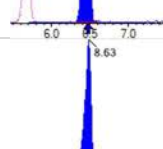
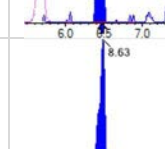
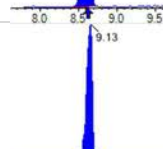
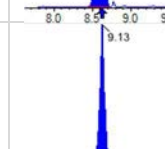

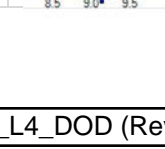


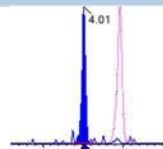
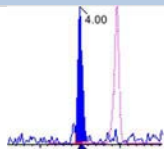
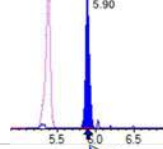
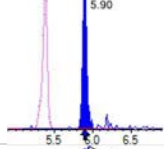
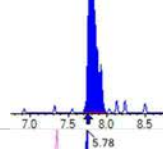
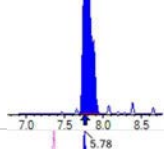
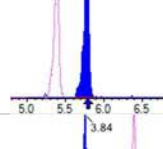
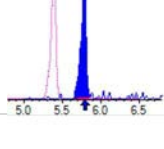
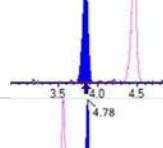
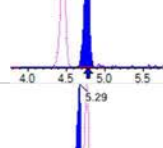
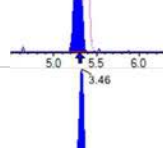
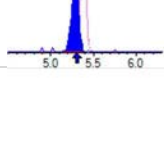
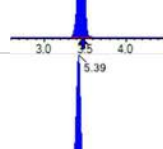
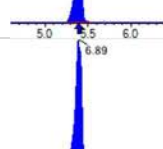
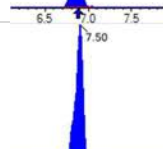
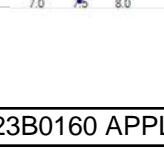
Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

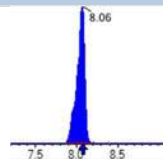
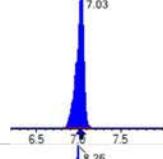
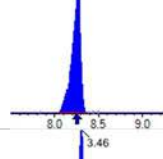
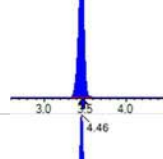
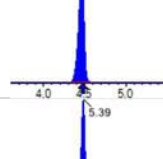
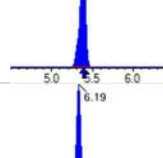
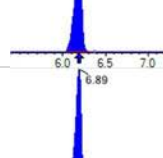
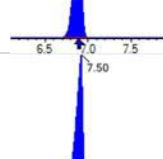
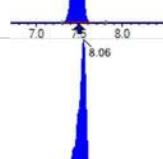
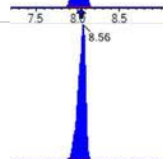
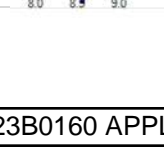
Sample I.D.: SC00840-CAL1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

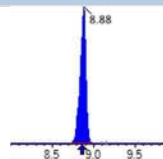
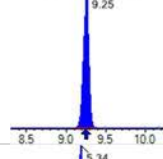
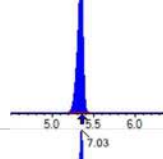
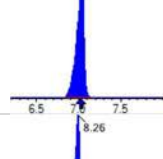
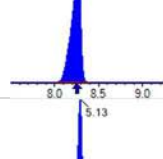
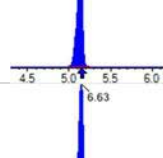
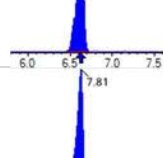
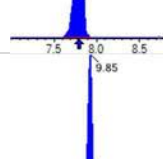
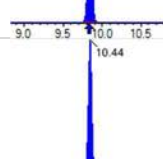
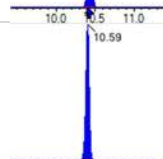
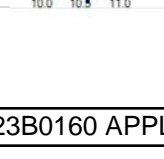
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Path: S2023-02-28A (1)
Acquired: 2023/02/28 - 15:52

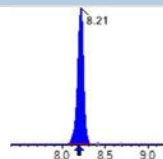
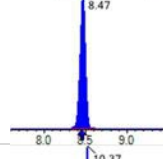
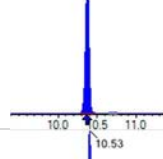
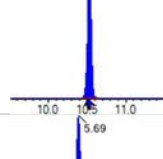
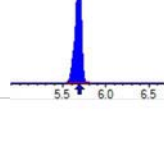
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 135356 (299.0 / 99.0) 101238	(5.34, 1.00) (0.00, N/A, 0.1)	678.8 283.6	0.7479 118.9 118.9	0.0919 [0.0885]	103.9%			
PFPeS	(349.0 / 80.0) 252841 (349.0 / 99.0) 76134	(6.26, 0.89) (N/A, 0.01, 0.4)	370518.5 1638.4	0.3011 90.0 90.0	0.1054 [0.0938]	112.3%			
PFHxS	(399.0 / 80.0) 204921 (399.0 / 99.0) 64909	(7.03, 1.00) (0.00, N/A, 0.3)	551.2 2436.7	0.3168 99.0 99.0	0.0974 [0.0911]	106.9%			
PFHpS	(449.0 / 80.0) 213085 (449.0 / 99.0) 51597	(7.69, 0.93) (N/A, 0.03, 0.6)	1372.3 17063218.5	0.2421 89.2 89.2	0.0974 [0.0951]	102.4%			
PFOS	(499.0 / 80.0) 289776 (499.0 / 99.0) 54053	(8.26, 1.00) (0.00, N/A, -0.3)	77.6 65.7	0.1865 84.8 84.8	0.1081 [0.0927]	116.5%			
PFNS	(549.0 / 80.0) 298030 (549.0 / 99.0) 71535	(8.72, 1.06) (N/A, 0.02, -0.3)	2375659.5 202.7	0.2400 99.7 99.7	0.1111 [0.0960]	115.7%			
PFDS	(599.0 / 80.0) 302138 (599.0 / 99.0) 56240	(8.97, 1.09) (N/A, 0.01, -0.4)	385.1 297.5	0.1861 92.0 92.0	0.1013 [0.0963]	105.2%			
PFDoS	(699.0 / 80.0) 141394 (699.0 / 99.0) 41165	(9.32, 1.13) (N/A, 0.01, 0.2)	575.3 167.2	0.2911 149.0 149.0	0.1027 [0.0970]	105.9%			
4:2FTS	(327.0 / 307.0) 174639 (327.0 / 81.0) 126319	(5.14, 1.00) (0.00, N/A, 0.0)	619.3 215.3	0.7233 104.4 104.4	0.3678 [0.3738]	98.4%			
6:2FTS	(427.0 / 407.0) 82195 (427.0 / 81.0) 69148	(6.63, 1.00) (0.00, N/A, 0.5)	486.5 161.6	0.8413 99.3 99.3	0.3501 [0.3796]	92.2%			
8:2FTS	(527.0 / 507.0) 82323 (527.0 / 81.0) 57566	(7.80, 1.00) (-0.01, N/A, -0.1)	934.2 282.0	0.6993 85.7 85.7	0.4287 [0.3833]	111.8%			

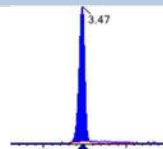
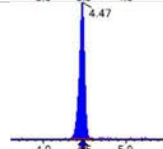
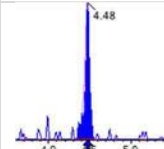
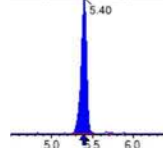
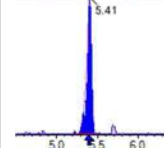
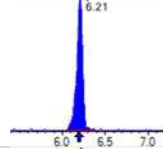
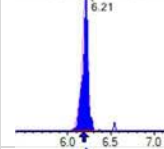
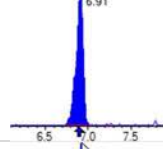
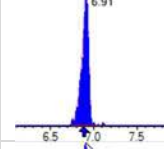
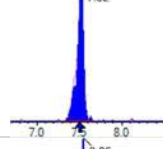
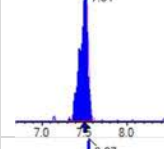
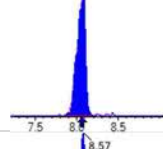
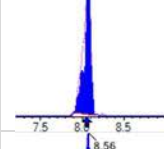
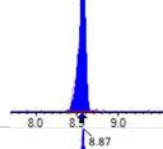
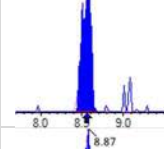
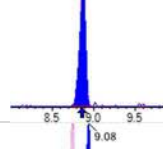
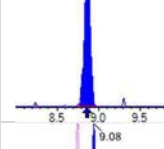
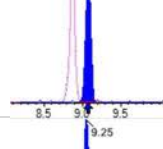
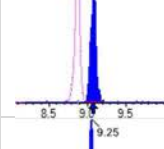
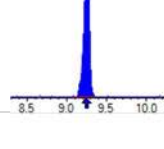
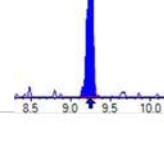
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 408275 (498.0 / 478.0) 6632	(9.85, 1.00) (0.00, N/A, 0.4)	695.9 320.1	0.0162 82.7 82.7	0.1075 [0.1000]	107.5%			
NMeFOFA	(512.0 / 219.0) 316291 (512.0 / 169.0) 280188	(10.44, 1.00) (0.00, N/A, 0.8)	1451.0 1593.5	0.8859 107.2 107.2	0.4138 [0.4000]	103.5%			
NEIFOSA	(526.0 / 219.0) 340043 (526.0 / 169.0) 423688	(10.59, 1.00) (0.00, N/A, 1.0)	1539.8 1055.4	1.2460 98.4 98.4	0.4364 [0.4000]	109.1%			
NMeFOSAA	(570.0 / 419.0) 33321 (570.0 / 483.0) 17058	(8.22, 1.00) (0.01, N/A, 0.2)	269.8 73.6	0.5119 104.4 104.4	0.1164 [0.1000]	116.4%			
NEIFOSAA	(584.0 / 419.0) 28401 (584.0 / 526.0) 9020	(8.48, 1.00) (0.01, N/A, 0.8)	60179.4 330.5	0.3176 56.2 56.2	0.1100 [0.1000]	110.0%			
NMeFOSE	(616.0 / 59.0) 158489	(10.38, 1.00) (0.01, N/A, 0.0)	444.7	N/A 0.0 0.0	0.4432 [0.4000]	110.8%			
NEtFOSE	(630.0 / 59.0) 159842	(10.53, 1.00) (0.00, N/A, 0.0)	280.1	N/A 0.0 0.0	0.4426 [0.4000]	110.7%			
HFPO-DA	(285.0 / 169.0) 98966 (285.0 / 185.0) 204157	(5.69, 1.00) (0.00, N/A, -0.2)	695.0 375.7	2.0629 75.0 75.0	0.2247 [0.2000]	112.4%			
ADONA	(377.0 / 85.0) 350095 (377.0 / 251.0) 35281	(6.47, 1.14) (N/A, 0.00, 0.2)	426.5 135.0	0.1008 115.1 115.1	0.2142 [0.1885]	113.6%			
9CI-Pf3ONS	(531.0 / 351.0) 808793 (533.0 / 353.0) 215408	(8.63, 1.52) (N/A, 0.02, -0.2)	436.7 423.1	0.2663 90.4 90.4	0.2110 [0.1867]	113.0%			
11CI-PF3OUDS	(631.0 / 451.0) 401624 (633.0 / 453.0) 118778	(9.13, 1.61) (N/A, 0.02, 0.6)	1569.6 168942.3	0.2957 95.8 95.8	0.2131 [0.1886]	113.0%			

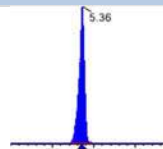
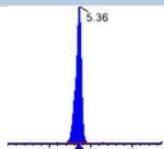
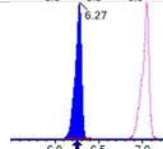
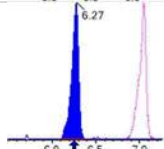
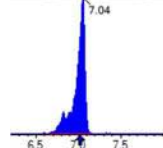
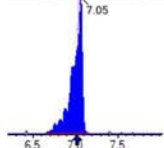
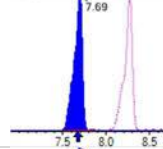
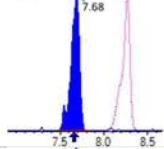
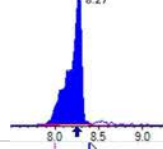
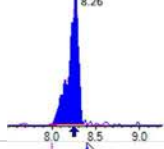
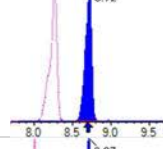
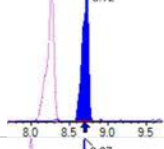
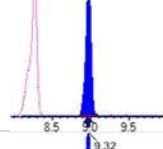
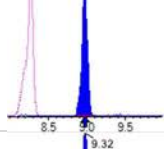
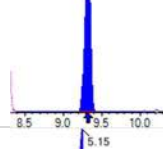
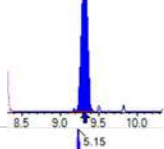
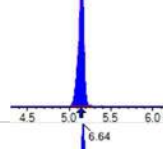
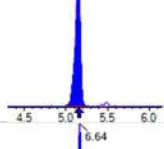
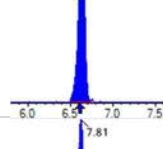
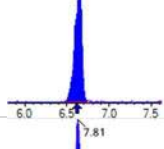
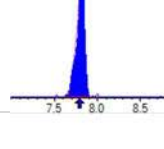
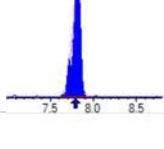
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 6406 (241.0 / 117.0) 11620	(4.01, 0.90) (N/A, 0.00, 0.7)	141.0 65.8	1.8138 104.6 104.6	0.3558 [0.4000]	89.0%			
5:3FTCA	(341.0 / 236.7) 44851 (341.0 / 217.0) 93376	(5.90, 1.09) (N/A, 0.00, -0.2)	891.8 200.9	2.0819 123.8 123.8	0.4120 [0.4000]	103.0%			
7:3FTCA	(441.0 / 317.0) 97878 (441.0 / 337.0) 87848	(7.80, 1.45) (N/A, 0.01, 0.8)	121.2 179.6	0.8975 104.5 104.5	0.5001 [0.4000]	125.0%			
PFEESA	(315.0 / 135.0) 199103 (315.0 / 83.0) 61742	(5.78, 1.07) (N/A, 0.00, -0.3)	632.6 130.3	0.3101 110.2 110.2	0.2104 [0.1785]	117.9%			
PFMPA	(229.0 / 85.0) 34878	(3.84, 0.86) (N/A, -0.01, 0.0)	434.7	N/A 0.0 0.0	0.2238 [0.2000]	111.9%			
PFMBA	(279.0 / 85.0) 105375	(4.78, 1.07) (N/A, -0.01, 0.0)	463.3	N/A 0.0 0.0	0.1973 [0.2000]	98.7%			
NFDHA	(295.0 / 201.0) 95136 (295.0 / 85.0) 86110	(5.29, 0.98) (N/A, -0.01, 0.3)	1710.6 601.2	0.9051 86.7 86.7	0.2246 [0.2000]	112.3%			
13C3_PFBa_IIS	(216.0 / 172.0) 403828	(3.46, N/A) (N/A, -0.01, N/A)	1783.9	N/A	1.1912 [1.0000]	119.1% {122.5%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 639133	(5.39, N/A) (N/A, -0.01, N/A)	1509.0	N/A	1.0746 [1.0000]	107.5% {115.0%}			
13C4_PFOA_IIS	(417.0 / 372.0) 834165	(6.89, N/A) (N/A, 0.01, N/A)	826.1	N/A	1.0255 [1.0000]	102.5% {111.2%}			
13C5_PFNxA_IIS	(468.0 / 423.0) 783782	(7.50, N/A) (N/A, 0.01, N/A)	550.9	N/A	1.0264 [1.0000]	102.6% {102.9%}			

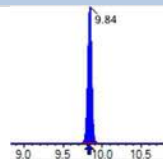
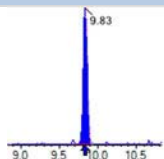
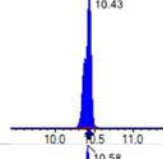
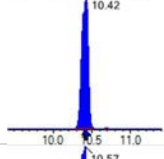
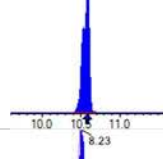
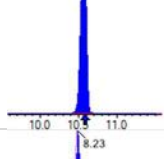
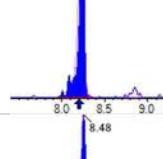
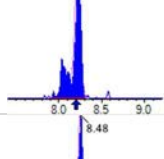
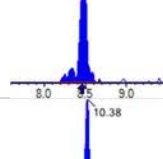
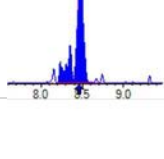
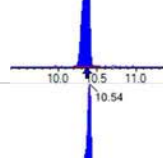
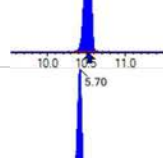
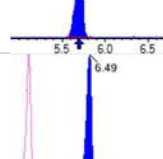
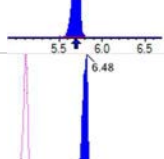
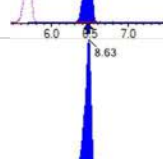
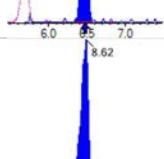
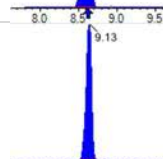
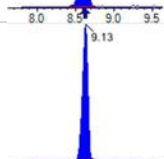
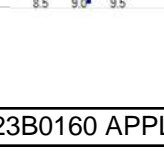
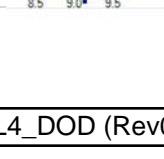
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 760809	(8.06, N/A) (N/A, 0.01, N/A)	862.0	N/A	1.0598 [1.0000]	106.0% {110.6%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 1273266	(7.03, N/A) (N/A, 0.01, N/A)	1287.1	N/A	1.0339 [1.0000]	103.4% {106.0%}			
13C4_PFOS_IIS	(503.0 / 79.9) 1972538	(8.26, N/A) (N/A, 0.02, N/A)	1173.9	N/A	1.1114 [1.0000]	111.1% {113.9%}			
13C4_PFBA_EIS	(217.0 / 172.0) 3591649	(3.46, N/A) (N/A, -0.01, N/A)	2494.4	N/A	7.4797 [8.0000]	93.5% {122.6%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 2767434	(4.46, N/A) (N/A, -0.01, N/A)	2035.0	N/A	3.8860 [4.0000]	97.2% {113.5%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 1632151	(5.39, N/A) (N/A, -0.01, N/A)	1439.9	N/A	1.8795 [2.0000]	94.0% {106.3%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 1594218	(6.19, N/A) (N/A, 0.00, N/A)	1543.0	N/A	1.9684 [2.0000]	98.4% {112.8%}			
13C8_PFOA_EIS	(421.0 / 376.0) 1758649	(6.89, N/A) (N/A, 0.01, N/A)	1993.9	N/A	1.9697 [2.0000]	98.5% {105.5%}			
13C9_PFNA_EIS	(472.0 / 427.0) 753093	(7.50, N/A) (N/A, 0.01, N/A)	1064.0	N/A	0.9642 [1.0000]	96.4% {106.2%}			
13C6_PFDA_EIS	(519.0 / 474.0) 903669	(8.06, N/A) (N/A, 0.03, N/A)	979.0	N/A	1.0262 [1.0000]	102.6% {123.0%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 835427	(8.56, N/A) (N/A, 0.02, N/A)	1724.6	N/A	0.9576 [1.0000]	95.8% {111.0%}			

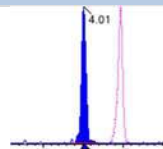
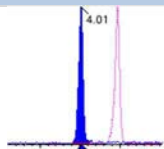
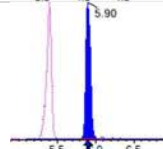
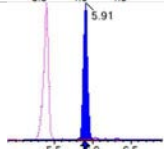
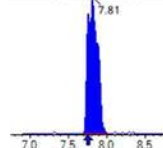
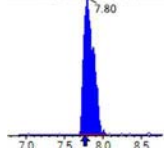
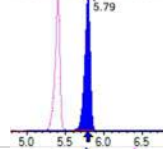
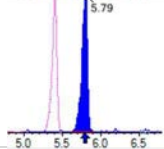
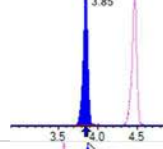
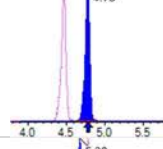
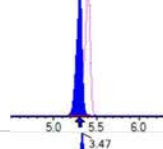
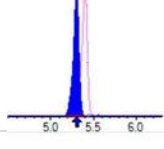
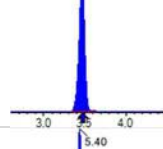
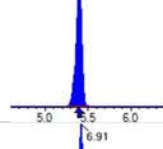
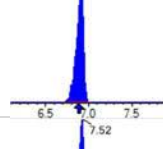
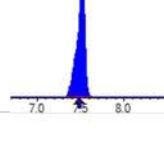
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 872979	(8.88, N/A) (N/A, 0.02, N/A)	918.6	N/A	1.0790 [1.0000]	107.9% {118.5%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 843285	(9.25, N/A) (N/A, 0.01, N/A)	918.5	N/A	1.0026 [1.0000]	100.3% {117.3%}			
13C3_PFBs_EIS	(302.0 / 80.0) 5181335	(5.34, N/A) (N/A, -0.01, N/A)	2161.9	N/A	2.0137 [2.0000]	100.7% {113.9%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 2671902	(7.03, N/A) (N/A, 0.01, N/A)	1576.4	N/A	1.9876 [2.0000]	99.4% {112.8%}			
13C8_PFOS_EIS	(507.0 / 80.0) 4860196	(8.26, N/A) (N/A, 0.02, N/A)	1444.5	N/A	1.8755 [2.0000]	93.8% {113.8%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 672936	(5.13, N/A) (N/A, -0.01, N/A)	1458.1	N/A	4.2700 [4.0000]	106.8% {129.8%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 719951	(6.63, N/A) (N/A, 0.01, N/A)	1080.0	N/A	4.0519 [4.0000]	101.3% {121.9%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 684191	(7.81, N/A) (N/A, 0.02, N/A)	1141.8	N/A	3.6413 [4.0000]	91.0% {103.0%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 9772490	(9.85, N/A) (N/A, 0.02, N/A)	2857.8	N/A	2.0472 [2.0000]	102.4% {125.4%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1779886	(10.44, N/A) (N/A, 0.01, N/A)	2747.6	N/A	1.7364 [2.0000]	86.8% {103.5%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1604328	(10.59, N/A) (N/A, 0.01, N/A)	3172.7	N/A	1.7875 [2.0000]	89.4% {102.6%}			

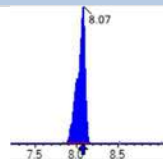
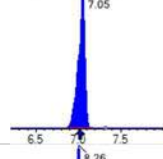
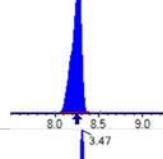
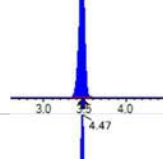
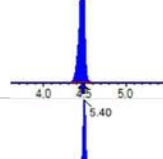
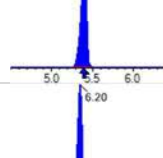
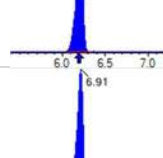
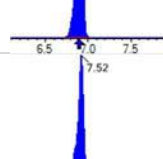
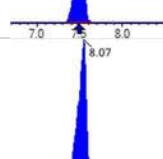
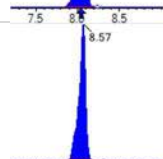
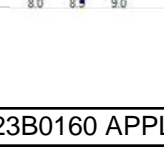
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1340165	(8.21, N/A) (N/A, 0.02, N/A)	998.5	N/A	3.6849 [4.0000]	92.1% {104.2%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1184365	(8.47, N/A) (N/A, 0.01, N/A)	6284.7	N/A	3.8242 [4.0000]	95.6% {122.4%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6825210	(10.37, N/A) (N/A, 0.01, N/A)	1607.3	N/A	19.5582 [20.0000]	97.8% {112.8%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7147806	(10.53, N/A) (N/A, 0.01, N/A)	1582.6	N/A	17.9062 [20.0000]	89.5% {104.4%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 4297700	(5.69, N/A) (N/A, 0.00, N/A)	2513.5	N/A	7.8759 [8.0000]	98.4% {114.9%}			

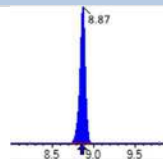
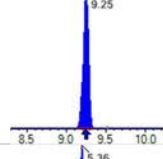
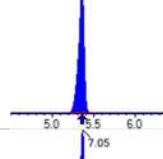
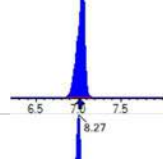
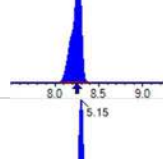
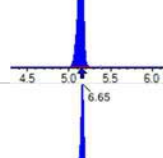
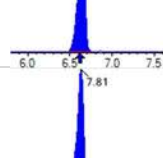
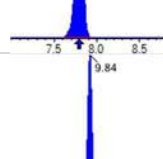
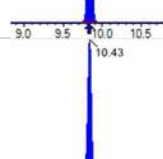
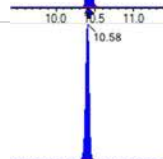
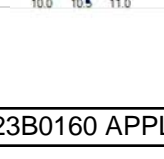
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 755137	(3.47, 1.00) (0.00, N/A, 0.0)	128.6	N/A 0.0 0.0	1.7753 [2.0000]	88.8%			
PFPeA	(263.0 / 219.0) 599742 (263.0 / 69.0) 8058	(4.47, 1.00) (0.00, N/A, -0.4)	871.2 78.1	0.0134 112.7 112.7	0.8703 [1.0000]	87.0%			
PFHxA	(313.0 / 269.0) 406807 (313.0 / 119.0) 44060	(5.40, 1.00) (0.00, N/A, -0.5)	1470.0 164687.3	0.1083 115.8 115.8	0.4749 [0.5000]	95.0%			
PFHpA	(363.0 / 319.0) 371706 (363.0 / 169.0) 123076	(6.21, 1.00) (0.00, N/A, -0.4)	2643.1 48307.7	0.3311 104.9 104.9	0.4815 [0.5000]	96.3%			
PFOA	(413.0 / 369.0) 406570 (413.0 / 169.0) 138645	(6.91, 1.00) (0.00, N/A, -0.3)	1174.8 1146.7	0.3410 100.8 100.8	0.4368 [0.5000]	87.4%			
PFNA	(463.0 / 419.0) 365881 (463.0 / 169.0) 79262	(7.52, 1.00) (0.00, N/A, 0.8)	3933.7 1470.3	0.2166 92.5 92.5	0.4594 [0.5000]	91.9%			
PFDA	(513.0 / 469.0) 398042 (513.0 / 169.0) 45316	(8.06, 1.00) (0.00, N/A, -0.6)	333.7 53.8	0.1138 91.9 91.9	0.4433 [0.5000]	88.7%			
PFUnA	(563.0 / 519.0) 392695 (563.0 / 169.0) 44799	(8.57, 1.00) (0.00, N/A, 0.6)	521.6 109.5	0.1141 106.0 106.0	0.4731 [0.5000]	94.6%			
PFDoA	(613.0 / 569.0) 325040 (613.0 / 169.0) 64869	(8.87, 1.00) (0.00, N/A, 0.4)	441.0 1153.8	0.1996 125.6 125.6	0.4402 [0.5000]	88.0%			
PFTrDA	(663.0 / 619.0) 367309 (663.0 / 169.0) 91442	(9.08, 1.02) (N/A, 0.01, -0.3)	614.8 534.0	0.2490 91.7 91.7	0.5169 [0.5000]	103.4%			
PFTeDA	(713.0 / 669.0) 422087 (713.0 / 169.0) 88136	(9.25, 1.00) (0.00, N/A, 0.3)	669.9 185.5	0.2088 95.5 95.5	0.5011 [0.5000]	100.2%			

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
PFBS	(299.0 / 80.0) 718738 (299.0 / 99.0) 402042	(5.36, 1.00) (0.00, N/A, 0.0)	1415.0 677.2	0.5594 88.9 88.9	0.4229 [0.4424]	95.6%			
PFPeS	(349.0 / 80.0) 1150231 (349.0 / 99.0) 375229	(6.27, 0.89) (N/A, 0.02, 0.2)	1273024.4 2293.2	0.3262 97.5 97.5	0.4493 [0.4692]	95.8%			
PFHxS	(399.0 / 80.0) 951264 (399.0 / 99.0) 314947	(7.04, 1.00) (0.00, N/A, -0.5)	75741.3 718.5	0.3311 103.5 103.5	0.4235 [0.4555]	93.0%			
PFHpS	(449.0 / 80.0) 992727 (449.0 / 99.0) 265895	(7.69, 0.93) (N/A, 0.03, 0.5)	6833460.3 1532.1	0.2678 98.7 98.7	0.4297 [0.4757]	90.3%			
PFOS	(499.0 / 80.0) 1239344 (499.0 / 99.0) 254523	(8.27, 1.00) (0.00, N/A, 0.4)	192.7 172.4	0.2054 93.4 93.4	0.4377 [0.4637]	94.4%			
PFNS	(549.0 / 80.0) 1307203 (549.0 / 99.0) 313967	(8.72, 1.05) (N/A, 0.01, 0.1)	2179.6 70069509.6	0.2402 99.8 99.8	0.4613 [0.4799]	96.1%			
PFDS	(599.0 / 80.0) 1372070 (599.0 / 99.0) 303289	(8.97, 1.09) (N/A, 0.01, 0.2)	937.2 632.8	0.2210 109.2 109.2	0.4357 [0.4816]	90.5%			
PFDoS	(699.0 / 80.0) 610283 (699.0 / 99.0) 123735	(9.32, 1.13) (N/A, 0.01, 0.3)	978.6 307.0	0.2028 103.8 103.8	0.4198 [0.4848]	86.6%			
4:2FTS	(327.0 / 307.0) 860332 (327.0 / 81.0) 572842	(5.15, 1.00) (0.00, N/A, 0.1)	1361.7 672.6	0.6658 96.1 96.1	1.7863 [1.8691]	95.6%			
6:2FTS	(427.0 / 407.0) 413476 (427.0 / 81.0) 377891	(6.64, 1.00) (-0.01, N/A, -0.3)	873.2 587.0	0.9139 107.9 107.9	1.7091 [1.8981]	90.0%			
8:2FTS	(527.0 / 507.0) 387778 (527.0 / 81.0) 273625	(7.81, 1.00) (0.00, N/A, 0.0)	539.4 448.3	0.7056 86.5 86.5	1.8041 [1.9166]	94.1%			

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
PFOSA	(498.0 / 78.0) 1805841 (498.0 / 478.0) 40828	(9.84, 1.00) (0.00, N/A, 0.3)	2311.4 413.8	0.0226 115.1 115.1	0.4710 [0.5000]	94.2%			
NMeFOSA	(512.0 / 219.0) 1597506 (512.0 / 169.0) 1332810	(10.43, 1.00) (0.00, N/A, 1.1)	4495.4 3408.9	0.8343 101.0 101.0	1.8884 [2.0000]	94.4%			
NEIFOSA	(526.0 / 219.0) 1699037 (526.0 / 169.0) 2143008	(10.58, 1.00) (-0.01, N/A, 0.7)	4828.4 4504.2	1.2613 99.6 99.6	1.8685 [2.0000]	93.4%			
NMeFOSAA	(570.0 / 419.0) 132402 (570.0 / 483.0) 74102	(8.23, 1.00) (0.02, N/A, 0.4)	416.0 148.8	0.5597 114.1 114.1	0.4511 [0.5000]	90.2%			
NEIFOSAA	(584.0 / 419.0) 117619 (584.0 / 526.0) 67112	(8.48, 1.00) (0.01, N/A, -0.1)	11890.3 745.2	0.5706 101.0 101.0	0.4226 [0.5000]	84.5%			
NMeFOSE	(616.0 / 59.0) 679842	(10.38, 1.00) (0.01, N/A, 0.0)	966.5	N/A 0.0 0.0	1.8027 [2.0000]	90.1%			
NEtFOSE	(630.0 / 59.0) 761835	(10.54, 1.00) (0.01, N/A, 0.0)	950.5	N/A 0.0 0.0	1.7651 [2.0000]	88.3%			
HFPO-DA	(285.0 / 169.0) 420161 (285.0 / 185.0) 1079380	(5.70, 1.00) (0.00, N/A, 0.0)	1488.6 1172.5	2.5690 93.4 93.4	0.8951 [1.0000]	89.5%			
ADONA	(377.0 / 85.0) 1498766 (377.0 / 251.0) 136684	(6.49, 1.14) (N/A, 0.03, 0.7)	1154.5 195.9	0.0912 104.2 104.2	0.8603 [0.9427]	91.3%			
9CI-Pf3ONS	(531.0 / 351.0) 3523077 (533.0 / 353.0) 1048371	(8.63, 1.51) (N/A, 0.02, 0.3)	1108.0 609.3	0.2976 101.0 101.0	0.8623 [0.9333]	92.4%			
11CI-PF3OUDS	(631.0 / 451.0) 1691673 (633.0 / 453.0) 602232	(9.13, 1.60) (N/A, 0.01, -0.1)	977.9 1870.1	0.3560 115.4 115.4	0.8422 [0.9432]	89.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 38619 (241.0 / 117.0) 60683	(4.01, 0.90) (N/A, 0.00, -0.2)	520.0 314.2	1.5713 90.6 90.6	1.8976 [2.0000]	94.9%			
5:3FTCA	(341.0 / 236.7) 210131 (341.0 / 217.0) 377139	(5.90, 1.09) (N/A, 0.01, -0.3)	1291.8 727.5	1.7948 106.7 106.7	1.7160 [2.0000]	85.8%			
7:3FTCA	(441.0 / 317.0) 378938 (441.0 / 337.0) 344182	(7.81, 1.45) (N/A, 0.02, 0.4)	368.4 376.1	0.9083 105.8 105.8	1.7212 [2.0000]	86.1%			
PFEESA	(315.0 / 135.0) 867939 (315.0 / 83.0) 256094	(5.79, 1.07) (N/A, 0.01, -0.1)	1500.2 349.0	0.2951 104.8 104.8	0.8153 [0.8925]	91.4%			
PFMPA	(229.0 / 85.0) 152777	(3.85, 0.86) (N/A, 0.00, 0.0)	1068.2	N/A 0.0 0.0	0.8671 [1.0000]	86.7%			
PFMBA	(279.0 / 85.0) 537128	(4.78, 1.07) (N/A, 0.00, 0.0)	1545.8	N/A 0.0 0.0	0.8898 [1.0000]	89.0%			
NFDHA	(295.0 / 201.0) 436352 (295.0 / 85.0) 439776	(5.30, 0.98) (N/A, 0.01, 0.1)	981.4 1268.0	1.0078 96.5 96.5	0.9158 [1.0000]	91.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 377842	(3.47, N/A) (N/A, 0.00, N/A)	1643.3	N/A	1.1145 [1.0000]	111.4% {114.6%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 624524	(5.40, N/A) (N/A, 0.00, N/A)	1392.3	N/A	1.0500 [1.0000]	105.0% {112.4%}			
13C4_PFOA_IIS	(417.0 / 372.0) 871802	(6.91, N/A) (N/A, 0.03, N/A)	1712.9	N/A	1.0718 [1.0000]	107.2% {116.2%}			
13C5_PFNA_IIS	(468.0 / 423.0) 831114	(7.52, N/A) (N/A, 0.03, N/A)	1511.9	N/A	1.0884 [1.0000]	108.8% {109.2%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 701666	(8.07, N/A) (N/A, 0.02, N/A)	721.9	N/A	0.9774 [1.0000]	97.7% { 102.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1247541	(7.05, N/A) (N/A, 0.03, N/A)	1131.6	N/A	1.0130 [1.0000]	101.3% { 103.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1747657	(8.26, N/A) (N/A, 0.03, N/A)	870.2	N/A	0.9847 [1.0000]	98.5% { 100.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 4023777	(3.47, N/A) (N/A, 0.00, N/A)	2704.2	N/A	8.9559 [8.0000]	111.9% { 137.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 3128479	(4.47, N/A) (N/A, 0.00, N/A)	2367.3	N/A	4.4958 [4.0000]	112.4% { 128.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1835857	(5.40, N/A) (N/A, 0.01, N/A)	1541.1	N/A	2.1635 [2.0000]	108.2% { 119.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1728938	(6.20, N/A) (N/A, 0.02, N/A)	1846.2	N/A	2.1846 [2.0000]	109.2% { 122.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1932206	(6.91, N/A) (N/A, 0.03, N/A)	1467.1	N/A	2.0707 [2.0000]	103.5% { 116.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 843176	(7.52, N/A) (N/A, 0.03, N/A)	1032.4	N/A	1.0180 [1.0000]	101.8% { 118.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 905717	(8.07, N/A) (N/A, 0.03, N/A)	622.4	N/A	1.1152 [1.0000]	111.5% { 123.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 943818	(8.57, N/A) (N/A, 0.02, N/A)	1485.8	N/A	1.1731 [1.0000]	117.3% { 125.4% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 846417	(8.87, N/A) (N/A, 0.01, N/A)	1142.9	N/A	1.1343 [1.0000]	113.4% { 114.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 916114	(9.25, N/A) (N/A, 0.01, N/A)	1267.0	N/A	1.1810 [1.0000]	118.1% { 127.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5977954	(5.36, N/A) (N/A, 0.01, N/A)	2326.7	N/A	2.3713 [2.0000]	118.6% { 131.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2851985	(7.05, N/A) (N/A, 0.03, N/A)	1570.3	N/A	2.1654 [2.0000]	108.3% { 120.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5131760	(8.27, N/A) (N/A, 0.03, N/A)	1312.8	N/A	2.2351 [2.0000]	111.8% { 120.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 682542	(5.15, N/A) (N/A, 0.00, N/A)	1100.1	N/A	4.4203 [4.0000]	110.5% { 131.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 741788	(6.65, N/A) (N/A, 0.03, N/A)	1147.7	N/A	4.2609 [4.0000]	106.5% { 125.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 765880	(7.81, N/A) (N/A, 0.02, N/A)	1009.0	N/A	4.1601 [4.0000]	104.0% { 115.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9868316	(9.84, N/A) (N/A, 0.01, N/A)	2159.0	N/A	2.3333 [2.0000]	116.7% { 126.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1970012	(10.43, N/A) (N/A, 0.01, N/A)	2544.4	N/A	2.1692 [2.0000]	108.5% { 114.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1871997	(10.58, N/A) (N/A, 0.01, N/A)	3281.6	N/A	2.3541 [2.0000]	117.7% { 119.7% }			

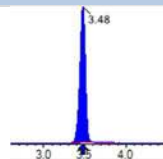
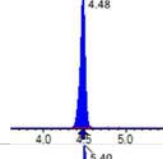
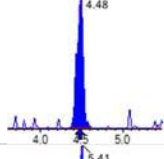
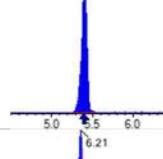
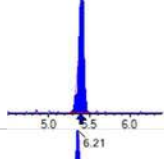
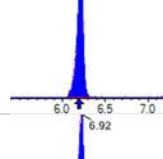
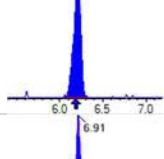
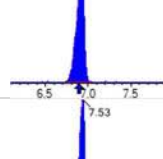
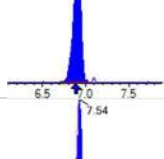
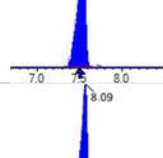
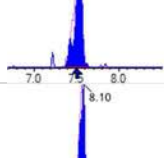
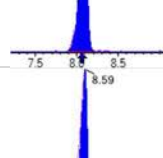
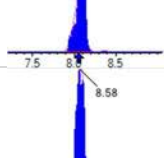
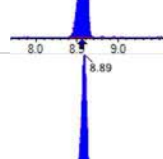
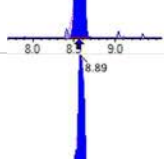
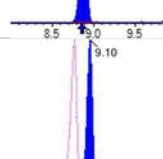
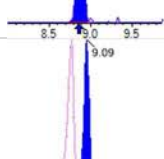
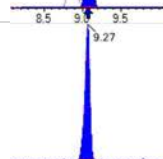
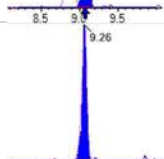
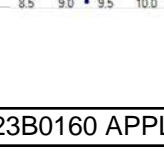
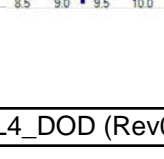


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (2)
 Acquired: 2023/02/28 - 16:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1373660	(8.22, N/A) (N/A, 0.02, N/A)	1210.5	N/A	4.2630 [4.0000]	106.6% { 106.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1277049	(8.47, N/A) (N/A, 0.02, N/A)	527735.4	N/A	4.6540 [4.0000]	116.4% { 132.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7198350	(10.37, N/A) (N/A, 0.01, N/A)	1847.0	N/A	23.2817 [20.0000]	116.4% { 119.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8543004	(10.53, N/A) (N/A, 0.01, N/A)	1631.4	N/A	24.1552 [20.0000]	120.8% { 124.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4580346	(5.70, N/A) (N/A, 0.01, N/A)	2096.4	N/A	8.5902 [8.0000]	107.4% { 122.5% }			

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
PFBA	(213.0 / 169.0) 1558824	(3.48, 1.00) (0.00, N/A, 0.0)	161.2	N/A 0.0 0.0	3.8585 [4.0000]	96.5%			
PFPeA	(263.0 / 219.0) 1265763 (263.0 / 69.0) 19161	(4.48, 1.00) (0.00, N/A, -0.3)	1452.9 127.2	0.0151 127.0 127.0	1.8650 [2.0000]	93.3%			
PFHxA	(313.0 / 269.0) 797424 (313.0 / 119.0) 86616	(5.40, 1.00) (0.00, N/A, -0.1)	2524.9 90779.8	0.1086 116.1 116.1	0.9514 [1.0000]	95.1%			
PFHpA	(363.0 / 319.0) 683494 (363.0 / 169.0) 206951	(6.21, 1.00) (0.00, N/A, 0.1)	4310.6 2135130.2	0.3028 95.9 95.9	0.9372 [1.0000]	93.7%			
PFOA	(413.0 / 369.0) 907671 (413.0 / 169.0) 315435	(6.92, 1.00) (0.01, N/A, 0.5)	1707.8 1430.0	0.3475 102.7 102.7	0.9602 [1.0000]	96.0%			
PFNA	(463.0 / 419.0) 707835 (463.0 / 169.0) 156984	(7.53, 1.00) (0.00, N/A, -0.3)	983.4 623.2	0.2218 94.7 94.7	0.8847 [1.0000]	88.5%			
PFDA	(513.0 / 469.0) 835540 (513.0 / 169.0) 108944	(8.09, 1.00) (0.00, N/A, -0.3)	550.1 61.4	0.1304 105.2 105.2	0.8794 [1.0000]	87.9%			
PFUnA	(563.0 / 519.0) 723977 (563.0 / 169.0) 90223	(8.59, 1.00) (0.01, N/A, 0.9)	609.2 421.9	0.1246 115.8 115.8	0.8854 [1.0000]	88.5%			
PFDoA	(613.0 / 569.0) 709027 (613.0 / 169.0) 103601	(8.89, 1.00) (0.00, N/A, -0.1)	956.4 376.4	0.1461 92.0 92.0	0.9490 [1.0000]	94.9%			
PFTrDA	(663.0 / 619.0) 664752 (663.0 / 169.0) 170193	(9.10, 1.02) (N/A, 0.03, 0.1)	1282.6 488.6	0.2560 94.3 94.3	0.9246 [1.0000]	92.5%			
PFTeDA	(713.0 / 669.0) 776147 (713.0 / 169.0) 167772	(9.27, 1.00) (0.00, N/A, 0.1)	813.6 506.4	0.2162 98.9 98.9	0.9069 [1.0000]	90.7%			

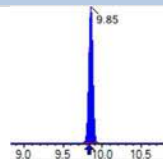
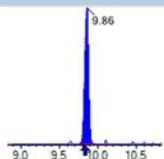
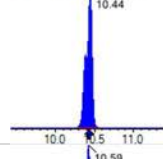
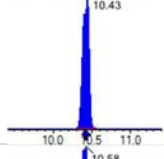
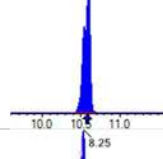
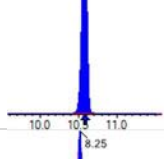
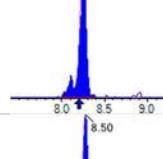
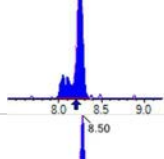
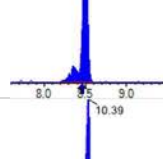
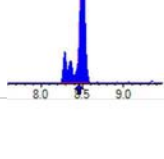
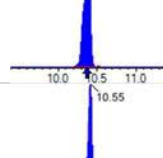
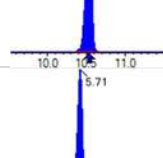
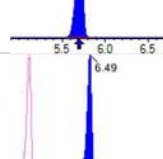
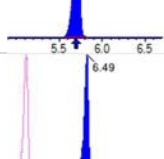
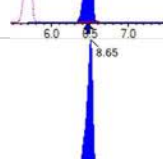
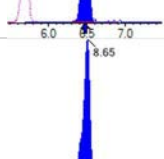
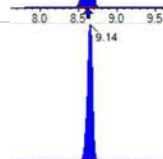
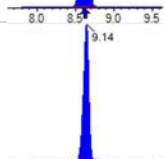
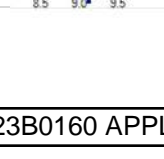
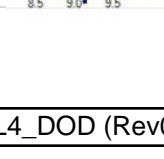


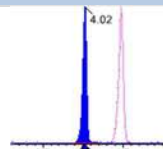
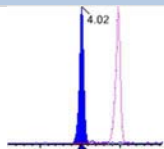
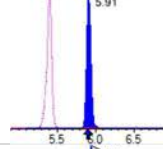
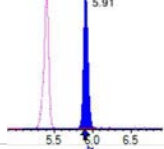
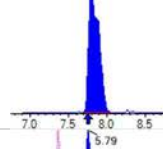
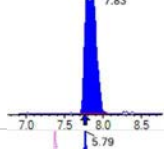
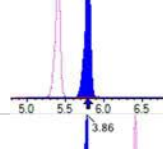
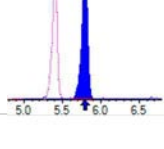
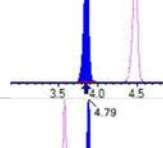
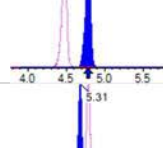
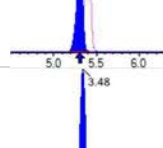
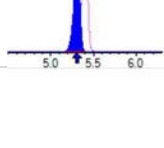
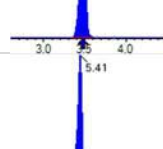
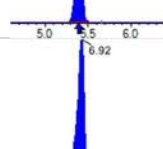
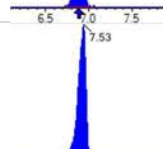

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

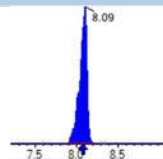
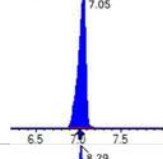
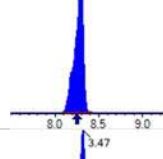
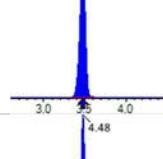
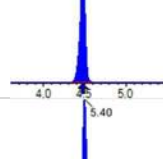
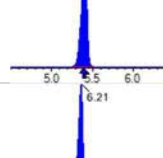
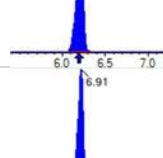
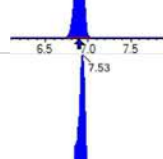
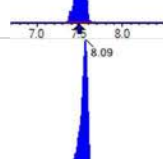
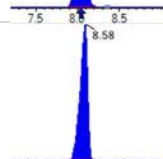
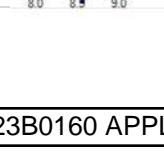
Sample I.D.: SC00840-CAL3
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

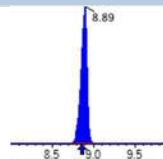
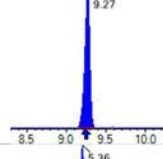
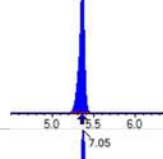
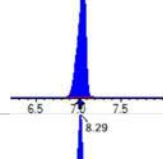
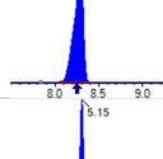
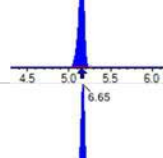
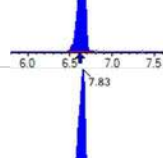
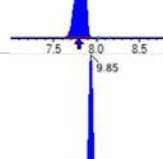
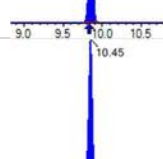
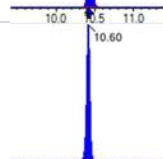
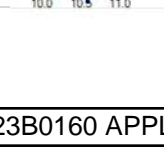
Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28A (3)
Acquired: 2023/02/28 - 16:18

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) 1329800 (299.0 / 99.0) 875047	(5.36, 1.00) (0.00, N/A, -0.1)	1248.8 996.2	0.6580 104.6 104.6	0.7969 [0.8847]	90.1%			
PFPeS	(349.0 / 80.0) 2524286 (349.0 / 99.0) 821758	(6.28, 0.89) (N/A, 0.03, 0.1)	3988.1 18015.6	0.3255 97.3 97.3	0.9592 [0.9384]	102.2%			
PFHxS	(399.0 / 80.0) 1890138 (399.0 / 99.0) 597730	(7.05, 1.00) (0.00, N/A, 0.2)	120033.2 862.6	0.3162 98.8 98.8	0.8186 [0.9110]	89.9%			
PFHpS	(449.0 / 80.0) 2149516 (449.0 / 99.0) 597105	(7.71, 0.93) (N/A, 0.05, 0.2)	3207.3 22273.5	0.2778 102.3 102.3	0.9164 [0.9514]	96.3%			
PFOS	(499.0 / 80.0) 2507487 (499.0 / 99.0) 480040	(8.28, 1.00) (0.00, N/A, 0.1)	207.8 247.5	0.1914 87.0 87.0	0.8722 [0.9275]	94.0%			
PFNS	(549.0 / 80.0) 2661423 (549.0 / 99.0) 643064	(8.73, 1.05) (N/A, 0.03, -0.2)	852381.6 2828.0	0.2416 100.4 100.4	0.9251 [0.9599]	96.4%			
PFDS	(599.0 / 80.0) 2782413 (599.0 / 99.0) 634734	(8.99, 1.08) (N/A, 0.02, -0.1)	1562.1 908.1	0.2281 112.7 112.7	0.8703 [0.9631]	90.4%			
PFDoS	(699.0 / 80.0) 1327304 (699.0 / 99.0) 291014	(9.34, 1.13) (N/A, 0.02, 0.1)	1709.6 562.8	0.2193 112.2 112.2	0.8993 [0.9696]	92.8%			
4:2FTS	(327.0 / 307.0) 1697206 (327.0 / 81.0) 1180095	(5.15, 1.00) (0.00, N/A, -0.1)	1651.6 1084.2	0.6953 100.3 100.3	3.5442 [3.7381]	94.8%			
6:2FTS	(427.0 / 407.0) 842761 (427.0 / 81.0) 765235	(6.65, 1.00) (0.00, N/A, -0.1)	1665.8 851.8	0.9080 107.2 107.2	3.5474 [3.7962]	93.4%			
8:2FTS	(527.0 / 507.0) 778543 (527.0 / 81.0) 696144	(7.84, 1.00) (0.00, N/A, -0.2)	886.8 716.2	0.8942 109.6 109.6	3.8731 [3.8332]	101.0%			

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
PFOSA	(498.0 / 78.0) 3798776 (498.0 / 478.0) 69856	(9.85, 1.00) (0.00, N/A, -0.1)	2092.8 616.5	0.0184 93.6 93.6	0.9625 [1.0000]	96.2%			
NMeFOSA	(512.0 / 219.0) 3475090 (512.0 / 169.0) 2925163	(10.44, 1.00) (0.00, N/A, 0.9)	4208.6 3191.4	0.8418 101.9 101.9	3.9505 [4.0000]	98.8%			
NEIFOSA	(526.0 / 219.0) 3722150 (526.0 / 169.0) 4891746	(10.59, 1.00) (-0.01, N/A, 0.6)	6839.5 5197.2	1.3142 103.8 103.8	3.9325 [4.0000]	98.3%			
NMeFOSAA	(570.0 / 419.0) 288907 (570.0 / 483.0) 128440	(8.25, 1.00) (0.01, N/A, 0.3)	752.7 191.0	0.4446 90.7 90.7	0.9383 [1.0000]	93.8%			
NEIFOSAA	(584.0 / 419.0) 256591 (584.0 / 526.0) 136627	(8.50, 1.00) (0.01, N/A, -0.2)	4407.7 18005.9	0.5325 94.2 94.2	0.9990 [1.0000]	99.9%			
NMeFOSE	(616.0 / 59.0) 1414029	(10.39, 1.00) (0.01, N/A, 0.0)	1714.0	N/A 0.0 0.0	3.7753 [4.0000]	94.4%			
NEtFOSE	(630.0 / 59.0) 1663007	(10.55, 1.00) (0.01, N/A, 0.0)	926.7	N/A 0.0 0.0	3.7921 [4.0000]	94.8%			
HFPO-DA	(285.0 / 169.0) 907050 (285.0 / 185.0) 2341753	(5.71, 1.00) (0.00, N/A, 0.0)	1322.8 2111.7	2.5817 93.9 93.9	2.0087 [2.0000]	100.4%			
ADONA	(377.0 / 85.0) 3238705 (377.0 / 251.0) 299576	(6.49, 1.14) (N/A, 0.03, 0.0)	1602.5 745.8	0.0925 105.7 105.7	1.9325 [1.8854]	102.5%			
9CI-PI3ONS	(531.0 / 351.0) 7337674 (533.0 / 353.0) 2229765	(8.65, 1.52) (N/A, 0.04, 0.1)	1610.2 1545.7	0.3039 103.2 103.2	1.8668 [1.8665]	100.0%			
11CI-PF3OUDS	(631.0 / 451.0) 3561286 (633.0 / 453.0) 1094280	(9.14, 1.60) (N/A, 0.03, 0.0)	1394.4 1681.1	0.3073 99.6 99.6	1.8429 [1.8864]	97.7%			

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) 74731 (241.0 / 117.0) 116652	(4.02, 0.90) (N/A, 0.01, 0.1)	589.2 482.5	1.5610 90.0 90.0	3.7286 [4.0000]	93.2%			
5:3FTCA	(341.0 / 236.7) 434752 (341.0 / 217.0) 717769	(5.91, 1.09) (N/A, 0.01, 0.0)	1085.3 866.2	1.6510 98.2 98.2	3.6285 [4.0000]	90.7%			
7:3FTCA	(441.0 / 317.0) 734732 (441.0 / 337.0) 609932	(7.82, 1.45) (N/A, 0.03, -0.6)	428.1 400.8	0.8301 96.7 96.7	3.4110 [4.0000]	85.3%			
PFEESA	(315.0 / 135.0) 1732259 (315.0 / 83.0) 518677	(5.79, 1.07) (N/A, 0.01, 0.0)	2155.7 702.4	0.2994 106.4 106.4	1.6632 [1.7849]	93.2%			
PFMPA	(229.0 / 85.0) 322638	(3.86, 0.86) (N/A, 0.01, 0.0)	2102.3	N/A 0.0 0.0	1.8593 [2.0000]	93.0%			
PFMBA	(279.0 / 85.0) 1037277	(4.79, 1.07) (N/A, 0.01, 0.0)	1702.1	N/A 0.0 0.0	1.7448 [2.0000]	87.2%			
NFDHA	(295.0 / 201.0) 898951 (295.0 / 85.0) 950784	(5.31, 0.98) (N/A, 0.01, -0.1)	1585.9 1690.4	1.0577 101.3 101.3	1.9283 [2.0000]	96.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 382087	(3.48, N/A) (N/A, 0.01, N/A)	1420.6	N/A	1.1270 [1.0000]	112.7% {115.9%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 625588	(5.41, N/A) (N/A, 0.01, N/A)	1047.7	N/A	1.0518 [1.0000]	105.2% {112.6%}			
13C4_PFOA_IIS	(417.0 / 372.0) 841224	(6.92, N/A) (N/A, 0.03, N/A)	759.7	N/A	1.0342 [1.0000]	103.4% {112.1%}			
13C5_PFNA_IIS	(468.0 / 423.0) 822059	(7.53, N/A) (N/A, 0.04, N/A)	1047.7	N/A	1.0765 [1.0000]	107.7% {108.0%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 720343	(8.09, N/A) (N/A, 0.04, N/A)	779.3	N/A	1.0034 [1.0000]	100.3% { 104.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1239843	(7.05, N/A) (N/A, 0.04, N/A)	1034.1	N/A	1.0067 [1.0000]	100.7% { 103.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1851148	(8.29, N/A) (N/A, 0.05, N/A)	1210.5	N/A	1.0430 [1.0000]	104.3% { 106.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3821781	(3.47, N/A) (N/A, 0.01, N/A)	3332.5	N/A	8.4118 [8.0000]	105.1% { 130.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 3080953	(4.48, N/A) (N/A, 0.01, N/A)	2005.0	N/A	4.4199 [4.0000]	110.5% { 126.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1796236	(5.40, N/A) (N/A, 0.01, N/A)	2427.6	N/A	2.1132 [2.0000]	105.7% { 117.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1633410	(6.21, N/A) (N/A, 0.03, N/A)	1499.8	N/A	2.0604 [2.0000]	103.0% { 115.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1962058	(6.91, N/A) (N/A, 0.03, N/A)	1527.7	N/A	2.1791 [2.0000]	109.0% { 117.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 846974	(7.53, N/A) (N/A, 0.04, N/A)	1129.1	N/A	1.0339 [1.0000]	103.4% { 119.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 958247	(8.09, N/A) (N/A, 0.05, N/A)	762.0	N/A	1.1493 [1.0000]	114.9% { 130.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 929895	(8.58, N/A) (N/A, 0.04, N/A)	1111.9	N/A	1.1258 [1.0000]	112.6% { 123.5% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 856390	(8.89, N/A) (N/A, 0.03, N/A)	865.0	N/A	1.1179 [1.0000]	111.8% { 116.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 930714	(9.27, N/A) (N/A, 0.03, N/A)	1015.0	N/A	1.1687 [1.0000]	116.9% { 129.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5869688	(5.36, N/A) (N/A, 0.01, N/A)	2633.8	N/A	2.3428 [2.0000]	117.1% { 129.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2931644	(7.05, N/A) (N/A, 0.03, N/A)	1945.4	N/A	2.2397 [2.0000]	112.0% { 123.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5210104	(8.29, N/A) (N/A, 0.05, N/A)	976.1	N/A	2.1424 [2.0000]	107.1% { 121.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 678647	(5.15, N/A) (N/A, 0.01, N/A)	1162.9	N/A	4.4224 [4.0000]	110.6% { 130.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 728417	(6.65, N/A) (N/A, 0.03, N/A)	682.3	N/A	4.2101 [4.0000]	105.3% { 123.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 716231	(7.83, N/A) (N/A, 0.04, N/A)	958.0	N/A	3.9146 [4.0000]	97.9% { 107.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 10158077	(9.85, N/A) (N/A, 0.02, N/A)	2799.0	N/A	2.2675 [2.0000]	113.4% { 130.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 2048481	(10.45, N/A) (N/A, 0.02, N/A)	2394.4	N/A	2.1295 [2.0000]	106.5% { 119.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1948623	(10.60, N/A) (N/A, 0.02, N/A)	3224.4	N/A	2.3135 [2.0000]	115.7% { 124.6% }			

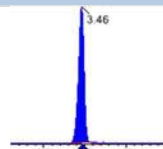
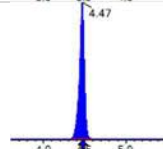
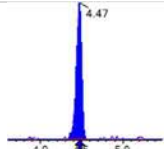
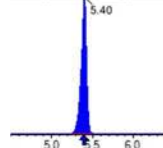
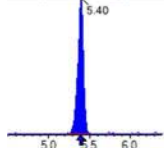
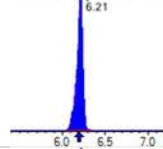
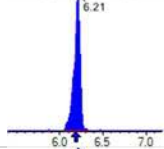
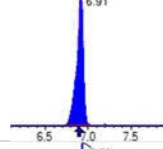
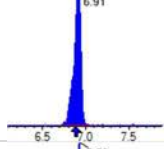
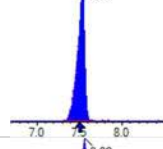
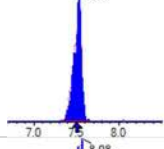
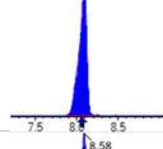
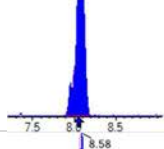
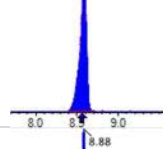
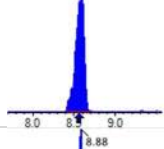
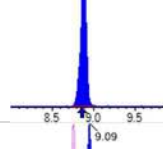
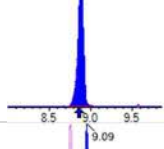
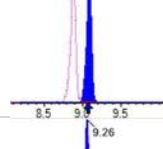
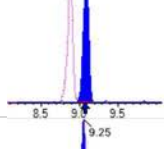
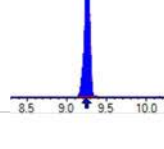
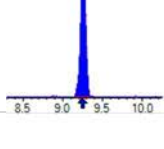


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (3)
 Acquired: 2023/02/28 - 16:18

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1441118	(8.24 , N/A) (N/A , 0.05 , N/A)	1589.4	N/A	4.2223 [4.0000]	105.6% { 112.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1178562	(8.49 , N/A) (N/A , 0.04 , N/A)	2950.5	N/A	4.0550 [4.0000]	101.4% { 121.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7149088	(10.38 , N/A) (N/A , 0.02 , N/A)	2911.4	N/A	21.8297 [20.0000]	109.1% { 118.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8680083	(10.54 , N/A) (N/A , 0.02 , N/A)	1249.1	N/A	23.1707 [20.0000]	115.9% { 126.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4406473	(5.70 , N/A) (N/A , 0.02 , N/A)	2180.8	N/A	8.2501 [8.0000]	103.1% { 117.9% }			

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
PFBA	(213.0 / 169.0) 2978159	(3.46, 1.00) (0.00, N/A, 0.0)	175.0	N/A 0.0 0.0	7.8088 [8.0000]	97.6%			
PFPeA	(263.0 / 219.0) 2437014 (263.0 / 69.0) 31666	(4.47, 1.00) (0.00, N/A, 0.0)	2356.6 276.8	0.0130 109.0 109.0	3.7735 [4.0000]	94.3%			
PFHxA	(313.0 / 269.0) 1573614 (313.0 / 119.0) 174994	(5.40, 1.00) (0.00, N/A, 0.2)	3255.3 49463.5	0.1112 118.8 118.8	1.9604 [2.0000]	98.0%			
PFHpA	(363.0 / 319.0) 1362121 (363.0 / 169.0) 445296	(6.21, 1.00) (0.00, N/A, 0.0)	2703.6 3563.0	0.3269 103.6 103.6	1.9223 [2.0000]	96.1%			
PFOA	(413.0 / 369.0) 1733709 (413.0 / 169.0) 569454	(6.91, 1.00) (0.00, N/A, 0.1)	3176.7 21911.3	0.3285 97.1 97.1	1.9559 [2.0000]	97.8%			
PFNA	(463.0 / 419.0) 1365813 (463.0 / 169.0) 344762	(7.53, 1.00) (0.00, N/A, -0.1)	15852.2 151029.7	0.2524 107.8 107.8	1.9786 [2.0000]	98.9%			
PFDA	(513.0 / 469.0) 1646083 (513.0 / 169.0) 189871	(8.09, 1.00) (0.00, N/A, 0.5)	981.7 659.9	0.1153 93.1 93.1	2.0731 [2.0000]	103.7%			
PFUnA	(563.0 / 519.0) 1447666 (563.0 / 169.0) 185027	(8.58, 1.00) (0.00, N/A, 0.2)	971.6 1467.0	0.1278 118.8 118.8	1.7969 [2.0000]	89.8%			
PFDoA	(613.0 / 569.0) 1433036 (613.0 / 169.0) 265342	(8.88, 1.00) (0.00, N/A, -0.1)	1619.1 1187.3	0.1852 116.5 116.5	2.1009 [2.0000]	105.0%			
PFTrDA	(663.0 / 619.0) 1364367 (663.0 / 169.0) 377483	(9.09, 1.02) (N/A, 0.02, 0.0)	1093.2 972.3	0.2767 101.9 101.9	2.0787 [2.0000]	103.9%			
PFTeDA	(713.0 / 669.0) 1489305 (713.0 / 169.0) 313061	(9.26, 1.00) (0.00, N/A, 0.3)	1109.4 999.2	0.2102 96.1 96.1	1.8286 [2.0000]	91.4%			

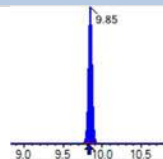
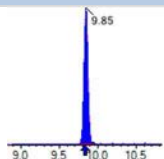
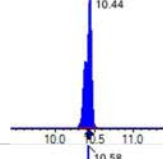
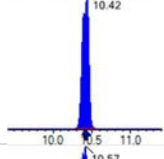
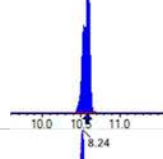
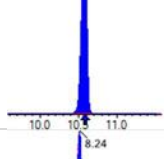
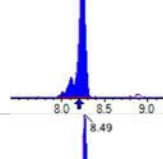
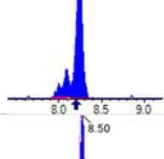
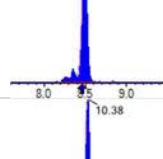
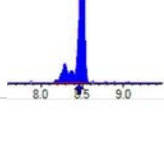
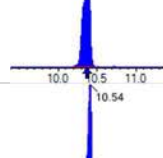
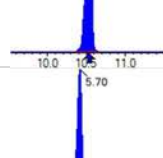
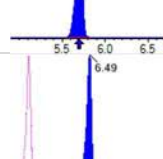
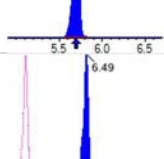
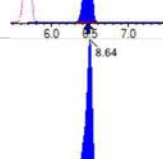
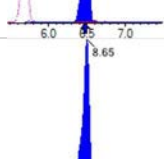
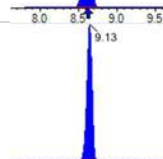
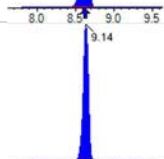
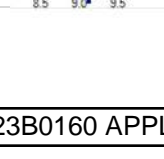
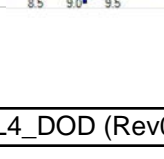


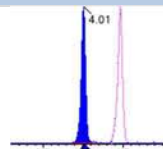
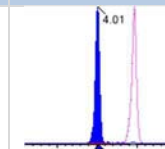
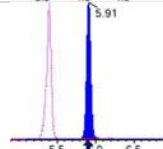
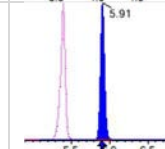
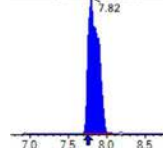
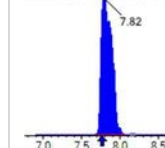
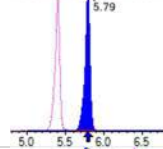
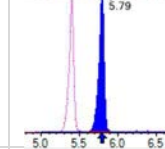
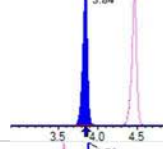
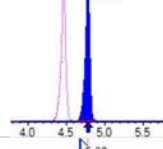
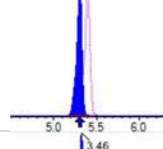
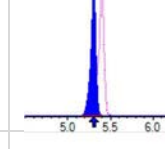
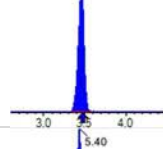
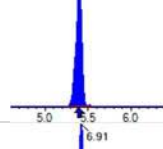
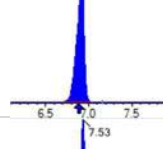
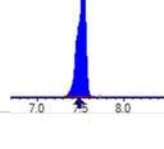
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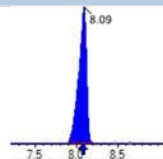
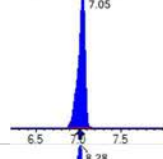
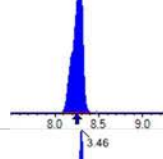
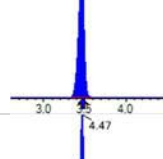
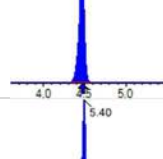
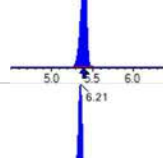
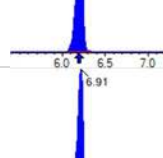
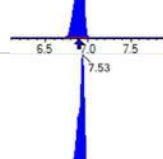
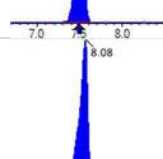
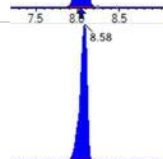
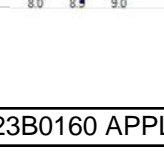
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 Acquisition Method: 1633 2023-02-14.dam

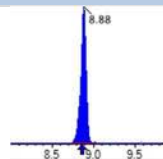
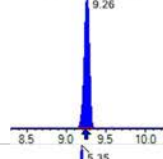
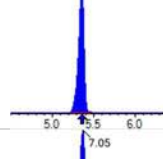
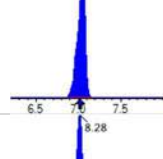
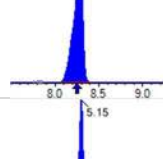
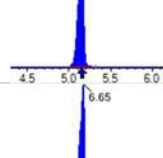
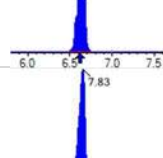
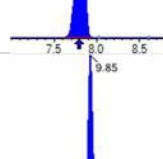
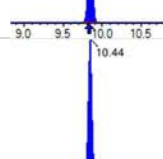
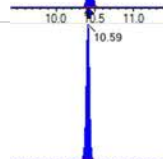
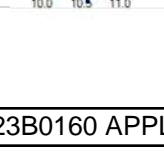
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 Path: S2023-02-28A (4)
 Acquired: 2023/02/28 - 16:31

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) 2793737 (299.0 / 99.0) 1698297	(5.35 , 1.00) (0.00 , N/A , 0.0)	1854.8 1652.6	0.6079 96.6 96.6	1.7650 [1.7695]	99.7%			
PFPeS	(349.0 / 80.0) 4739230 (349.0 / 99.0) 1555828	(6.27 , 0.89) (N/A , 0.02 , 0.0)	52180.7 8853757.1	0.3283 98.1 98.1	1.8521 [1.8768]	98.7%			
PFHxS	(399.0 / 80.0) 3714721 (399.0 / 99.0) 1275949	(7.05 , 1.00) (0.00 , N/A , 0.3)	4966.7 857.5	0.3435 107.3 107.3	1.6546 [1.8220]	90.8%			
PFHpS	(449.0 / 80.0) 4164441 (449.0 / 99.0) 1203176	(7.70 , 0.93) (N/A , 0.04 , 0.0)	1250763.1 2433.7	0.2889 106.4 106.4	1.9076 [1.9028]	100.2%			
PFOS	(499.0 / 80.0) 4805372 (499.0 / 99.0) 1022399	(8.28 , 1.00) (0.00 , N/A , 0.3)	288.4 428.6	0.2128 96.7 96.7	1.7960 [1.8550]	96.8%			
PFNS	(549.0 / 80.0) 5359766 (549.0 / 99.0) 1220427	(8.73 , 1.05) (N/A , 0.03 , 0.2)	1071105.7 102953.8	0.2277 94.6 94.6	2.0018 [1.9198]	104.3%			
PFDS	(599.0 / 80.0) 6045855 (599.0 / 99.0) 1237926	(8.98 , 1.08) (N/A , 0.02 , 0.1)	1547.9 1053.5	0.2048 101.2 101.2	2.0318 [1.9262]	105.5%			
PFDoS	(699.0 / 80.0) 2614022 (699.0 / 99.0) 499622	(9.33 , 1.13) (N/A , 0.01 , -0.1)	944.0 873.7	0.1911 97.8 97.8	1.9030 [1.9391]	98.1%			
4:2FTS	(327.0 / 307.0) 3532565 (327.0 / 81.0) 2357912	(5.15 , 1.00) (0.00 , N/A , 0.0)	2192.5 1237.0	0.6675 96.3 96.3	7.7615 [7.4762]	103.8%			
6:2FTS	(427.0 / 407.0) 1902823 (427.0 / 81.0) 1462000	(6.64 , 1.00) (0.00 , N/A , 0.1)	1490.4 1254.7	0.7683 90.7 90.7	7.4774 [7.5923]	98.5%			
8:2FTS	(527.0 / 507.0) 1550550 (527.0 / 81.0) 1290969	(7.83 , 1.00) (0.00 , N/A , 0.1)	940.8 1574.4	0.8326 102.1 102.1	7.5141 [7.6663]	98.0%			

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
PFOSA	(498.0 / 78.0) 7841826 (498.0 / 478.0) 139402	(9.85, 1.00) (0.00, N/A, 0.0)	3025.3 759.9	0.0178 90.5 90.5	2.0951 [2.0000]	104.8%			
NMeFOSA	(512.0 / 219.0) 7029796 (512.0 / 169.0) 5792823	(10.44, 1.00) (0.00, N/A, 1.1)	4347.7 7352.5	0.8240 99.7 99.7	8.1995 [8.0000]	102.5%			
NEIFOSA	(526.0 / 219.0) 7386563 (526.0 / 169.0) 9559463	(10.58, 1.00) (-0.01, N/A, 0.6)	12814.8 6845.3	1.2942 102.2 102.2	8.2050 [8.0000]	102.6%			
NMeFOSAA	(570.0 / 419.0) 609780 (570.0 / 483.0) 301348	(8.24, 1.00) (0.00, N/A, 0.0)	1023.7 225.8	0.4942 100.8 100.8	2.0743 [2.0000]	103.7%			
NEIFOSAA	(584.0 / 419.0) 476378 (584.0 / 526.0) 296111	(8.49, 1.00) (0.01, N/A, -0.3)	3396.7 926.5	0.6216 110.0 110.0	1.8606 [2.0000]	93.0%			
NMeFOSE	(616.0 / 59.0) 2838778	(10.38, 1.00) (0.01, N/A, 0.0)	2391.1	N/A 0.0 0.0	7.7446 [8.0000]	96.8%			
NEtFOSE	(630.0 / 59.0) 3278313	(10.54, 1.00) (0.01, N/A, 0.0)	1102.3	N/A 0.0 0.0	7.9731 [8.0000]	99.7%			
HFPO-DA	(285.0 / 169.0) 1639480 (285.0 / 185.0) 4591397	(5.70, 1.00) (0.00, N/A, -0.2)	1532.1 2560.1	2.8005 101.9 101.9	3.6719 [4.0000]	91.8%			
ADONA	(377.0 / 85.0) 6564313 (377.0 / 251.0) 559733	(6.49, 1.14) (N/A, 0.03, 0.0)	2563.4 884.9	0.0853 97.4 97.4	3.9614 [3.7708]	105.1%			
9CI-Pf3ONS	(531.0 / 351.0) 15459546 (533.0 / 353.0) 4606512	(8.64, 1.52) (N/A, 0.03, -0.1)	1602.6 1289.7	0.2980 101.2 101.2	3.9779 [3.7330]	106.6%			
11CI-PF3OUDS	(631.0 / 451.0) 7357657 (633.0 / 453.0) 2245051	(9.13, 1.60) (N/A, 0.02, -0.1)	1410.8 1419.1	0.3051 98.9 98.9	3.8507 [3.7728]	102.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 146366 (241.0 / 117.0) 226482	(4.01, 0.90) (N/A, -0.01, -0.1)	764.7 683.5	1.5474 89.2 89.2	7.6742 [8.0000]	95.9%			
5:3FTCA	(341.0 / 236.7) 885987 (341.0 / 217.0) 1493057	(5.91, 1.10) (N/A, 0.01, 0.1)	1357.5 1658.6	1.6852 100.2 100.2	7.7213 [8.0000]	96.5%			
7:3FTCA	(441.0 / 317.0) 1487973 (441.0 / 337.0) 1357096	(7.82, 1.45) (N/A, 0.03, 0.1)	591.5 527.7	0.9120 106.2 106.2	7.2130 [8.0000]	90.2%			
PFEESA	(315.0 / 135.0) 3649655 (315.0 / 83.0) 989296	(5.79, 1.07) (N/A, 0.01, -0.1)	2483.2 1061.1	0.2711 96.3 96.3	3.6589 [3.5698]	102.5%			
PFMPA	(229.0 / 85.0) 605828	(3.84, 0.86) (N/A, -0.01, 0.0)	2138.3	N/A 0.0 0.0	3.6689 [4.0000]	91.7%			
PFMBA	(279.0 / 85.0) 2144549	(4.78, 1.07) (N/A, 0.00, 0.0)	1856.2	N/A 0.0 0.0	3.7910 [4.0000]	94.8%			
NFDHA	(295.0 / 201.0) 1692427 (295.0 / 85.0) 1830348	(5.30, 0.98) (N/A, 0.01, 0.0)	1825.5 1722.6	1.0815 103.6 103.6	3.7908 [4.0000]	94.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 360206	(3.46, N/A) (N/A, -0.01, N/A)	1491.7	N/A	1.0625 [1.0000]	106.2% { 109.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 645560	(5.40, N/A) (N/A, 0.00, N/A)	1241.4	N/A	1.0854 [1.0000]	108.5% { 116.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 879294	(6.91, N/A) (N/A, 0.03, N/A)	1152.8	N/A	1.0810 [1.0000]	108.1% { 117.2% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 784728	(7.53, N/A) (N/A, 0.04, N/A)	596.7	N/A	1.0276 [1.0000]	102.8% { 103.1% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 760726	(8.09, N/A) (N/A, 0.03, N/A)	938.9	N/A	1.0597 [1.0000]	106.0% { 110.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1361278	(7.05, N/A) (N/A, 0.03, N/A)	1775.2	N/A	1.1053 [1.0000]	110.5% { 113.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1884590	(8.28, N/A) (N/A, 0.04, N/A)	913.5	N/A	1.0618 [1.0000]	106.2% { 108.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3607843	(3.46, N/A) (N/A, 0.00, N/A)	3262.4	N/A	8.4233 [8.0000]	105.3% { 123.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2931788	(4.47, N/A) (N/A, 0.00, N/A)	1988.0	N/A	4.0758 [4.0000]	101.9% { 120.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1720245	(5.40, N/A) (N/A, 0.01, N/A)	1781.8	N/A	1.9612 [2.0000]	98.1% { 112.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1587008	(6.21, N/A) (N/A, 0.02, N/A)	1672.0	N/A	1.9400 [2.0000]	97.0% { 112.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1839894	(6.91, N/A) (N/A, 0.03, N/A)	1579.8	N/A	1.9550 [2.0000]	97.7% { 110.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 730784	(7.53, N/A) (N/A, 0.04, N/A)	1059.9	N/A	0.9345 [1.0000]	93.5% { 103.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 800834	(8.08, N/A) (N/A, 0.05, N/A)	964.0	N/A	0.9095 [1.0000]	91.0% { 109.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 916176	(8.58, N/A) (N/A, 0.04, N/A)	1045.9	N/A	1.0503 [1.0000]	105.0% { 121.7% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 781819	(8.88, N/A) (N/A, 0.02, N/A)	961.0	N/A	0.9664 [1.0000]	96.6% { 106.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 885744	(9.26, N/A) (N/A, 0.02, N/A)	1144.9	N/A	1.0532 [1.0000]	105.3% { 123.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5567594	(5.35, N/A) (N/A, 0.00, N/A)	2826.2	N/A	2.0240 [2.0000]	101.2% { 122.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2850517	(7.05, N/A) (N/A, 0.03, N/A)	1193.5	N/A	1.9834 [2.0000]	99.2% { 120.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4848965	(8.28, N/A) (N/A, 0.04, N/A)	1086.3	N/A	1.9585 [2.0000]	97.9% { 113.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 645015	(5.15, N/A) (N/A, 0.00, N/A)	1234.8	N/A	3.8283 [4.0000]	95.7% { 124.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 780256	(6.65, N/A) (N/A, 0.03, N/A)	1113.3	N/A	4.1074 [4.0000]	102.7% { 132.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 735263	(7.83, N/A) (N/A, 0.04, N/A)	856.5	N/A	3.6601 [4.0000]	91.5% { 110.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9632878	(9.85, N/A) (N/A, 0.02, N/A)	2860.5	N/A	2.1121 [2.0000]	105.6% { 123.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1996541	(10.44, N/A) (N/A, 0.02, N/A)	2457.1	N/A	2.0387 [2.0000]	101.9% { 116.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1853372	(10.59, N/A) (N/A, 0.02, N/A)	2454.9	N/A	2.1614 [2.0000]	108.1% { 118.5% }			

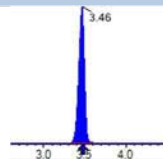
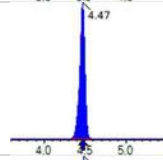
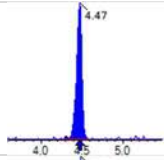
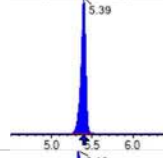
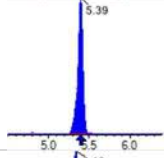
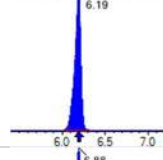
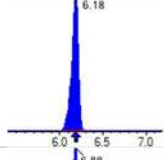
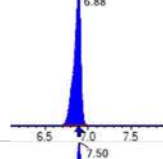
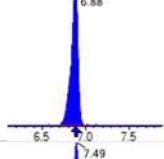
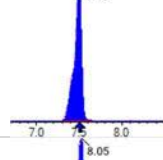
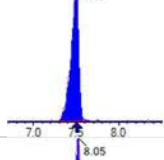
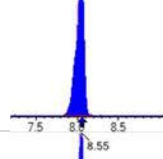
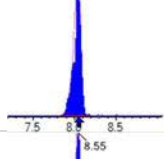
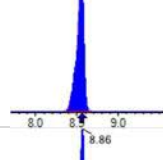
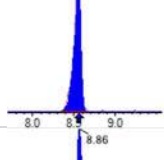
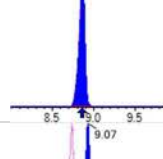
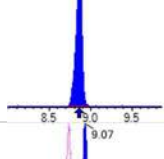
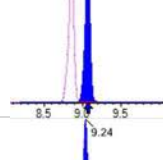
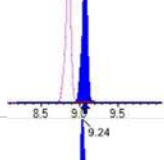
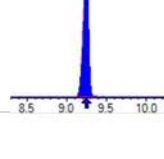
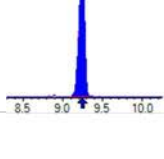


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (4)
 Acquired: 2023/02/28 - 16:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1375836	(8.24 , N/A) (N/A , 0.04 , N/A)	1203.7	N/A	3.9595 [4.0000]	99.0% { 106.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1174828	(8.49 , N/A) (N/A , 0.03 , N/A)	11028.6	N/A	3.9704 [4.0000]	99.3% { 121.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6996507	(10.38 , N/A) (N/A , 0.02 , N/A)	1537.8	N/A	20.9847 [20.0000]	104.9% { 115.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8138307	(10.54 , N/A) (N/A , 0.02 , N/A)	1520.9	N/A	21.3390 [20.0000]	106.7% { 118.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4356913	(5.70 , N/A) (N/A , 0.01 , N/A)	1993.4	N/A	7.9049 [8.0000]	98.8% { 116.5% }			

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
PFBA	(213.0 / 169.0) 6887982	(3.46, 1.00) (0.00, N/A, 0.0)	178.6	N/A 0.0 0.0	22.2419 [20.0000]	111.2%			
PFPeA	(263.0 / 219.0) 5837257 (263.0 / 69.0) 69565	(4.47, 1.00) (0.00, N/A, 0.1)	3551.0 286.4	0.0119 100.0 100.0	10.8683 [10.0000]	108.7%			
PFHxA	(313.0 / 269.0) 3859604 (313.0 / 119.0) 361138	(5.39, 1.00) (0.00, N/A, 0.0)	6341.4 2092.4	0.0936 100.0 100.0	5.3888 [5.0000]	107.8%			
PFHpA	(363.0 / 319.0) 3082886 (363.0 / 169.0) 973188	(6.19, 1.00) (0.00, N/A, 0.1)	4376.3 8634.7	0.3157 100.0 100.0	4.8857 [5.0000]	97.7%			
PFOA	(413.0 / 369.0) 4117111 (413.0 / 169.0) 1392975	(6.88, 1.00) (0.00, N/A, 0.3)	4757.1 8828.2	0.3383 100.0 100.0	5.1282 [5.0000]	102.6%			
PFNA	(463.0 / 419.0) 3488826 (463.0 / 169.0) 816729	(7.50, 1.00) (0.00, N/A, 0.2)	5185.8 1445.2	0.2341 100.0 100.0	5.2092 [5.0000]	104.2%			
PFDA	(513.0 / 469.0) 3981270 (513.0 / 169.0) 493389	(8.05, 1.00) (0.01, N/A, 0.0)	1319.6 442.8	0.1239 100.0 100.0	5.4676 [5.0000]	109.4%			
PFUnA	(563.0 / 519.0) 3556271 (563.0 / 169.0) 382747	(8.55, 1.00) (0.01, N/A, 0.0)	1457.7 903.2	0.1076 100.0 100.0	5.3732 [5.0000]	107.5%			
PFDoA	(613.0 / 569.0) 3274097 (613.0 / 169.0) 520170	(8.86, 1.00) (0.00, N/A, 0.0)	1539.4 998.3	0.1589 100.0 100.0	5.0927 [5.0000]	101.9%			
PFTrDA	(663.0 / 619.0) 3198043 (663.0 / 169.0) 868288	(9.07, 1.02) (N/A, 0.00, -0.2)	2124.5 1303.1	0.2715 100.0 100.0	5.1695 [5.0000]	103.4%			
PFTeDA	(713.0 / 669.0) 3435322 (713.0 / 169.0) 751087	(9.24, 1.00) (0.00, N/A, 0.1)	1573.9 912.2	0.2186 100.0 100.0	5.1954 [5.0000]	103.9%			

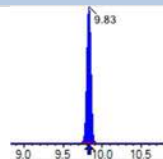
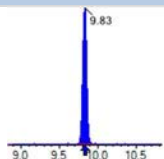
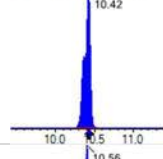
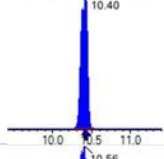
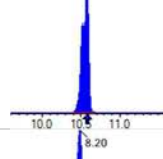
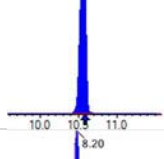
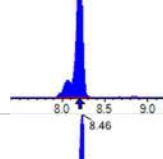
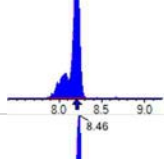
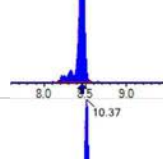
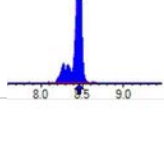
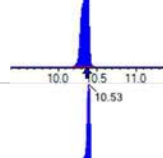
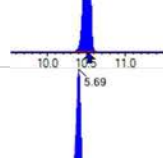
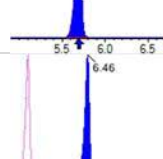
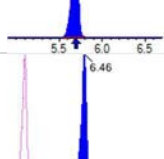
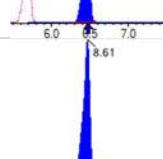
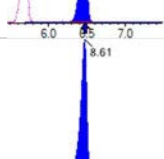
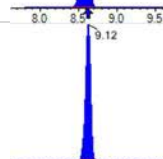
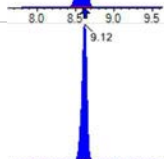
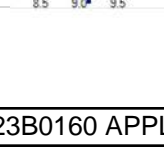
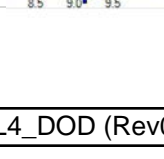


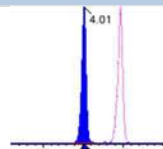
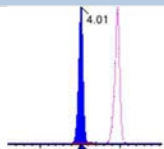
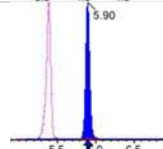
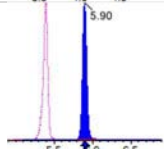
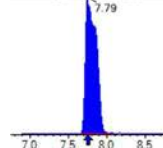
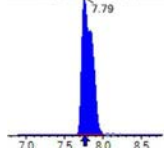
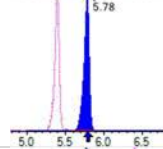
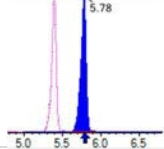
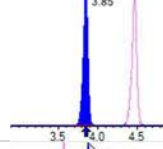
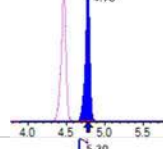
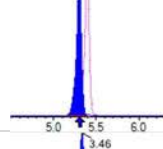
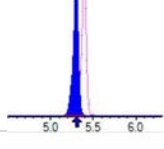
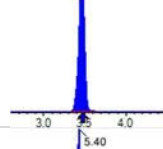
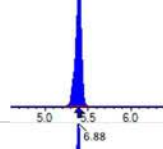
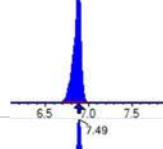
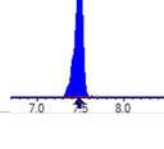
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

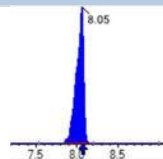
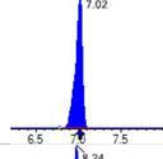
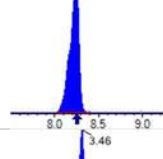
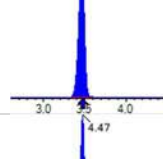
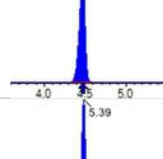
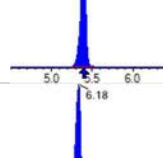
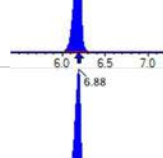
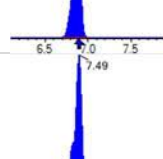
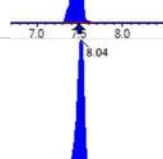
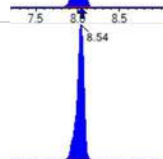
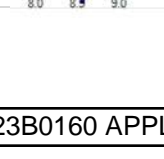
Sample I.D.: SC00840-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

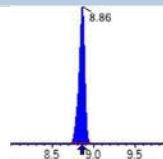
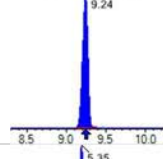
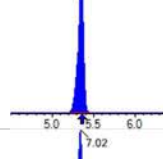
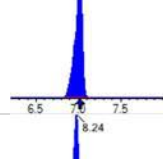
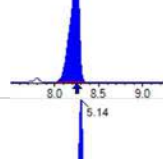
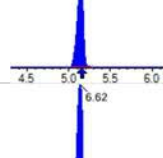
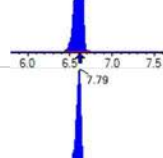
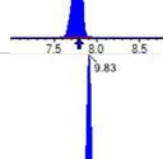
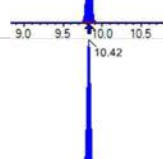
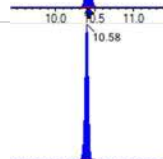
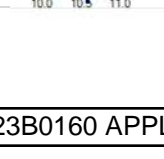
Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (5)
 Acquired: 2023/02/28 - 16:44

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
PFBS	(299.0 / 80.0) 6392257 (299.0 / 99.0) 4020950	(5.35 , 1.00) (0.00 , N/A , 0.0)	2259.7 2512.7	0.6290 100.0 100.0	4.9413 [4.4237]	111.7%			
PFPeS	(349.0 / 80.0) 11287040 (349.0 / 99.0) 3776028	(6.25 , 0.89) (N/A , 0.00 , 0.0)	1836879.2 278573.8	0.3345 100.0 100.0	5.3098 [4.6919]	113.2%			
PFHxS	(399.0 / 80.0) 9576642 (399.0 / 99.0) 3064686	(7.02 , 1.00) (0.00 , N/A , 0.2)	6710.1 2057.8	0.3200 100.0 100.0	5.1348 [4.5549]	112.7%			
PFHpS	(449.0 / 80.0) 10099121 (449.0 / 99.0) 2741856	(7.66 , 0.93) (N/A , 0.00 , 0.0)	27574.1 3023.4	0.2715 100.0 100.0	5.2502 [4.7570]	110.4%			
PFOS	(499.0 / 80.0) 11716008 (499.0 / 99.0) 2576734	(8.24 , 1.00) (0.00 , N/A , 0.1)	375.2 422.1	0.2199 100.0 100.0	4.9695 [4.6375]	107.2%			
PFNS	(549.0 / 80.0) 12692834 (549.0 / 99.0) 3054286	(8.70 , 1.06) (N/A , 0.00 , 0.0)	9516.6 33690.4	0.2406 100.0 100.0	5.3803 [4.7994]	112.1%			
PFDS	(599.0 / 80.0) 14131472 (599.0 / 99.0) 2860277	(8.96 , 1.09) (N/A , 0.00 , 0.1)	1888.5 1480.2	0.2024 100.0 100.0	5.3899 [4.8155]	111.9%			
PFDoS	(699.0 / 80.0) 7043385 (699.0 / 99.0) 1376106	(9.31 , 1.13) (N/A , 0.00 , 0.0)	1854.6 1342.4	0.1954 100.0 100.0	5.8193 [4.8478]	120.0%			
4:2FTS	(327.0 / 307.0) 7926427 (327.0 / 81.0) 5492761	(5.14 , 1.00) (0.00 , N/A , 0.0)	1931.3 1573.3	0.6930 100.0 100.0	21.6652 [18.6906]	115.9%			
6:2FTS	(427.0 / 407.0) 4266687 (427.0 / 81.0) 3615409	(6.62 , 1.00) (0.00 , N/A , 0.1)	1844.7 1832.6	0.8474 100.0 100.0	22.1428 [18.9808]	116.7%			
8:2FTS	(527.0 / 507.0) 3797855 (527.0 / 81.0) 3098407	(7.79 , 1.00) (0.00 , N/A , 0.1)	1632.5 1548.3	0.8158 100.0 100.0	20.3773 [19.1658]	106.3%			

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) 17171365 (498.0 / 478.0) 337395	(9.83, 1.00) (0.00, N/A, 0.0)	2359.1 872.8	0.0196 100.0 100.0	5.6725 [5.0000]	113.5%			
NMeFOSA	(512.0 / 219.0) 16368076 (512.0 / 169.0) 13521783	(10.42, 1.00) (0.00, N/A, 1.1)	3723.2 3362.7	0.8261 100.0 100.0	22.1703 [20.0000]	110.9%			
NEIFOSA	(526.0 / 219.0) 17256788 (526.0 / 169.0) 21852773	(10.56, 1.00) (-0.01, N/A, 0.5)	15298.3 13721.8	1.2663 100.0 100.0	22.7188 [20.0000]	113.6%			
NMeFOSAA	(570.0 / 419.0) 1340653 (570.0 / 483.0) 657372	(8.20, 1.00) (0.01, N/A, -0.1)	1581.8 516.7	0.4903 100.0 100.0	4.8771 [5.0000]	97.5%			
NEIFOSAA	(584.0 / 419.0) 1136513 (584.0 / 526.0) 642114	(8.46, 1.00) (0.01, N/A, 0.0)	1923.2 1563.0	0.5650 100.0 100.0	5.3891 [5.0000]	107.8%			
NMeFOSE	(616.0 / 59.0) 6713767	(10.37, 1.00) (0.01, N/A, 0.0)	2748.1	N/A 0.0 0.0	21.1765 [20.0000]	105.9%			
NEIFOSE	(630.0 / 59.0) 7617213	(10.53, 1.00) (0.01, N/A, 0.0)	1231.6	N/A 0.0 0.0	22.0141 [20.0000]	110.1%			
HFPO-DA	(285.0 / 169.0) 4044639 (285.0 / 185.0) 11118904	(5.69, 1.00) (0.00, N/A, 0.1)	1829.2 2567.4	2.7490 100.0 100.0	10.5559 [10.0000]	105.6%			
ADONA	(377.0 / 85.0) 15597637 (377.0 / 251.0) 1365342	(6.46, 1.14) (N/A, 0.00, 0.1)	2420.5 1069.0	0.0875 100.0 100.0	10.9683 [9.4270]	116.4%			
9CI-Pr3ONS	(531.0 / 351.0) 34989056 (533.0 / 353.0) 10306414	(8.61, 1.51) (N/A, 0.00, 0.0)	1896.9 1498.9	0.2946 100.0 100.0	10.4911 [9.3325]	112.4%			
11CI-PF3OUDS	(631.0 / 451.0) 17423179 (633.0 / 453.0) 5377206	(9.12, 1.60) (N/A, 0.00, -0.1)	2250.0 1533.2	0.3086 100.0 100.0	10.6258 [9.4321]	112.7%			

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) 304704 (241.0 / 117.0) 528426	(4.01, 0.90) (N/A, 0.00, 0.1)	1404.8 1425.4	1.7342 100.0 100.0	19.2104 [20.0000]	96.1%			
5:3FTCA	(341.0 / 236.7) 2127364 (341.0 / 217.0) 3577273	(5.90, 1.09) (N/A, 0.00, 0.0)	1973.1 1825.3	1.6816 100.0 100.0	20.7782 [20.0000]	103.9%			
7:3FTCA	(441.0 / 317.0) 3713939 (441.0 / 337.0) 3189506	(7.79, 1.44) (N/A, 0.00, 0.3)	919.4 703.9	0.8588 100.0 100.0	20.1770 [20.0000]	100.9%			
PFEESA	(315.0 / 135.0) 8678601 (315.0 / 83.0) 2443146	(5.78, 1.07) (N/A, 0.00, 0.1)	2157.1 1650.3	0.2815 100.0 100.0	9.7510 [8.9246]	109.3%			
PFMPA	(229.0 / 85.0) 1436993	(3.85, 0.86) (N/A, 0.00, 0.0)	2923.7	N/A 0.0 0.0	10.4644 [10.0000]	104.6%			
PFMBA	(279.0 / 85.0) 5400487	(4.78, 1.07) (N/A, 0.00, 0.0)	2597.0	N/A 0.0 0.0	11.4793 [10.0000]	114.8%			
NFDHA	(295.0 / 201.0) 4240196 (295.0 / 85.0) 4426346	(5.30, 0.98) (N/A, 0.00, 0.0)	1829.1 2739.3	1.0439 100.0 100.0	10.6441 [10.0000]	106.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 329787	(3.46, N/A) (N/A, 0.00, N/A)	1620.4	N/A	0.9728 [1.0000]	97.3% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 555825	(5.40, N/A) (N/A, 0.00, N/A)	1867.9	N/A	0.9345 [1.0000]	93.5% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 750225	(6.88, N/A) (N/A, 0.00, N/A)	1252.2	N/A	0.9223 [1.0000]	92.2% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 761426	(7.49, N/A) (N/A, 0.00, N/A)	990.9	N/A	0.9971 [1.0000]	99.7% { 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
13C2_PFDA_IIS	(515.0 / 470.1) 688199	(8.05, N/A) (N/A, 0.00, N/A)	716.6	N/A	0.9586 [1.0000]	95.9% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1200902	(7.02, N/A) (N/A, 0.00, N/A)	1243.1	N/A	0.9751 [1.0000]	97.5% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1732397	(8.24, N/A) (N/A, 0.00, N/A)	683.1	N/A	0.9761 [1.0000]	97.6% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2929578	(3.46, N/A) (N/A, 0.00, N/A)	2587.4	N/A	7.4706 [8.0000]	93.4% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2438177	(4.47, N/A) (N/A, 0.00, N/A)	2124.3	N/A	3.9368 [4.0000]	98.4% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1534930	(5.39, N/A) (N/A, 0.00, N/A)	1516.3	N/A	2.0324 [2.0000]	101.6% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1413227	(6.18, N/A) (N/A, 0.00, N/A)	1356.3	N/A	2.0064 [2.0000]	100.3% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1666410	(6.88, N/A) (N/A, 0.00, N/A)	1500.9	N/A	2.0753 [2.0000]	103.8% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 709037	(7.49, N/A) (N/A, 0.00, N/A)	994.0	N/A	0.9344 [1.0000]	93.4% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 734422	(8.04, N/A) (N/A, 0.00, N/A)	933.8	N/A	0.9220 [1.0000]	92.2% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 752654	(8.54, N/A) (N/A, 0.00, N/A)	938.2	N/A	0.9538 [1.0000]	95.4% { 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
13C2_PFDa_EIS	(615.0 / 570.0) 736893	(8.86, N/A) (N/A, 0.00, N/A)	1186.1	N/A	1.0069 [1.0000]	100.7% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 719115	(9.24, N/A) (N/A, 0.00, N/A)	1077.8	N/A	0.9452 [1.0000]	94.5% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4550353	(5.35, N/A) (N/A, 0.00, N/A)	1731.8	N/A	1.8751 [2.0000]	93.8% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2368002	(7.02, N/A) (N/A, 0.00, N/A)	1688.6	N/A	1.8677 [2.0000]	93.4% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4272491	(8.24, N/A) (N/A, 0.00, N/A)	736.0	N/A	1.8772 [2.0000]	93.9% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 518489	(5.14, N/A) (N/A, 0.00, N/A)	990.0	N/A	3.4883 [4.0000]	87.2% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 590812	(6.62, N/A) (N/A, 0.00, N/A)	948.0	N/A	3.5255 [4.0000]	88.1% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 664084	(7.79, N/A) (N/A, 0.00, N/A)	712.1	N/A	3.7473 [4.0000]	93.7% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7790712	(9.83, N/A) (N/A, 0.00, N/A)	2362.7	N/A	1.8583 [2.0000]	92.9% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1719281	(10.42, N/A) (N/A, 0.00, N/A)	2324.2	N/A	1.9098 [2.0000]	95.5% { 100.0% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1563780	(10.58, N/A) (N/A, 0.00, N/A)	2719.7	N/A	1.9839 [2.0000]	99.2% { 100.0% }			

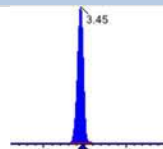
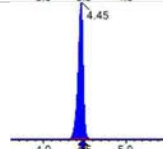
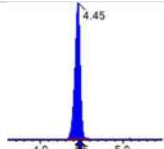
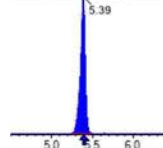
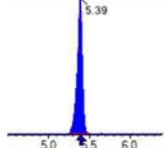
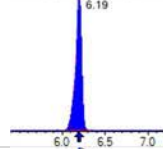
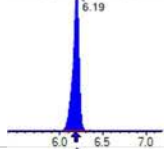
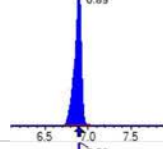
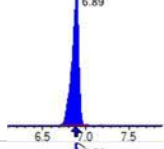
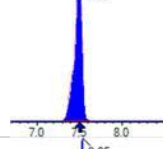
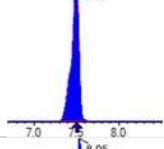
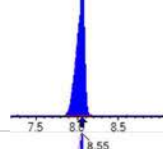
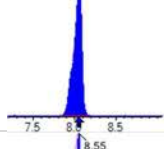
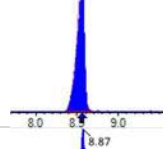
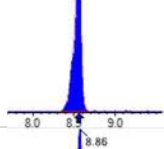
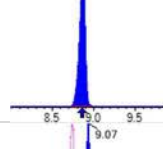
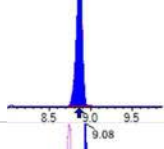
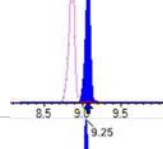
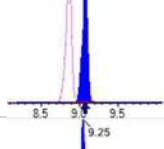
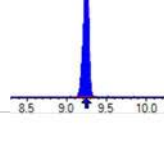
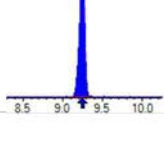


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (5)
 Acquired: 2023/02/28 - 16:44

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1286524	(8.20 , N/A) (N/A , 0.00 , N/A)	1608.8	N/A	4.0277 [4.0000]	100.7% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 967676	(8.45 , N/A) (N/A , 0.00 , N/A)	3585.1	N/A	3.5576 [4.0000]	88.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6051457	(10.36 , N/A) (N/A , 0.00 , N/A)	1774.7	N/A	19.7447 [20.0000]	98.7% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6848678	(10.52 , N/A) (N/A , 0.00 , N/A)	1242.9	N/A	19.5351 [20.0000]	97.7% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3738967	(5.69 , N/A) (N/A , 0.00 , N/A)	2143.5	N/A	7.8789 [8.0000]	98.5% { 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
PFBA	(213.0 / 169.0) 13756191	(3.45, 1.00) (0.00, N/A, 0.0)	212.4	N/A 0.0 0.0	45.1688 [40.0000]	112.9%			
PFPeA	(263.0 / 219.0) 12096908 (263.0 / 69.0) 141038	(4.45, 1.00) (0.00, N/A, 0.1)	4551.8 1132.1	0.0117 97.8 97.8	23.3254 [20.0000]	116.6%			
PFHxA	(313.0 / 269.0) 7628712 (313.0 / 119.0) 762945	(5.39, 1.00) (0.00, N/A, 0.1)	5235.5 698940.0	0.1000 106.9 106.9	10.9129 [10.0000]	109.1%			
PFHpA	(363.0 / 319.0) 6730357 (363.0 / 169.0) 2062280	(6.19, 1.00) (0.00, N/A, 0.0)	8528.4 12388.9	0.3064 97.1 97.1	10.5540 [10.0000]	105.5%			
PFOA	(413.0 / 369.0) 8093602 (413.0 / 169.0) 2824786	(6.89, 1.00) (0.00, N/A, 0.0)	5483.0 129898.8	0.3490 103.2 103.2	10.4658 [10.0000]	104.7%			
PFNA	(463.0 / 419.0) 7308938 (463.0 / 169.0) 1544360	(7.50, 1.00) (0.00, N/A, 0.0)	8599.7 1209929.3	0.2113 90.3 90.3	10.7310 [10.0000]	107.3%			
PFDA	(513.0 / 469.0) 8220287 (513.0 / 169.0) 936600	(8.05, 1.00) (0.00, N/A, 0.1)	1821.6 1089.9	0.1139 91.9 91.9	11.1683 [10.0000]	111.7%			
PFUnA	(563.0 / 519.0) 6725530 (563.0 / 169.0) 838964	(8.55, 1.00) (0.01, N/A, 0.0)	1685.8 632.7	0.1247 115.9 115.9	10.4366 [10.0000]	104.4%			
PFDoA	(613.0 / 569.0) 7041213 (613.0 / 169.0) 1097210	(8.87, 1.00) (0.00, N/A, 0.1)	1642.2 999.2	0.1558 98.1 98.1	11.8918 [10.0000]	118.9%			
PFTTrDA	(663.0 / 619.0) 6352079 (663.0 / 169.0) 1408071	(9.07, 1.02) (N/A, 0.00, -0.3)	1643.1 1357.6	0.2217 81.6 81.6	11.1486 [10.0000]	111.5%			
PFTeDA	(713.0 / 669.0) 6953839 (713.0 / 169.0) 1458805	(9.25, 1.00) (0.00, N/A, 0.1)	1868.8 1375.3	0.2098 96.0 96.0	10.9787 [10.0000]	109.8%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (6)
 Acquired: 2023/02/28 - 16:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 12977840 (299.0 / 99.0) 7939442	(5.34, 1.00) (0.00, N/A, 0.0)	2308.0 2277.1	0.6118 97.3 97.3	9.9966 [8.8473]	113.0%			
PFPeS	(349.0 / 80.0) 21980088 (349.0 / 99.0) 7657852	(6.26, 0.89) (N/A, 0.01, -0.1)	12552.9 74884.5	0.3484 104.1 104.1	10.3002 [9.3838]	109.8%			
PFHxS	(399.0 / 80.0) 19582487 (399.0 / 99.0) 6332147	(7.02, 1.00) (0.00, N/A, 0.1)	7421.0 28788.2	0.3234 101.0 101.0	10.4590 [9.1098]	114.8%			
PFHpS	(449.0 / 80.0) 21196242 (449.0 / 99.0) 5607040	(7.67, 0.93) (N/A, 0.00, 0.1)	17960.6 109693.1	0.2645 97.4 97.4	10.8116 [9.5141]	113.6%			
PFOS	(499.0 / 80.0) 24116485 (499.0 / 99.0) 4922727	(8.25, 1.00) (0.00, N/A, 0.0)	364.6 548.8	0.2041 92.8 92.8	10.0367 [9.2749]	108.2%			
PFNS	(549.0 / 80.0) 25332042 (549.0 / 99.0) 5570113	(8.71, 1.06) (N/A, 0.00, 0.1)	6278.0 21597.1	0.2199 91.4 91.4	10.5356 [9.5989]	109.8%			
PFDS	(599.0 / 80.0) 28143793 (599.0 / 99.0) 5958051	(8.97, 1.09) (N/A, 0.00, 0.1)	2480.6 1769.0	0.2117 104.6 104.6	10.5322 [9.6311]	109.4%			
PFDoS	(699.0 / 80.0) 13398721 (699.0 / 99.0) 2532090	(9.32, 1.13) (N/A, 0.00, -0.1)	2343.1 1388.9	0.1890 96.7 96.7	10.8616 [9.6956]	112.0%			
4:2FTS	(327.0 / 307.0) 16267687 (327.0 / 81.0) 10789759	(5.13, 1.00) (0.00, N/A, -0.1)	2385.1 2040.9	0.6633 95.7 95.7	46.9279 [37.3811]	125.5%			
6:2FTS	(427.0 / 407.0) 8704318 (427.0 / 81.0) 7312928	(6.63, 1.00) (0.00, N/A, 0.0)	2162.2 2275.0	0.8401 99.1 99.1	44.6757 [37.9617]	117.7%			
8:2FTS	(527.0 / 507.0) 7908197 (527.0 / 81.0) 6505276	(7.80, 1.00) (0.00, N/A, -0.2)	1673.9 1834.2	0.8226 100.8 100.8	39.4573 [38.3315]	102.9%			

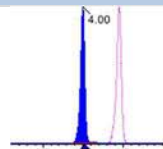
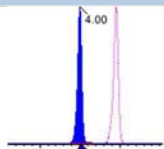
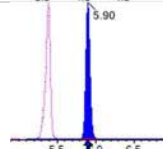
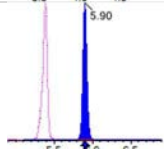
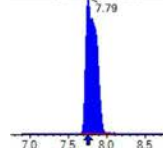
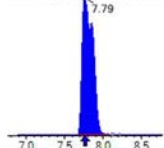
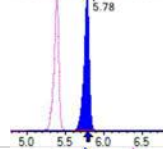
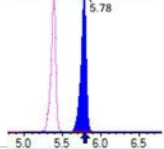
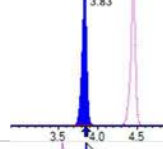
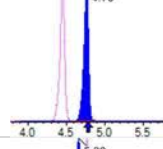
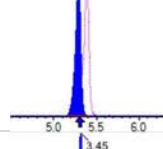
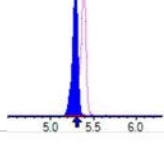
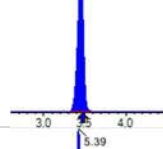
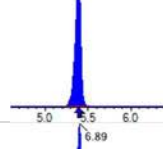
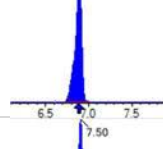
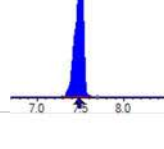


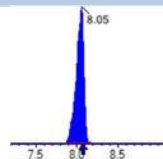
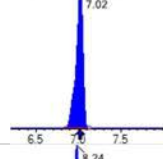
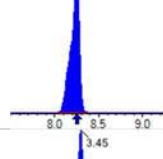
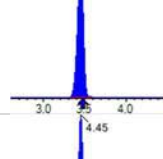
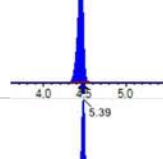
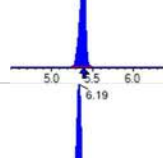
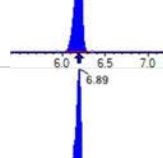
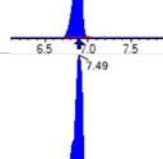
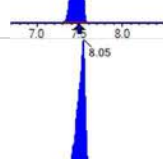
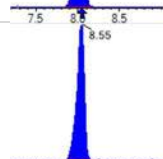
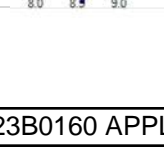
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

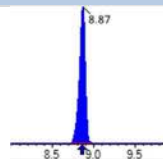
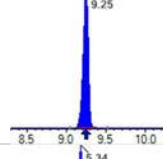
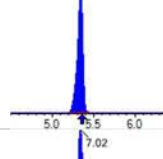
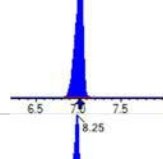
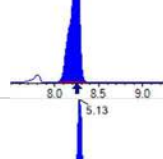
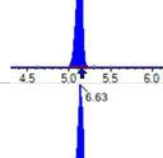
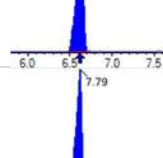
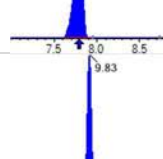
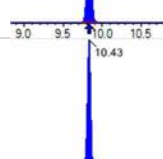
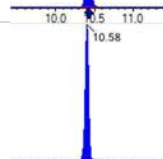
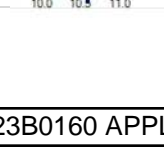
Sample I.D.: SC00840-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

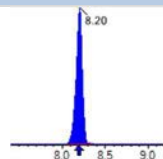
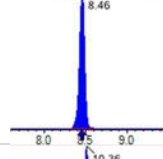
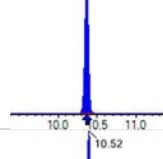
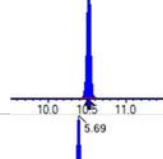
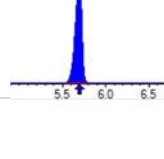
Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (6)
 Acquired: 2023/02/28 - 16:56

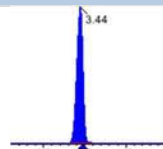
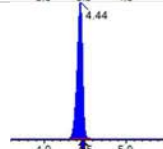
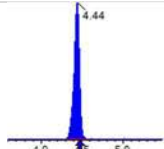
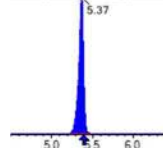
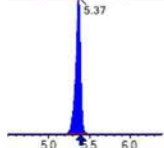
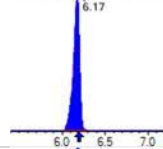
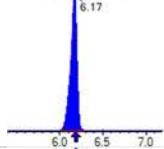
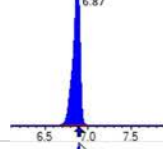
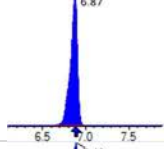
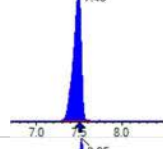
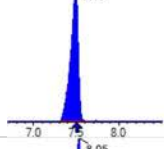
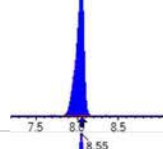
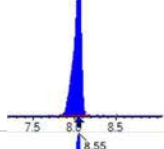
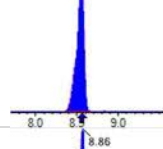
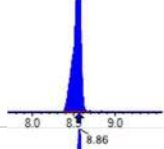
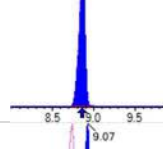
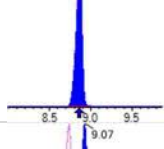
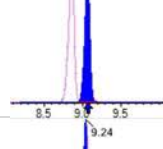
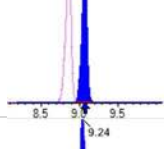
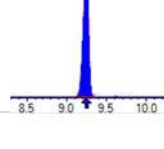
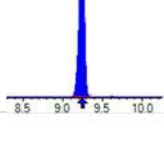
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 31312377 (498.0 / 478.0) 678872	(9.83 , 1.00) (0.00 , N/A , 0.0)	2478.3 1594.4	0.0217 110.3 110.3	10.5200 [10.0000]	105.2%			
NMeFOSA	(512.0 / 219.0) 30750368 (512.0 / 169.0) 25658212	(10.42 , 1.00) (0.00 , N/A , 0.8)	2777.8 4757.7	0.8344 101.0 101.0	42.4322 [40.0000]	106.1%			
NEIFOSA	(526.0 / 219.0) 32433415 (526.0 / 169.0) 38954221	(10.57 , 1.00) (-0.01 , N/A , 0.4)	10684.8 10309.0	1.2011 94.8 94.8	45.2092 [40.0000]	113.0%			
NMeFOSAA	(570.0 / 419.0) 2604111 (570.0 / 483.0) 1318093	(8.21 , 1.00) (0.01 , N/A , 0.0)	2086.3 472.3	0.5062 103.2 103.2	10.3978 [10.0000]	104.0%			
NEIFOSAA	(584.0 / 419.0) 2386967 (584.0 / 526.0) 1238724	(8.46 , 1.00) (0.01 , N/A , 0.0)	2092.6 1743.6	0.5190 91.9 91.9	10.8287 [10.0000]	108.3%			
NMeFOSE	(616.0 / 59.0) 13284521	(10.37 , 1.00) (0.01 , N/A , 0.0)	3543.7	N/A 0.0 0.0	44.5128 [40.0000]	111.3%			
NEtFOSE	(630.0 / 59.0) 15130991	(10.53 , 1.00) (0.01 , N/A , 0.0)	1041.8	N/A 0.0 0.0	43.9064 [40.0000]	109.8%			
HFPO-DA	(285.0 / 169.0) 8522632 (285.0 / 185.0) 21710472	(5.69 , 1.00) (0.00 , N/A , 0.1)	2322.0 2558.3	2.5474 92.7 92.7	22.2268 [20.0000]	111.1%			
ADONA	(377.0 / 85.0) 30190474 (377.0 / 251.0) 2788031	(6.47 , 1.14) (N/A , 0.01 , -0.1)	2326.7 1959.1	0.0923 105.5 105.5	21.2148 [18.8540]	112.5%			
9CI-Pf3ONS	(531.0 / 351.0) 64220531 (533.0 / 353.0) 21002770	(8.61 , 1.51) (N/A , 0.00 , -0.2)	1841.9 2062.2	0.3270 111.0 111.0	19.2419 [18.6651]	103.1%			
11CI-PF3OUDS	(631.0 / 451.0) 31798587 (633.0 / 453.0) 10440648	(9.12 , 1.60) (N/A , 0.00 , -0.2)	1618.6 1530.7	0.3283 106.4 106.4	19.3788 [18.8642]	102.7%			

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) 681185 (241.0 / 117.0) 1074158	(4.00, 0.90) (N/A, -0.02, 0.0)	1390.7 1557.7	1.5769 90.9 90.9	44.4762 [40.0000]	111.2%			
5:3FTCA	(341.0 / 236.7) 4336443 (341.0 / 217.0) 7350647	(5.90, 1.10) (N/A, 0.00, 0.0)	2329.2 1923.9	1.6951 100.8 100.8	43.3947 [40.0000]	108.5%			
7:3FTCA	(441.0 / 317.0) 7430997 (441.0 / 337.0) 6401756	(7.79, 1.45) (N/A, 0.00, -0.1)	847.0 747.9	0.8615 100.3 100.3	41.3624 [40.0000]	103.4%			
PFEESA	(315.0 / 135.0) 17691646 (315.0 / 83.0) 4686976	(5.78, 1.07) (N/A, 0.00, 0.0)	2594.2 2429.5	0.2649 94.1 94.1	20.3659 [17.8492]	114.1%			
PFMPA	(229.0 / 85.0) 2952170	(3.83, 0.86) (N/A, -0.02, 0.0)	2852.7	N/A 0.0 0.0	22.2640 [20.0000]	111.3%			
PFMBA	(279.0 / 85.0) 10963289	(4.76, 1.07) (N/A, -0.02, 0.0)	2433.9	N/A 0.0 0.0	24.1339 [20.0000]	120.7%			
NFDHA	(295.0 / 201.0) 8574949 (295.0 / 85.0) 8583239	(5.29, 0.98) (N/A, -0.01, -0.1)	2419.3 2688.3	1.0010 95.9 95.9	22.0541 [20.0000]	110.3%			
13C3_PFBAA_IIS	(216.0 / 172.0) 334286	(3.45, N/A) (N/A, -0.01, N/A)	1399.2	N/A	0.9860 [1.0000]	98.6% { 101.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 579108	(5.39, N/A) (N/A, -0.01, N/A)	1279.8	N/A	0.9737 [1.0000]	97.4% { 104.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 835085	(6.89, N/A) (N/A, 0.01, N/A)	950.6	N/A	1.0266 [1.0000]	102.7% { 111.3% }			
13C5_PFNAA_IIS	(468.0 / 423.0) 770134	(7.50, N/A) (N/A, 0.01, N/A)	751.5	N/A	1.0085 [1.0000]	100.9% { 101.1% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 754411	(8.05, N/A) (N/A, 0.00, N/A)	1794.3	N/A	1.0509 [1.0000]	105.1% { 109.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1188785	(7.02, N/A) (N/A, 0.00, N/A)	1465.1	N/A	0.9653 [1.0000]	96.5% { 99.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1798446	(8.24, N/A) (N/A, 0.01, N/A)	1218.7	N/A	1.0133 [1.0000]	101.3% { 103.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2881013	(3.45, N/A) (N/A, -0.01, N/A)	2734.6	N/A	7.2479 [8.0000]	90.6% { 98.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2354297	(4.45, N/A) (N/A, -0.02, N/A)	2212.4	N/A	3.6486 [4.0000]	91.2% { 96.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1498135	(5.39, N/A) (N/A, -0.01, N/A)	1965.1	N/A	1.9040 [2.0000]	95.2% { 97.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1428247	(6.19, N/A) (N/A, 0.01, N/A)	1318.0	N/A	1.9462 [2.0000]	97.3% { 101.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1605188	(6.89, N/A) (N/A, 0.01, N/A)	1288.6	N/A	1.7959 [2.0000]	89.8% { 96.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 721057	(7.49, N/A) (N/A, 0.00, N/A)	1444.7	N/A	0.9395 [1.0000]	94.0% { 101.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 742371	(8.05, N/A) (N/A, 0.02, N/A)	951.4	N/A	0.8502 [1.0000]	85.0% { 101.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 732822	(8.55, N/A) (N/A, 0.00, N/A)	893.1	N/A	0.8471 [1.0000]	84.7% { 97.4% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 678675	(8.87, N/A) (N/A, 0.01, N/A)	2772.2	N/A	0.8459 [1.0000]	84.6% { 92.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 688843	(9.25, N/A) (N/A, 0.01, N/A)	739.3	N/A	0.8259 [1.0000]	82.6% { 95.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4566480	(5.34, N/A) (N/A, -0.01, N/A)	1958.9	N/A	1.9009 [2.0000]	95.0% { 100.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2377218	(7.02, N/A) (N/A, 0.00, N/A)	1309.9	N/A	1.8941 [2.0000]	94.7% { 100.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4354524	(8.25, N/A) (N/A, 0.00, N/A)	434.0	N/A	1.8430 [2.0000]	92.2% { 101.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 491270	(5.13, N/A) (N/A, -0.02, N/A)	885.7	N/A	3.3388 [4.0000]	83.5% { 94.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 597386	(6.63, N/A) (N/A, 0.01, N/A)	975.8	N/A	3.6010 [4.0000]	90.0% { 101.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 714138	(7.79, N/A) (N/A, 0.01, N/A)	1008.7	N/A	4.0708 [4.0000]	101.8% { 107.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7660367	(9.83, N/A) (N/A, 0.01, N/A)	2237.9	N/A	1.7601 [2.0000]	88.0% { 98.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1687624	(10.43, N/A) (N/A, 0.00, N/A)	2364.0	N/A	1.8058 [2.0000]	90.3% { 98.2% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1476954	(10.58, N/A) (N/A, 0.00, N/A)	2489.8	N/A	1.8049 [2.0000]	90.2% { 94.4% }			

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1172136	(8.20 , N/A) (N/A , 0.01 , N/A)	1163.1	N/A	3.5348 [4.0000]	88.4% { 91.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1011453	(8.46 , N/A) (N/A , 0.00 , N/A)	57422.4	N/A	3.5820 [4.0000]	89.6% { 104.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5696500	(10.36 , N/A) (N/A , 0.00 , N/A)	1990.5	N/A	17.9039 [20.0000]	89.5% { 94.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6821043	(10.52 , N/A) (N/A , 0.00 , N/A)	1437.2	N/A	18.7417 [20.0000]	93.7% { 99.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3741666	(5.69 , N/A) (N/A , 0.00 , N/A)	2136.5	N/A	7.5676 [8.0000]	94.6% { 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
PFBA	(213.0 / 169.0) 23383373	(3.44, 1.00) (0.00, N/A, 0.0)	178.6	N/A 0.0 0.0	78.0490 [80.0000]	97.6%			
PFPeA	(263.0 / 219.0) 21458957 (263.0 / 69.0) 247776	(4.44, 1.00) (0.00, N/A, 0.0)	5369.8 1044.0	0.0115 96.9 96.9	38.7834 [40.0000]	97.0%			
PFHxA	(313.0 / 269.0) 14427222 (313.0 / 119.0) 1437857	(5.37, 1.00) (0.00, N/A, 0.0)	6552.7 208683.0	0.0997 106.5 106.5	19.6900 [20.0000]	98.4%			
PFHpA	(363.0 / 319.0) 12828245 (363.0 / 169.0) 3914525	(6.17, 1.00) (0.00, N/A, 0.0)	8203.2 30700.4	0.3051 96.7 96.7	20.9762 [20.0000]	104.9%			
PFOA	(413.0 / 369.0) 15358487 (413.0 / 169.0) 5405302	(6.87, 1.00) (0.00, N/A, -0.1)	6552.7 8960.8	0.3519 104.0 104.0	19.3192 [20.0000]	96.6%			
PFNA	(463.0 / 419.0) 13722178 (463.0 / 169.0) 3139510	(7.48, 1.00) (0.00, N/A, -0.1)	6782.1 997608.1	0.2288 97.7 97.7	19.0472 [20.0000]	95.2%			
PFDA	(513.0 / 469.0) 15164091 (513.0 / 169.0) 1754409	(8.05, 1.00) (0.00, N/A, 0.0)	1977.5 791.4	0.1157 93.4 93.4	18.3770 [20.0000]	91.9%			
PFUnA	(563.0 / 519.0) 13518716 (563.0 / 169.0) 1506565	(8.55, 1.00) (-0.01, N/A, 0.0)	1803.3 987.4	0.1114 103.5 103.5	18.7830 [20.0000]	93.9%			
PFDoA	(613.0 / 569.0) 12908177 (613.0 / 169.0) 2110662	(8.86, 1.00) (0.00, N/A, 0.1)	1612.7 1268.2	0.1635 102.9 102.9	20.6337 [20.0000]	103.2%			
PFTrDA	(663.0 / 619.0) 11417572 (663.0 / 169.0) 2735060	(9.07, 1.02) (N/A, 0.00, -0.1)	2153.2 1270.0	0.2395 88.2 88.2	18.9665 [20.0000]	94.8%			
PFTeDA	(713.0 / 669.0) 13577078 (713.0 / 169.0) 2681370	(9.24, 1.00) (0.00, N/A, 0.1)	2625.5 1433.6	0.1975 90.3 90.3	20.1334 [20.0000]	100.7%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (7)
 Acquired: 2023/02/28 - 17:09

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
PFBS	(299.0 / 80.0) 22103106 (299.0 / 99.0) 14346921	(5.32, 1.00) (0.00, N/A, 0.0)	2399.5 2490.8	0.6491 103.2 103.2	17.2096 [17.6947]	97.3%			
PFPeS	(349.0 / 80.0) 39527279 (349.0 / 99.0) 14957759	(6.23, 0.89) (N/A, -0.02, -0.1)	12745.1 16575.6	0.3784 113.1 113.1	17.3040 [18.7676]	92.2%			
PFHxS	(399.0 / 80.0) 36183370 (399.0 / 99.0) 12034566	(7.01, 1.00) (0.00, N/A, 0.0)	8088.8 13392.5	0.3326 103.9 103.9	18.0536 [18.2197]	99.1%			
PFHpS	(449.0 / 80.0) 39494451 (449.0 / 99.0) 11202590	(7.66, 0.93) (N/A, 0.00, 0.1)	12534.6 46835.5	0.2836 104.5 104.5	18.9442 [19.0281]	99.6%			
PFOS	(499.0 / 80.0) 44333658 (499.0 / 99.0) 9725121	(8.24, 1.00) (0.00, N/A, -0.1)	349.7 622.1	0.2194 99.7 99.7	17.3509 [18.5499]	93.5%			
PFNS	(549.0 / 80.0) 46250056 (549.0 / 99.0) 11082689	(8.70, 1.06) (N/A, 0.00, -0.1)	8064.5 20553.9	0.2396 99.6 99.6	18.0889 [19.1977]	94.2%			
PFDS	(599.0 / 80.0) 47732243 (599.0 / 99.0) 10914827	(8.96, 1.09) (N/A, 0.00, 0.0)	2994.9 1968.7	0.2287 113.0 113.0	16.7981 [19.2621]	87.2%			
PFDoS	(699.0 / 80.0) 24262994 (699.0 / 99.0) 4721414	(9.31, 1.13) (N/A, 0.00, 0.0)	2020.0 2409.4	0.1946 99.6 99.6	18.4964 [19.3913]	95.4%			
4:2FTS	(327.0 / 307.0) 29767148 (327.0 / 81.0) 20604226	(5.11, 1.00) (0.00, N/A, 0.0)	1811.1 2139.1	0.6922 99.9 99.9	69.5480 [74.7622]	93.0%			
6:2FTS	(427.0 / 407.0) 16320654 (427.0 / 81.0) 14608467	(6.61, 1.00) (0.00, N/A, 0.1)	2530.3 2769.3	0.8951 105.6 105.6	75.9834 [75.9234]	100.1%			
8:2FTS	(527.0 / 507.0) 15535552 (527.0 / 81.0) 12858497	(7.79, 1.00) (0.01, N/A, 0.0)	2045.7 2402.4	0.8277 101.5 101.5	73.2925 [76.6631]	95.6%			

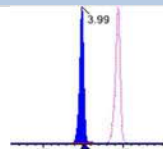
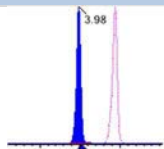
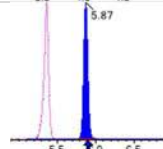
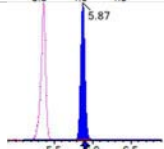
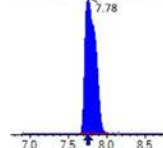
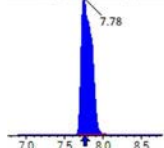
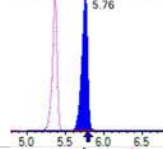
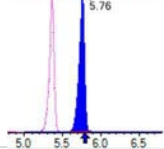
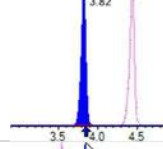
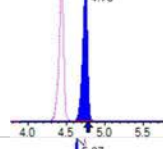
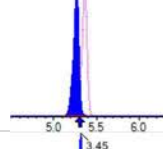
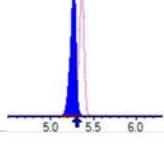
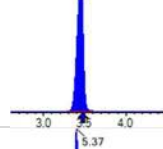
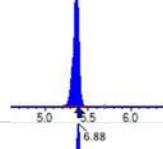
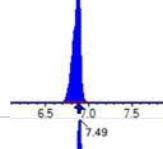
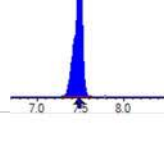


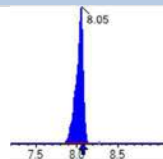
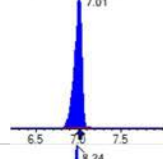
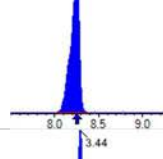
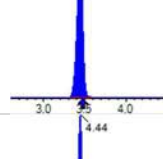
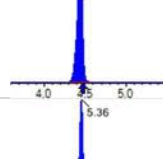
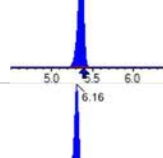
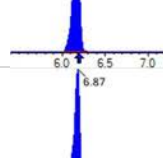
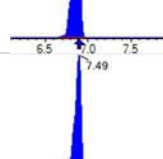
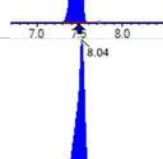
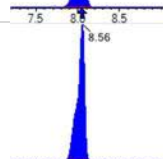
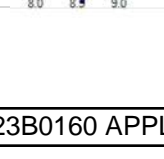
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

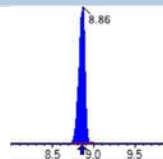
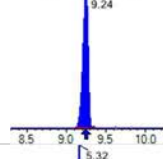
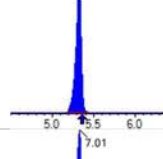
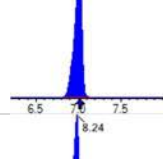
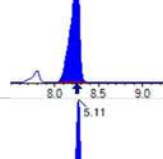
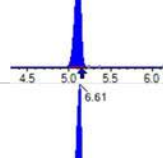
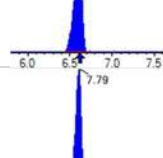
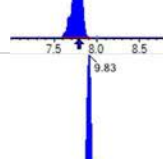
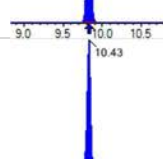
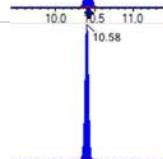
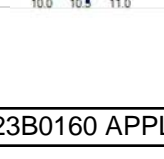
Sample I.D.: SC00840-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (7)
 Acquired: 2023/02/28 - 17:09

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) 47309564 (498.0 / 478.0) 1208162	(9.83 , 1.00) (0.00 , N/A , 0.0)	2587.2 1996.0	0.0255 130.0 130.0	15.7269 [20.0000]	78.6%			
NMeFOSA	(512.0 / 219.0) 50633693 (512.0 / 169.0) 42887648	(10.42 , 1.00) (-0.01 , N/A , 0.7)	2632.2 3591.1	0.8470 102.5 102.5	67.1487 [80.0000]	83.9%			
NEIFOSA	(526.0 / 219.0) 52831618 (526.0 / 169.0) 59879381	(10.56 , 1.00) (-0.01 , N/A , 0.2)	16358.7 16873.8	1.1334 89.5 89.5	75.9802 [80.0000]	95.0%			
NMeFOSAA	(570.0 / 419.0) 5372240 (570.0 / 483.0) 2423733	(8.20 , 1.00) (0.01 , N/A , -0.1)	2518.8 570.4	0.4512 92.0 92.0	20.3244 [20.0000]	101.6%			
NEIFOSAA	(584.0 / 419.0) 4636112 (584.0 / 526.0) 2673056	(8.46 , 1.00) (0.01 , N/A , -0.1)	2447.4 1722.5	0.5766 102.1 102.1	19.4219 [20.0000]	97.1%			
NMeFOSE	(616.0 / 59.0) 23903925	(10.37 , 1.00) (0.00 , N/A , 0.0)	3144.6	N/A 0.0 0.0	79.4621 [80.0000]	99.3%			
NEtFOSE	(630.0 / 59.0) 25464529	(10.53 , 1.00) (0.00 , N/A , 0.0)	997.0	N/A 0.0 0.0	79.2966 [80.0000]	99.1%			
HFPO-DA	(285.0 / 169.0) 16096251 (285.0 / 185.0) 37305083	(5.67 , 1.00) (0.00 , N/A , 0.0)	2168.1 2710.8	2.3176 84.3 84.3	39.5969 [40.0000]	99.0%			
ADONA	(377.0 / 85.0) 50291844 (377.0 / 251.0) 5091270	(6.45 , 1.14) (N/A , -0.02 , -0.2)	2013.6 1620.8	0.1012 115.7 115.7	33.3350 [37.7080]	88.4%			
9CI-Pf3ONS	(531.0 / 351.0) 95741997 (533.0 / 353.0) 37415789	(8.61 , 1.52) (N/A , -0.01 , -0.4)	1281.7 1930.6	0.3908 132.7 132.7	27.0589 [37.3302]	72.5%			
11CI-PF3OUDS	(631.0 / 451.0) 54217062 (633.0 / 453.0) 18287065	(9.12 , 1.61) (N/A , 0.00 , 0.0)	2334.8 2763.7	0.3373 109.3 109.3	31.1666 [37.7283]	82.6%			

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) 1338965 (241.0 / 117.0) 2105387	(3.99, 0.90) (N/A, -0.03, 0.1)	1795.4 1619.8	1.5724 90.7 90.7	81.9434 [80.0000]	102.4%			
5:3FTCA	(341.0 / 236.7) 8659309 (341.0 / 217.0) 14561045	(5.87, 1.10) (N/A, -0.03, -0.1)	1842.3 2512.8	1.6815 100.0 100.0	82.6723 [80.0000]	103.3%			
7:3FTCA	(441.0 / 317.0) 14652173 (441.0 / 337.0) 12772655	(7.78, 1.45) (N/A, -0.01, 0.0)	1090.3 1120.6	0.8717 101.5 101.5	77.8099 [80.0000]	97.3%			
PFEEESA	(315.0 / 135.0) 30437306 (315.0 / 83.0) 8443144	(5.76, 1.07) (N/A, -0.02, -0.1)	2175.8 2474.4	0.2774 98.5 98.5	33.4284 [35.6984]	93.6%			
PFMPA	(229.0 / 85.0) 5727862	(3.82, 0.86) (N/A, -0.03, 0.0)	2828.0	N/A 0.0 0.0	40.4890 [40.0000]	101.2%			
PFMBA	(279.0 / 85.0) 19369586	(4.75, 1.07) (N/A, -0.03, 0.0)	2266.2	N/A 0.0 0.0	39.9658 [40.0000]	99.9%			
NFDHA	(295.0 / 201.0) 16110694 (295.0 / 85.0) 16234898	(5.27, 0.98) (N/A, -0.03, 0.0)	2400.1 2111.0	1.0077 96.5 96.5	39.5318 [40.0000]	98.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 292693	(3.45, N/A) (N/A, -0.02, N/A)	1130.6	N/A	0.8633 [1.0000]	86.3% { 88.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 568868	(5.37, N/A) (N/A, -0.03, N/A)	1276.6	N/A	0.9565 [1.0000]	95.6% { 102.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 793430	(6.88, N/A) (N/A, 0.00, N/A)	1116.4	N/A	0.9754 [1.0000]	97.5% { 105.8% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 673170	(7.49, N/A) (N/A, 0.00, N/A)	868.6	N/A	0.8816 [1.0000]	88.2% { 88.4% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 694088	(8.05, N/A) (N/A, 0.00, N/A)	849.4	N/A	0.9669 [1.0000]	96.7% { 100.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1223798	(7.01, N/A) (N/A, -0.01, N/A)	1187.3	N/A	0.9937 [1.0000]	99.4% { 101.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1695346	(8.24, N/A) (N/A, 0.00, N/A)	1052.4	N/A	0.9552 [1.0000]	95.5% { 97.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2834169	(3.44, N/A) (N/A, -0.02, N/A)	3055.5	N/A	8.1433 [8.0000]	101.8% { 96.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2511768	(4.44, N/A) (N/A, -0.03, N/A)	2146.6	N/A	3.9627 [4.0000]	99.1% { 103.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1570281	(5.36, N/A) (N/A, -0.03, N/A)	1862.1	N/A	2.0316 [2.0000]	101.6% { 102.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1369692	(6.16, N/A) (N/A, -0.02, N/A)	1255.9	N/A	1.9000 [2.0000]	95.0% { 96.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1650128	(6.87, N/A) (N/A, -0.01, N/A)	1020.2	N/A	1.9431 [2.0000]	97.2% { 99.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 762691	(7.49, N/A) (N/A, 0.00, N/A)	1175.4	N/A	1.1369 [1.0000]	113.7% { 107.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 832267	(8.04, N/A) (N/A, 0.01, N/A)	741.2	N/A	1.0360 [1.0000]	103.6% { 113.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 818464	(8.56, N/A) (N/A, 0.01, N/A)	1062.4	N/A	1.0284 [1.0000]	102.8% { 108.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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
13C2_PFDa_EIS	(615.0 / 570.0) 717052	(8.86, N/A) (N/A, 0.00, N/A)	1216.8	N/A	0.9714 [1.0000]	97.1% { 97.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 733391	(9.24, N/A) (N/A, 0.00, N/A)	686.9	N/A	0.9558 [1.0000]	95.6% { 102.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4517665	(5.32, N/A) (N/A, -0.03, N/A)	1965.7	N/A	1.8268 [2.0000]	91.3% { 99.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2544685	(7.01, N/A) (N/A, -0.01, N/A)	1461.3	N/A	1.9695 [2.0000]	98.5% { 107.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4630519	(8.24, N/A) (N/A, 0.00, N/A)	383.3	N/A	2.0790 [2.0000]	104.0% { 108.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 606565	(5.11, N/A) (N/A, -0.03, N/A)	960.9	N/A	4.0045 [4.0000]	100.1% { 117.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 658583	(6.61, N/A) (N/A, -0.01, N/A)	1220.7	N/A	3.8563 [4.0000]	96.4% { 111.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 755264	(7.79, N/A) (N/A, 0.00, N/A)	941.1	N/A	4.1821 [4.0000]	104.6% { 113.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7742013	(9.83, N/A) (N/A, 0.00, N/A)	2144.5	N/A	1.8870 [2.0000]	94.4% { 99.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1755992	(10.43, N/A) (N/A, 0.00, N/A)	1880.3	N/A	1.9932 [2.0000]	99.7% { 102.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1431512	(10.58, N/A) (N/A, 0.00, N/A)	2700.7	N/A	1.8557 [2.0000]	92.8% { 91.5% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (7)
 Acquired: 2023/02/28 - 17:09

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1237081	(8.20, N/A) (N/A, 0.00, N/A)	1318.4	N/A	3.9576 [4.0000]	98.9% { 96.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1095311	(8.45, N/A) (N/A, 0.00, N/A)	2552.9	N/A	4.1149 [4.0000]	102.9% { 113.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5741908	(10.36, N/A) (N/A, 0.00, N/A)	2203.4	N/A	19.1441 [20.0000]	95.7% { 94.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6356128	(10.52, N/A) (N/A, 0.00, N/A)	1331.0	N/A	18.5264 [20.0000]	92.6% { 92.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3966715	(5.66, N/A) (N/A, -0.02, N/A)	1806.1	N/A	8.1672 [8.0000]	102.1% { 106.1% }			



Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL8
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28A (8)
Acquired: 2023/02/28 - 17:22

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 41499707	(3.45, 1.00) (0.00, N/A, 0.0)	170.0	N/A 0.0 0.0	181.2987 [200.0000]	90.6%			
PFPeA	(263.0 / 219.0) 41492703 (263.0 / 69.0) 527610	(4.46, 1.00) (0.00, N/A, 0.0)	6500.0 1537.0	0.0127 106.7 106.7	91.0354 [100.0000]	91.0%			
PFHxA	(313.0 / 269.0) 29254814 (313.0 / 119.0) 3076533	(5.39, 1.00) (0.00, N/A, 0.0)	9581.4 34631.2	0.1052 112.4 112.4	46.3885 [50.0000]	92.8%			
PFHpA	(363.0 / 319.0) 27768317 (363.0 / 169.0) 8460728	(6.19, 1.00) (0.00, N/A, 0.1)	9861.5 8602.1	0.3047 96.5 96.5	47.3795 [50.0000]	94.8%			
PFOA	(413.0 / 369.0) 34736184 (413.0 / 169.0) 11436701	(6.89, 1.00) (0.00, N/A, 0.0)	8150.1 5447.4	0.3292 97.3 97.3	47.6927 [50.0000]	95.4%			
PFNA	(463.0 / 419.0) 32291769 (463.0 / 169.0) 7173063	(7.50, 1.00) (0.00, N/A, 0.1)	8163.1 19862.0	0.2221 94.9 94.9	48.4001 [50.0000]	96.8%			
PFDA	(513.0 / 469.0) 34749046 (513.0 / 169.0) 4007853	(8.06, 1.00) (0.00, N/A, 0.0)	1684.8 1564.4	0.1153 93.1 93.1	46.0761 [50.0000]	92.2%			
PFUnA	(563.0 / 519.0) 28504604 (563.0 / 169.0) 3359511	(8.56, 1.00) (0.00, N/A, 0.0)	1694.2 1225.1	0.1179 109.5 109.5	49.3643 [50.0000]	98.7%			
PFDoA	(613.0 / 569.0) 27250289 (613.0 / 169.0) 4441585	(8.87, 1.00) (0.00, N/A, -0.1)	2228.5 2230.0	0.1630 102.6 102.6	50.4535 [50.0000]	100.9%			
PFTrDA	(663.0 / 619.0) 21050713 (663.0 / 169.0) 5464375	(9.08, 1.02) (N/A, 0.01, 0.0)	2417.7 2040.2	0.2596 95.6 95.6	40.5032 [50.0000]	81.0%			
PFTeDA	(713.0 / 669.0) 27069891 (713.0 / 169.0) 5799254	(9.25, 1.00) (0.00, N/A, 0.1)	2317.5 1573.0	0.2142 98.0 98.0	46.3137 [50.0000]	92.6%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (8)
 Acquired: 2023/02/28 - 17:22

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
PFBS	(299.0 / 80.0) 41464583 (299.0 / 99.0) 27138490	(5.34, 1.00) (0.00, N/A, 0.1)	1925.6 2029.2	0.6545 104.0 104.0	39.2671 [44.2367]	88.8%			
PFPeS	(349.0 / 80.0) 71313453 (349.0 / 99.0) 31482926	(6.25, 0.89) (N/A, 0.00, -0.1)	10868.4 16838.6	0.4415 132.0 132.0	35.5932 [46.9191]	75.9%			
PFHxS	(399.0 / 80.0) 74332419 (399.0 / 99.0) 26768666	(7.02, 1.00) (-0.01, N/A, -0.1)	6106.9 13960.2	0.3601 112.5 112.5	42.2843 [45.5491]	92.8%			
PFHpS	(449.0 / 80.0) 74019843 (449.0 / 99.0) 24078257	(7.67, 0.93) (N/A, 0.00, -0.1)	8041.9 15002.9	0.3253 119.8 119.8	41.4790 [47.5703]	87.2%			
PFOS	(499.0 / 80.0) 90637354 (499.0 / 99.0) 21761174	(8.25, 1.00) (0.00, N/A, -0.4)	378.0 760.2	0.2401 109.2 109.2	41.4414 [46.3746]	89.4%			
PFNS	(549.0 / 80.0) 75048845 (549.0 / 99.0) 23194081	(8.71, 1.06) (N/A, 0.01, -0.2)	5666.8 10381.3	0.3091 128.4 128.4	34.2912 [47.9943]	71.4%			
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 [48.1553]	N/A%			QC,
PFDoS	(699.0 / 80.0) 48525572 (699.0 / 99.0) 11072448	(9.32, 1.13) (N/A, 0.01, 0.0)	2124.1 2078.2	0.2282 116.8 116.8	43.2169 [48.4781]	89.1%			
4:2FTS	(327.0 / 307.0) 56217314 (327.0 / 81.0) 40288613	(5.13, 1.00) (0.00, N/A, 0.0)	2443.0 2574.8	0.7167 103.4 103.4	136.3114 [186.9055]	72.9%			
6:2FTS	(427.0 / 407.0) 38685986 (427.0 / 81.0) 32273693	(6.62, 1.00) (0.00, N/A, -0.1)	2477.0 2863.1	0.8342 98.5 98.5	173.4594 [189.8085]	91.4%			
8:2FTS	(527.0 / 507.0) 36938977 (527.0 / 81.0) 30134311	(7.80, 1.00) (-0.01, N/A, -0.2)	1880.3 2581.3	0.8158 100.0 100.0	172.6946 [191.6577]	90.1%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (8)
 Acquired: 2023/02/28 - 17:22

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
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 [50.0000]	N/A%			QC,
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 [200.0000]	N/A%			QC,
NEIFOSA	(526.0 / 219.0) 87451751 (526.0 / 169.0) 93054225	(10.57 , 1.00) (-0.02 , N/A , 0.1)	13013.4 15860.2	1.0641 84.0 84.0	150.0336 [200.0000]	75.0%			
NMeFOSAA	(570.0 / 419.0) 12051539 (570.0 / 483.0) 5674644	(8.21 , 1.00) (0.00 , N/A , -0.1)	3220.1 665.3	0.4709 96.0 96.0	46.3670 [50.0000]	92.7%			
NEIFOSAA	(584.0 / 419.0) 10932768 (584.0 / 526.0) 6296395	(8.47 , 1.00) (0.01 , N/A , 0.0)	3458.5 2035.7	0.5759 101.9 101.9	49.6670 [50.0000]	99.3%			
NMeFOSE	(616.0 / 59.0) 45091490	(10.36 , 1.00) (-0.01 , N/A , 0.0)	3257.4	N/A 0.0 0.0	182.7506 [200.0000]	91.4%			
NEtFOSE	(630.0 / 59.0) 45200872	(10.53 , 1.00) (0.00 , N/A , 0.0)	1109.6	N/A 0.0 0.0	175.3347 [200.0000]	87.7%			
HFPO-DA	(285.0 / 169.0) 31842579 (285.0 / 185.0) 67618370	(5.68 , 1.00) (0.00 , N/A , 0.2)	2063.3 2680.9	2.1235 77.2 77.2	90.2171 [100.0000]	90.2%			
ADONA	(377.0 / 85.0) 86827157 (377.0 / 251.0) 11259712	(6.46 , 1.14) (N/A , 0.00 , -0.4)	1997.8 2166.4	0.1297 148.1 148.1	66.2830 [94.2700]	70.3%			
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 [93.3254]	N/A%			QC,
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 [94.3208]	N/A%			QC,

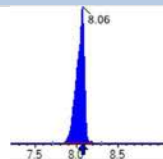
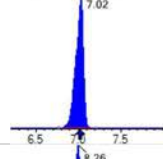
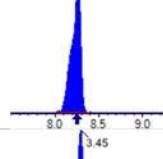
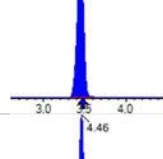
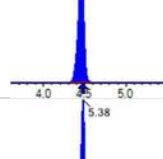
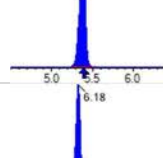
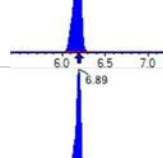
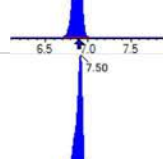
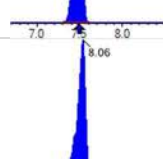
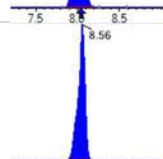
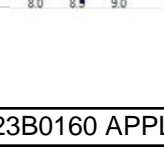


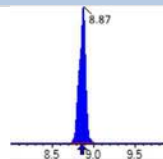
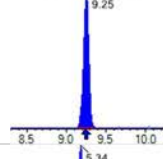
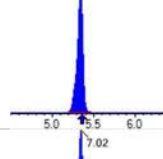
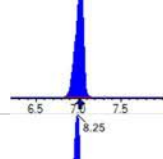
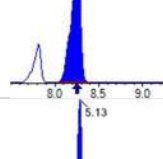
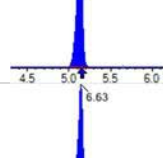
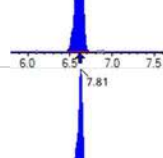
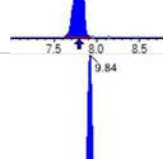
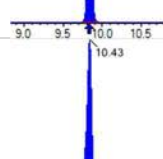
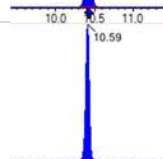
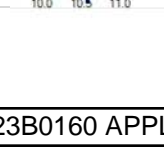
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (8)
 Acquired: 2023/02/28 - 17:22

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) 3159042 (241.0 / 117.0) 5310509	(4.01, 0.90) (N/A, -0.01, 0.1)	1859.8 1969.3	1.6811 96.9 96.9	234.6937 [200.0000]	117.3%			
5:3FTCA	(341.0 / 236.7) 19519906 (341.0 / 217.0) 31848733	(5.90, 1.10) (N/A, 0.00, 0.0)	2417.2 2188.2	1.6316 97.0 97.0	216.5232 [200.0000]	108.3%			
7:3FTCA	(441.0 / 317.0) 36282186 (441.0 / 337.0) 31617035	(7.80, 1.45) (N/A, -0.01, 0.0)	1152.0 1207.2	0.8714 101.5 101.5	223.8599 [200.0000]	111.9%			
PFEESA	(315.0 / 135.0) 54624424 (315.0 / 83.0) 18021083	(5.77, 1.07) (N/A, -0.01, -0.1)	1702.1 2192.1	0.3299 117.2 117.2	69.7022 [89.2459]	78.1%			
PFMPA	(229.0 / 85.0) 11599193	(3.84, 0.86) (N/A, -0.01, 0.0)	2815.3	N/A 0.0 0.0	99.5344 [100.0000]	99.5%			
PFMBA	(279.0 / 85.0) 37911087	(4.77, 1.07) (N/A, -0.01, 0.0)	2255.9	N/A 0.0 0.0	94.9588 [100.0000]	95.0%			
NFDHA	(295.0 / 201.0) 31356860 (295.0 / 85.0) 31765052	(5.29, 0.98) (N/A, -0.01, 0.1)	2016.4 2162.5	1.0130 97.0 97.0	89.3954 [100.0000]	89.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 231462	(3.45, N/A) (N/A, -0.01, N/A)	811.3	N/A	0.6827 [1.0000]	68.3% {70.2%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 519504	(5.39, N/A) (N/A, -0.01, N/A)	1055.0	N/A	0.8735 [1.0000]	87.3% {93.5%}			
13C4_PFOA_IIS	(417.0 / 372.0) 702253	(6.89, N/A) (N/A, 0.01, N/A)	1327.8	N/A	0.8633 [1.0000]	86.3% {93.6%}			
13C5_PFNxA_IIS	(468.0 / 423.0) 682549	(7.50, N/A) (N/A, 0.01, N/A)	766.9	N/A	0.8938 [1.0000]	89.4% {89.6%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 662827	(8.06, N/A) (N/A, 0.01, N/A)	821.6	N/A	0.9233 [1.0000]	92.3% { 96.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1117021	(7.02, N/A) (N/A, 0.01, N/A)	1053.0	N/A	0.9070 [1.0000]	90.7% { 93.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1516588	(8.26, N/A) (N/A, 0.02, N/A)	1218.2	N/A	0.8545 [1.0000]	85.4% { 87.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2165391	(3.45, N/A) (N/A, -0.01, N/A)	2598.1	N/A	7.8676 [8.0000]	98.3% { 73.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2069084	(4.46, N/A) (N/A, -0.01, N/A)	1685.2	N/A	3.5744 [4.0000]	89.4% { 84.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1351535	(5.38, N/A) (N/A, -0.01, N/A)	1418.5	N/A	1.9147 [2.0000]	95.7% { 88.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1312625	(6.18, N/A) (N/A, 0.00, N/A)	2301.2	N/A	1.9939 [2.0000]	99.7% { 92.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1511777	(6.89, N/A) (N/A, 0.01, N/A)	1768.5	N/A	2.0113 [2.0000]	100.6% { 90.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 706321	(7.50, N/A) (N/A, 0.01, N/A)	1268.4	N/A	1.0384 [1.0000]	103.8% { 99.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 760656	(8.06, N/A) (N/A, 0.02, N/A)	788.6	N/A	0.9915 [1.0000]	99.1% { 103.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 656647	(8.56, N/A) (N/A, 0.01, N/A)	1572.0	N/A	0.8640 [1.0000]	86.4% { 87.2% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 619074	(8.87, N/A) (N/A, 0.01, N/A)	2194.8	N/A	0.8782 [1.0000]	87.8% { 84.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 635660	(9.25, N/A) (N/A, 0.01, N/A)	930.2	N/A	0.8675 [1.0000]	86.7% { 88.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3714321	(5.34, N/A) (N/A, -0.01, N/A)	1514.1	N/A	1.6455 [2.0000]	82.3% { 81.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2231971	(7.02, N/A) (N/A, 0.01, N/A)	1384.5	N/A	1.8926 [2.0000]	94.6% { 94.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3963601	(8.25, N/A) (N/A, 0.01, N/A)	242.4	N/A	1.9893 [2.0000]	99.5% { 92.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 584471	(5.13, N/A) (N/A, -0.01, N/A)	1097.7	N/A	4.2275 [4.0000]	105.7% { 112.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 683829	(6.63, N/A) (N/A, 0.01, N/A)	865.7	N/A	4.3869 [4.0000]	109.7% { 115.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 762145	(7.81, N/A) (N/A, 0.02, N/A)	672.8	N/A	4.6236 [4.0000]	115.6% { 114.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6365767	(9.84, N/A) (N/A, 0.01, N/A)	2313.5	N/A	1.7345 [2.0000]	86.7% { 81.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1747358	(10.43, N/A) (N/A, 0.01, N/A)	1665.9	N/A	2.2172 [2.0000]	110.9% { 101.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1200000	(10.59, N/A) (N/A, 0.01, N/A)	2164.9	N/A	1.7390 [2.0000]	86.9% { 76.7% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (8)
 Acquired: 2023/02/28 - 17:22

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1216452	(8.21 , N/A) (N/A , 0.02 , N/A)	1189.8	N/A	4.3503 [4.0000]	108.8% { 94.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1010035	(8.46 , N/A) (N/A , 0.01 , N/A)	3137.2	N/A	4.2418 [4.0000]	106.0% { 104.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4709587	(10.37 , N/A) (N/A , 0.01 , N/A)	1590.2	N/A	17.5531 [20.0000]	87.8% { 77.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5102587	(10.53 , N/A) (N/A , 0.01 , N/A)	1348.2	N/A	16.6257 [20.0000]	83.1% { 74.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3444188	(5.68 , N/A) (N/A , -0.01 , N/A)	1774.4	N/A	7.7652 [8.0000]	97.1% { 92.1% }			

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2309009**Laboratory ID:** SC00840-SCV1**Sequence:** SC00840**Standard ID:** 23B0089

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	7.55	-5.6	30.00
PFPEA	4.00	3.74	-6.6	30.00
PFHXA	2.00	1.88	-5.8	30.00
PFHPA	2.00	1.74	-12.9	30.00
PFOA	2.00	1.83	-8.7	30.00
PFNA	2.00	1.89	-5.5	30.00
PFDA	2.00	1.79	-10.7	30.00
PFUnA	2.00	1.79	-10.7	30.00
PFDOA	2.00	1.80	-10.0	30.00
PFTRDA	2.00	1.84	-7.8	30.00
PFTEDA	2.00	1.67	-16.3	30.00
PFBS	1.77	1.65	-6.7	30.00
PFPEs	1.88	1.93	2.7	30.00
PFHXS	1.83	1.74	-5.2	30.00
PFHPS	1.91	1.77	-7.5	30.00
PFOS	1.86	1.64	-11.9	30.00
PFNS	1.92	1.77	-7.8	30.00
PFDS	1.93	1.74	-9.7	30.00
PFDOS	1.94	1.71	-11.7	30.00
4:2FTS	7.50	7.00	-6.7	30.00
6:2FTS	7.60	6.50	-14.4	30.00
8:2FTS	7.68	7.87	2.5	30.00
PFOSA	2.00	2.04	1.9	30.00
NMeFOSA	8.00	7.44	-7.0	30.00
NEtFOSA	8.00	6.78	-15.3	30.00
NMeFOSAA	2.00	1.91	-4.6	30.00
NEtFOSAA	2.00	1.89	-5.4	30.00

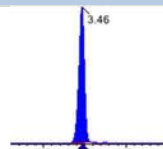
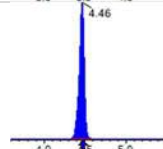
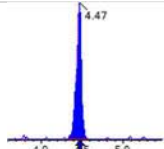
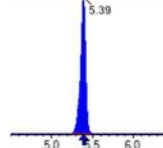
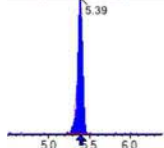
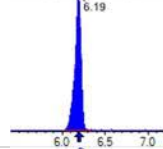
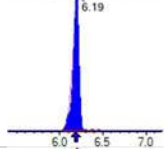
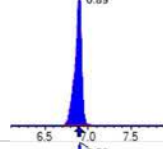
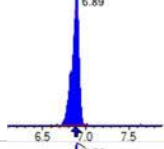
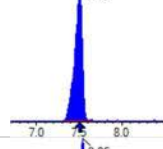
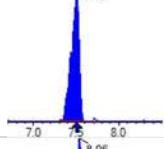
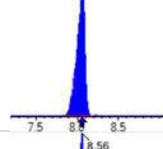
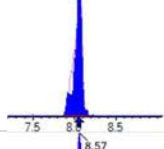
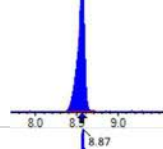
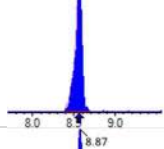
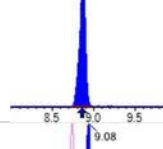
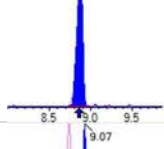
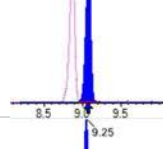
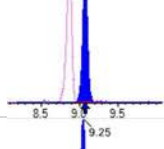
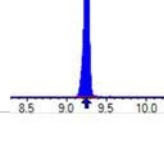
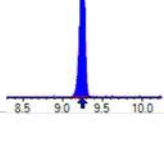
SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2309009**Laboratory ID:** SC00840-SCV1**Sequence:** SC00840**Standard ID:** 23B0089

NMeFOSE	8.00	7.81	-2.4	30.00
NEtFOSE	8.00	7.88	-1.6	30.00
HFPO-DA	4.00	3.72	-6.9	30.00
ADONA	3.78	3.86	2.1	30.00
PFEESA	3.56	3.22	-9.5	30.00
PFMPA	4.00	3.52	-12.0	30.00
PFMBA	4.00	3.63	-9.3	30.00
NFDHA	4.00	3.74	-6.5	30.00
9CL-PF3ONS	3.74	3.86	3.1	30.00
11CL-PF3OUDS	3.78	3.61	-4.6	30.00
3:3FTCA	8.00	7.09	-11.4	30.00
5:3FTCA	8.00	6.99	-12.6	30.00
7:3FTCA	8.00	6.76	-15.5	30.00
13C4-PFBA	8.00	8.22	2.8	30.00
13C5-PFPEA	4.00	4.35	8.8	30.00
13C5-PFHXA	2.00	2.18	9.2	30.00
13C4-PFHPA	2.00	2.09	4.6	30.00
13C8-PFOA	2.00	2.07	3.4	30.00
13C9-PFNA	1.00	1.01	1.5	30.00
13C6-PFDA	1.00	1.06	6.3	30.00
13C7-PFUnA	1.00	1.11	10.8	30.00
13C2-PFDOA	1.00	1.08	7.6	30.00
13C2-PFTEDA	1.00	1.04	4.4	30.00
13C3-PFBS	2.00	2.04	2.0	30.00
13C3-PFHXS	2.00	1.96	-2.2	30.00
13C8-PFOS	2.00	2.19	9.5	30.00
13C2-4:2FTS	4.00	3.71	-7.2	30.00
13C2-6:2FTS	4.00	4.09	2.4	30.00
13C2-8:2FTS	4.00	3.98	-0.4	30.00

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2309009**Laboratory ID:** SC00840-SCV1**Sequence:** SC00840**Standard ID:** 23B0089

13C8-PFOSA	2.00	2.08	4.0	30.00
D3-NMEFOSA	2.00	2.16	7.9	30.00
D5-NETFOSA	2.00	2.24	12.1	30.00
D3-NMEFOSAA	4.00	4.43	10.7	30.00
D5-NETFOSAA	4.00	4.26	6.5	30.00
D7-NMEFOSE	20.0	22.4	12.2	30.00
D9-NETFOSAE	20.0	21.6	8.1	30.00
13C3-HFPO-DA	8.00	8.61	7.6	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) 2817870	(3.46, 1.00) (0.00, N/A, 0.0)	181.9	N/A 0.0 0.0	7.5535 [8.0000]	94.4%			
PFPeA	(263.0 / 219.0) 2335135 (263.0 / 69.0) 31036	(4.46, 1.00) (0.00, N/A, -0.3)	1911.5 382.7	0.0133 111.5 111.5	3.7379 [4.0000]	93.4%			
PFHxA	(313.0 / 269.0) 1526807 (313.0 / 119.0) 165903	(5.39, 1.00) (0.00, N/A, 0.1)	3392.4 200916.5	0.1087 116.1 116.1	1.8850 [2.0000]	94.2%			
PFHpA	(363.0 / 319.0) 1206369 (363.0 / 169.0) 359839	(6.19, 1.00) (0.00, N/A, -0.5)	10032.2 3701.9	0.2983 94.5 94.5	1.7427 [2.0000]	87.1%			
PFOA	(413.0 / 369.0) 1638255 (413.0 / 169.0) 536507	(6.89, 1.00) (0.00, N/A, 0.1)	2799.8 3657323.0	0.3275 96.8 96.8	1.8258 [2.0000]	91.3%			
PFNA	(463.0 / 419.0) 1410247 (463.0 / 169.0) 297200	(7.50, 1.00) (0.00, N/A, 0.1)	1981.8 910.0	0.2107 90.0 90.0	1.8895 [2.0000]	94.5%			
PFDA	(513.0 / 469.0) 1598327 (513.0 / 169.0) 194832	(8.06, 1.00) (0.00, N/A, -0.1)	1078.6 1072.3	0.1219 98.4 98.4	1.7866 [2.0000]	89.3%			
PFUnA	(563.0 / 519.0) 1463692 (563.0 / 169.0) 196601	(8.56, 1.00) (0.00, N/A, -0.4)	753.4 582.6	0.1343 124.8 124.8	1.7853 [2.0000]	89.3%			
PFDoA	(613.0 / 569.0) 1318905 (613.0 / 169.0) 210879	(8.87, 1.00) (0.00, N/A, -0.1)	1912.1 972.6	0.1599 100.6 100.6	1.8004 [2.0000]	90.0%			
PFTrDA	(663.0 / 619.0) 1300053 (663.0 / 169.0) 359088	(9.08, 1.02) (N/A, 0.01, 0.3)	1205.8 628.4	0.2762 101.7 101.7	1.8443 [2.0000]	92.2%			
PFTeDA	(713.0 / 669.0) 1303207 (713.0 / 169.0) 311126	(9.25, 1.00) (0.00, N/A, 0.1)	1353.5 652.0	0.2387 109.2 109.2	1.6742 [2.0000]	83.7%			

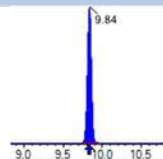
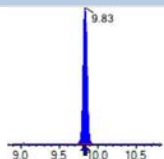
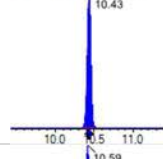
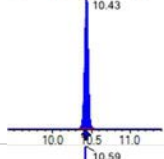
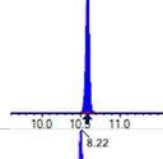
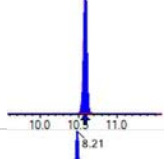
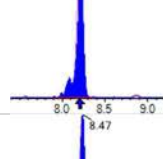
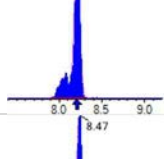
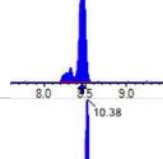
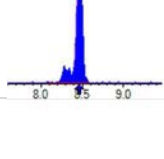
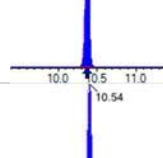
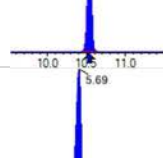
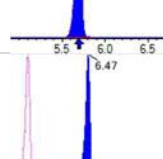
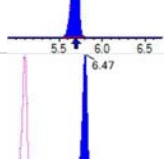
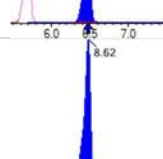
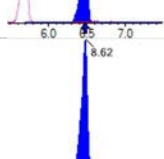
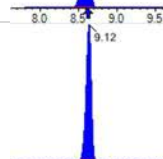
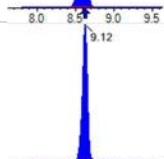
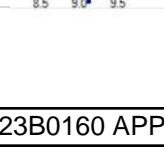
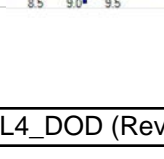


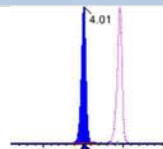
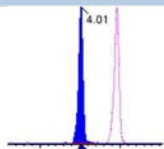
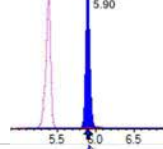
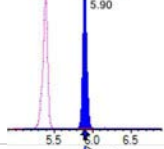
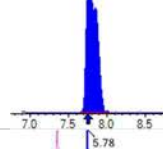
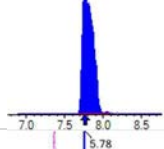
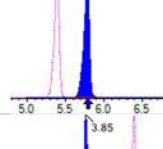
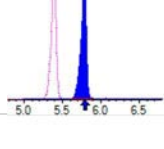
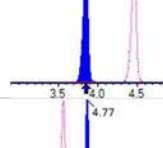
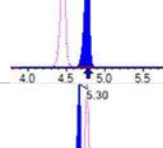
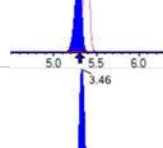
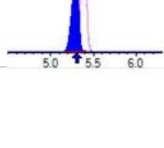
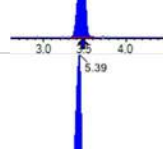
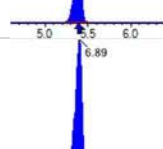
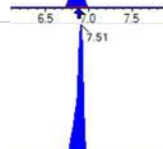

Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

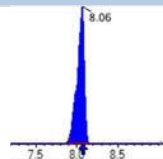
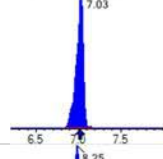
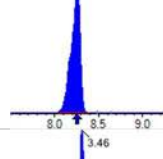
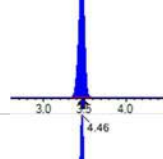
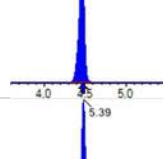
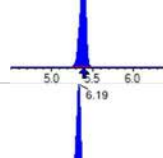
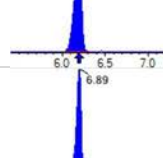
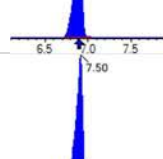
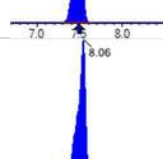
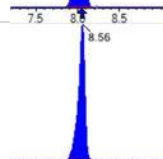
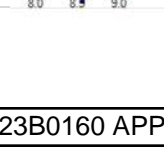
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 Acquisition Method: 1633 2023-02-14.dam

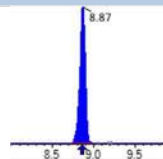
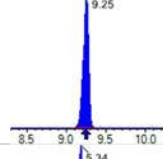
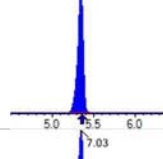
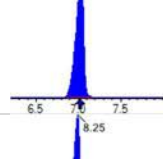
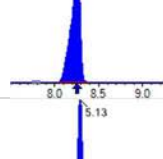
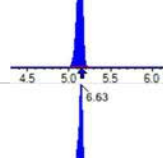
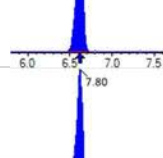
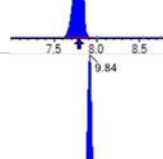
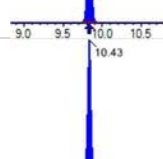
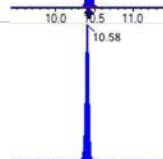
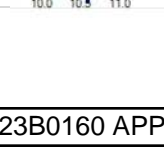
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 Path: S2023-02-28A (10)
 Acquired: 2023/02/28 - 17:48

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 2478161 (299.0 / 99.0) 1537615	(5.35, 1.00) (0.00, N/A, -0.1)	1939.1 1818.8	0.6205 98.6 98.6	1.6516 [1.7695]	93.3%			
PFPeS	(349.0 / 80.0) 4587368 (349.0 / 99.0) 1500852	(6.26, 0.89) (N/A, 0.00, -0.1)	2771577.9 711664.9	0.3272 97.8 97.8	1.9312 [1.8768]	102.9%			
PFHxS	(399.0 / 80.0) 3616887 (399.0 / 99.0) 1165097	(7.03, 1.00) (0.00, N/A, 0.0)	20772.6 1849.0	0.3221 100.7 100.7	1.7355 [1.8220]	95.3%			
PFHpS	(449.0 / 80.0) 4058678 (449.0 / 99.0) 1126402	(7.67, 0.93) (N/A, 0.01, -0.1)	143656.3 2081.2	0.2775 102.2 102.2	1.7669 [1.9028]	92.9%			
PFOS	(499.0 / 80.0) 4615403 (499.0 / 99.0) 978647	(8.25, 1.00) (0.00, N/A, -0.3)	331.4 311.6	0.2120 96.4 96.4	1.6394 [1.8550]	88.4%			
PFNS	(549.0 / 80.0) 4988466 (549.0 / 99.0) 1190660	(8.71, 1.06) (N/A, 0.01, 0.0)	9124.3 932984.3	0.2387 99.2 99.2	1.7708 [1.9198]	92.2%			
PFDS	(599.0 / 80.0) 5454478 (599.0 / 99.0) 1158548	(8.97, 1.09) (N/A, 0.01, -0.1)	1979.6 821.9	0.2124 104.9 104.9	1.7422 [1.9262]	90.4%			
PFDoS	(699.0 / 80.0) 2475315 (699.0 / 99.0) 526689	(9.32, 1.13) (N/A, 0.01, 0.0)	1521.1 1424.2	0.2128 108.9 108.9	1.7127 [1.9391]	88.3%			
4:2FTS	(327.0 / 307.0) 2907985 (327.0 / 81.0) 1965804	(5.14, 1.00) (0.00, N/A, 0.0)	2226.5 1411.0	0.6760 97.6 97.6	7.0011 [7.4762]	93.6%			
6:2FTS	(427.0 / 407.0) 1552065 (427.0 / 81.0) 1371714	(6.63, 1.00) (0.00, N/A, -0.1)	1418.0 1901.4	0.8838 104.3 104.3	6.5032 [7.5923]	85.7%			
8:2FTS	(527.0 / 507.0) 1662385 (527.0 / 81.0) 1252728	(7.80, 1.00) (0.00, N/A, 0.2)	1275.3 1311.9	0.7536 92.4 92.4	7.8691 [7.6663]	102.6%			

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) 7066592 (498.0 / 478.0) 144068	(9.84, 1.00) (0.00, N/A, 0.1)	2727.2 1649.4	0.0204 103.8 103.8	2.0375 [2.0000]	101.9%			
NMeFOSA	(512.0 / 219.0) 6348828 (512.0 / 169.0) 4438785	(10.43, 1.00) (0.00, N/A, 0.0)	7203.0 6421.7	0.6992 84.6 84.6	7.4372 [8.0000]	93.0%			
NEIFOSA	(526.0 / 219.0) 5955989 (526.0 / 169.0) 6618343	(10.59, 1.00) (0.01, N/A, 0.0)	8894.1 8638.3	1.1112 87.8 87.8	6.7795 [8.0000]	84.7%			
NMeFOSAA	(570.0 / 419.0) 590048 (570.0 / 483.0) 273023	(8.22, 1.00) (0.01, N/A, 0.3)	1043.7 455.4	0.4627 94.4 94.4	1.9072 [2.0000]	95.4%			
NEIFOSAA	(584.0 / 419.0) 488870 (584.0 / 526.0) 289353	(8.47, 1.00) (0.01, N/A, -0.1)	1983.4 1109.1	0.5919 104.8 104.8	1.8919 [2.0000]	94.6%			
NMeFOSE	(616.0 / 59.0) 2878588	(10.38, 1.00) (0.01, N/A, 0.0)	3202.3	N/A 0.0 0.0	7.8064 [8.0000]	97.6%			
NEtFOSE	(630.0 / 59.0) 3087305	(10.54, 1.00) (0.01, N/A, 0.0)	2386.3	N/A 0.0 0.0	7.8753 [8.0000]	98.4%			
HFPO-DA	(285.0 / 169.0) 1639551 (285.0 / 185.0) 4211531	(5.69, 1.00) (0.00, N/A, -0.1)	1429.0 1885.9	2.5687 93.4 93.4	3.7229 [4.0000]	93.1%			
ADONA	(377.0 / 85.0) 6308450 (377.0 / 251.0) 598590	(6.47, 1.14) (N/A, 0.01, 0.0)	1940.2 941.8	0.0949 108.4 108.4	3.8596 [3.7708]	102.4%			
9CI-PI3ONS	(531.0 / 351.0) 14787593 (533.0 / 353.0) 4359706	(8.62, 1.52) (N/A, 0.01, 0.0)	1980.7 1616.1	0.2948 100.1 100.1	3.8577 [3.7330]	103.3%			
11CI-PF3OUDS	(631.0 / 451.0) 6798708 (633.0 / 453.0) 2101242	(9.12, 1.60) (N/A, 0.01, 0.0)	1885.1 1241.0	0.3091 100.1 100.1	3.6075 [3.7728]	95.6%			

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) 130823 (241.0 / 117.0) 204282	(4.01, 0.90) (N/A, 0.00, -0.1)	806.5 803.7	1.5615 90.0 90.0	7.0910 [8.0000]	88.6%			
5:3FTCA	(341.0 / 236.7) 809463 (341.0 / 217.0) 1316539	(5.90, 1.09) (N/A, 0.00, 0.0)	1308.1 1596.9	1.6264 96.7 96.7	6.9910 [8.0000]	87.4%			
7:3FTCA	(441.0 / 317.0) 1407442 (441.0 / 337.0) 1292691	(7.80, 1.45) (N/A, 0.01, 0.4)	531.4 654.7	0.9185 106.9 106.9	6.7612 [8.0000]	84.5%			
PFEESA	(315.0 / 135.0) 3241322 (315.0 / 83.0) 901031	(5.78, 1.07) (N/A, 0.00, 0.0)	2229.7 1038.2	0.2780 98.7 98.7	3.2203 [3.5698]	90.2%			
PFMPA	(229.0 / 85.0) 562290	(3.85, 0.86) (N/A, 0.00, 0.0)	1713.3	N/A 0.0 0.0	3.5204 [4.0000]	88.0%			
PFMBA	(279.0 / 85.0) 1984924	(4.77, 1.07) (N/A, -0.01, 0.0)	1394.5	N/A 0.0 0.0	3.6274 [4.0000]	90.7%			
NFDHA	(295.0 / 201.0) 1684250 (295.0 / 85.0) 1661347	(5.30, 0.98) (N/A, 0.00, 0.1)	1684.3 1820.0	0.9864 94.5 94.5	3.7385 [4.0000]	93.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 361028	(3.46, N/A) (N/A, 0.00, N/A)	994.7	N/A	1.0649 [1.0000]	106.5% { 109.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 584798	(5.39, N/A) (N/A, 0.00, N/A)	1545.0	N/A	0.9832 [1.0000]	98.3% { 105.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 841453	(6.89, N/A) (N/A, 0.01, N/A)	1903.7	N/A	1.0344 [1.0000]	103.4% { 112.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 781350	(7.51, N/A) (N/A, 0.02, N/A)	1032.6	N/A	1.0232 [1.0000]	102.3% { 102.6% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 733505	(8.06, N/A) (N/A, 0.01, N/A)	1314.5	N/A	1.0218 [1.0000]	102.2% { 106.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1280781	(7.03, N/A) (N/A, 0.01, N/A)	1417.7	N/A	1.0400 [1.0000]	104.0% { 106.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1773012	(8.25, N/A) (N/A, 0.01, N/A)	1007.3	N/A	0.9990 [1.0000]	99.9% { 102.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3529057	(3.46, N/A) (N/A, 0.00, N/A)	2821.1	N/A	8.2206 [8.0000]	102.8% { 120.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2835943	(4.46, N/A) (N/A, -0.01, N/A)	1925.7	N/A	4.3522 [4.0000]	108.8% { 116.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1735856	(5.39, N/A) (N/A, 0.00, N/A)	1455.4	N/A	2.1846 [2.0000]	109.2% { 113.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1550387	(6.19, N/A) (N/A, 0.00, N/A)	1861.6	N/A	2.0921 [2.0000]	104.6% { 109.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1862416	(6.89, N/A) (N/A, 0.01, N/A)	1601.0	N/A	2.0679 [2.0000]	103.4% { 111.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 790147	(7.50, N/A) (N/A, 0.01, N/A)	1916.9	N/A	1.0148 [1.0000]	101.5% { 111.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 902311	(8.06, N/A) (N/A, 0.02, N/A)	750.9	N/A	1.0628 [1.0000]	106.3% { 122.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 932343	(8.56, N/A) (N/A, 0.01, N/A)	1110.0	N/A	1.1085 [1.0000]	110.8% { 123.9% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 839650	(8.87, N/A) (N/A, 0.01, N/A)	737.4	N/A	1.0764 [1.0000]	107.6% { 113.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 846527	(9.25, N/A) (N/A, 0.01, N/A)	888.5	N/A	1.0439 [1.0000]	104.4% { 117.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5277897	(5.34, N/A) (N/A, -0.01, N/A)	2357.4	N/A	2.0392 [2.0000]	102.0% { 116.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2646125	(7.03, N/A) (N/A, 0.01, N/A)	1653.0	N/A	1.9569 [2.0000]	97.8% { 111.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5101924	(8.25, N/A) (N/A, 0.01, N/A)	920.4	N/A	2.1903 [2.0000]	109.5% { 119.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 588640	(5.13, N/A) (N/A, -0.01, N/A)	1488.6	N/A	3.7132 [4.0000]	92.8% { 113.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 731765	(6.63, N/A) (N/A, 0.01, N/A)	1118.5	N/A	4.0942 [4.0000]	102.4% { 123.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 752730	(7.80, N/A) (N/A, 0.01, N/A)	977.5	N/A	3.9826 [4.0000]	99.6% { 113.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8926163	(9.84, N/A) (N/A, 0.01, N/A)	2503.2	N/A	2.0803 [2.0000]	104.0% { 114.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1987938	(10.43, N/A) (N/A, 0.01, N/A)	2396.3	N/A	2.1577 [2.0000]	107.9% { 115.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1808669	(10.58, N/A) (N/A, 0.01, N/A)	2456.6	N/A	2.2420 [2.0000]	112.1% { 115.7% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (10)
 Acquired: 2023/02/28 - 17:48

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1447929	(8.21 , N/A) (N/A , 0.01 , N/A)	1062.9	N/A	4.4292 [4.0000]	110.7% { 112.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1185674	(8.46 , N/A) (N/A , 0.01 , N/A)	6570.8	N/A	4.2592 [4.0000]	106.5% { 122.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7038425	(10.37 , N/A) (N/A , 0.01 , N/A)	2368.7	N/A	22.4389 [20.0000]	112.2% { 116.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7759341	(10.53 , N/A) (N/A , 0.01 , N/A)	1362.4	N/A	21.6257 [20.0000]	108.1% { 113.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4297441	(5.69 , N/A) (N/A , 0.00 , N/A)	1853.2	N/A	8.6071 [8.0000]	107.6% { 114.9% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC

SDG:

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Calibration: 2309009

Laboratory ID: SC00809-LCV1

Sequence: SC00809

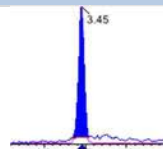
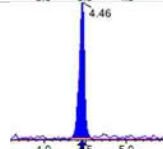
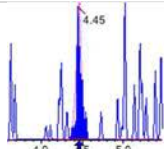
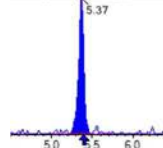
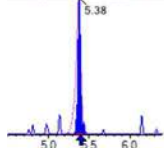
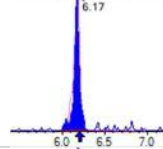
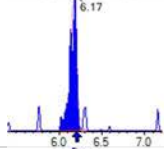
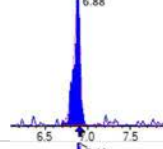
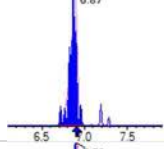
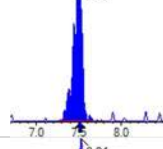
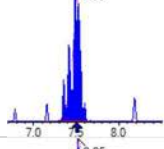
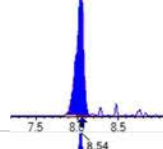
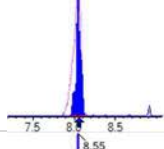
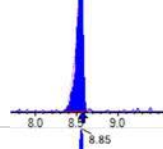
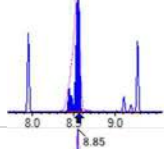
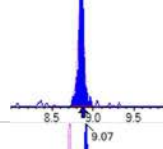
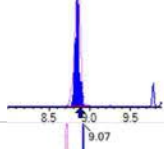
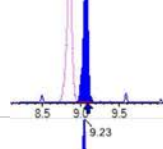
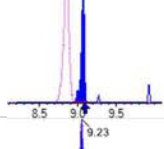
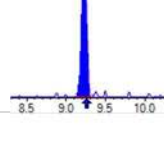
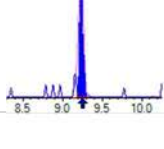
Standard ID: 23B0080

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.411	2.7	30.00
PFPEA	0.200	0.200	0.2	30.00
PFHXA	0.100	0.101	1.1	30.00
PFHPA	0.100	0.111	11.4	30.00
PFOA	0.100	0.107	6.8	30.00
PFNA	0.100	0.122	22.1	30.00
PFDA	0.100	0.127	27.2	30.00
PFUnA	0.100	0.123	23.4	30.00
PFDOA	0.100	0.0951	-4.9	30.00
PFTRDA	0.100	0.112	11.7	30.00
PFTEDA	0.100	0.0933	-6.7	30.00
PFBS	0.0885	0.0862	-2.6	30.00
PFPEs	0.0940	0.102	8.4	30.00
PFHXS	0.0915	0.0941	2.8	30.00
PFHPS	0.0955	0.103	7.7	30.00
PFOS	0.0930	0.109	17.0	30.00
PFNS	0.0960	0.0975	1.5	30.00
PFDS	0.0965	0.0983	1.8	30.00
PFDOS	0.0970	0.100	3.3	30.00
4:2FTS	0.375	0.372	-0.8	30.00
6:2FTS	0.380	0.502	32.0 *	30.00
8:2FTS	0.384	0.367	-4.5	30.00
PFOSA	0.100	0.105	4.5	30.00
NMeFOSA	0.400	0.410	2.4	30.00
NEtFOSA	0.400	0.441	10.2	30.00
NMeFOSAA	0.100	0.109	9.2	30.00
NEtFOSAA	0.100	0.0855	-14.5	30.00
NMeFOSE	0.400	0.393	-1.7	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2309009**Laboratory ID:** SC00809-LCV1**Sequence:** SC00809**Standard ID:** 23B0080

NEtFOSE	0.400	0.413	3.4	30.00
HFPO-DA	0.200	0.195	-2.4	30.00
ADONA	0.189	0.225	19.3	30.00
PFEESA	0.178	0.185	4.1	30.00
PFMPA	0.200	0.217	8.3	30.00
PFMBA	0.200	0.262	30.8 *	30.00
NFDHA	0.200	0.213	6.3	30.00
9CL-PF3ONS	0.187	0.202	8.1	30.00
11CL-PF3OUDS	0.189	0.202	6.9	30.00
3:3FTCA	0.400	0.426	6.5	30.00
5:3FTCA	0.400	0.361	-9.7	30.00
7:3FTCA	0.400	0.444	11.0	30.00

* Values outside of QC limits

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
PFBA	(213.0 / 169.0) 136138	(3.45, 1.00) (0.00, N/A, 0.0)	83.1	N/A 0.0 0.0	0.4107 [0.4000]	102.7%			
PFPeA	(263.0 / 219.0) 104922 (263.0 / 69.0) 1152	(4.46, 1.00) (0.00, N/A, 0.7)	258.4 36.7	0.0110 92.2 82.1	0.2004 [0.2000]	100.2%			
PFHxA	(313.0 / 269.0) 74652 (313.0 / 119.0) 5882	(5.37, 1.00) (0.00, N/A, -0.6)	295.7 521546.8	0.0788 84.2 71.1	0.1011 [0.1000]	101.1%			
PFHpA	(363.0 / 319.0) 68372 (363.0 / 169.0) 18309	(6.17, 1.00) (-0.01, N/A, 0.0)	484.0 8713319.8	0.2678 84.8 82.6	0.1114 [0.1000]	111.4%			
PFOA	(413.0 / 369.0) 85462 (413.0 / 169.0) 20091	(6.88, 1.00) (0.00, N/A, 0.9)	283.4 461.6	0.2351 69.5 68.9	0.1068 [0.1000]	106.8%			
PFNA	(463.0 / 419.0) 84103 (463.0 / 169.0) 18433	(7.49, 1.00) (-0.01, N/A, -0.5)	1129.0 425.3	0.2192 93.6 94.7	0.1221 [0.1000]	122.1%			
PFDA	(513.0 / 469.0) 98644 (513.0 / 169.0) 11737	(8.04, 1.00) (0.00, N/A, -0.3)	132.4 21363.2	0.1190 96.0 98.7	0.1272 [0.1000]	127.2%			
PFUnA	(563.0 / 519.0) 92822 (563.0 / 169.0) 7260	(8.54, 1.00) (0.01, N/A, -0.3)	247.5 131.7	0.0782 72.7 65.3	0.1234 [0.1000]	123.4%			
PFDoA	(613.0 / 569.0) 67097 (613.0 / 169.0) 10582	(8.85, 1.00) (0.00, N/A, 0.3)	149.7 29150.9	0.1577 99.3 90.1	0.0951 [0.1000]	95.1%			
PFTTrDA	(663.0 / 619.0) 75811 (663.0 / 169.0) 13267	(9.07, 1.02) (N/A, -0.01, -0.2)	846.5 36975.9	0.1750 64.5 66.9	0.1117 [0.1000]	111.7%			
PFTeDA	(713.0 / 669.0) 65324 (713.0 / 169.0) 16023	(9.23, 1.00) (-0.01, N/A, -0.4)	247.1 165.4	0.2453 112.2 111.5	0.0933 [0.1000]	93.3%			

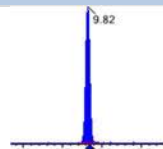
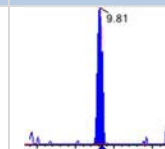
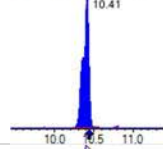
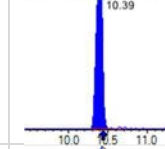
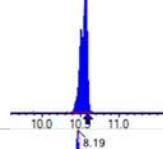
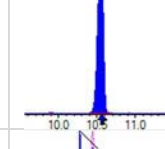
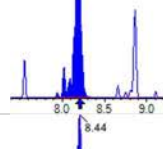
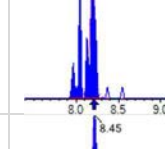
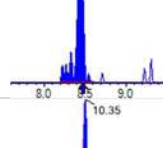
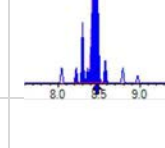
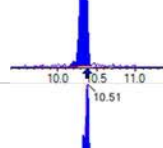
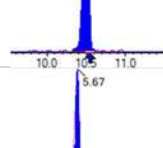
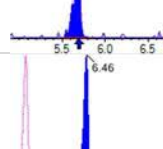
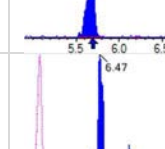
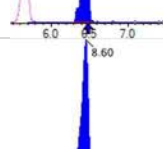
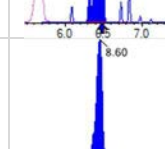
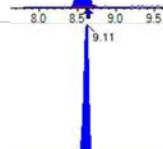
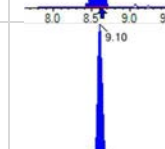
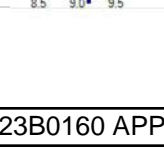
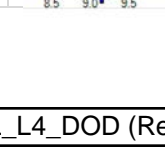


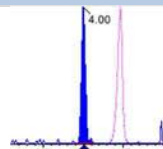
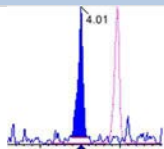
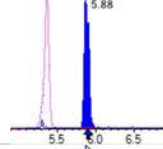
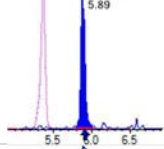
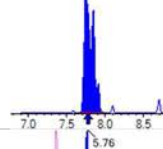
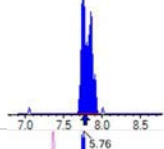
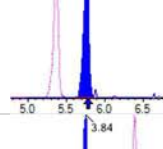
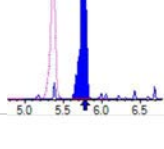
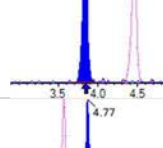
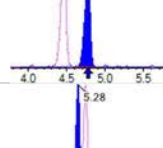
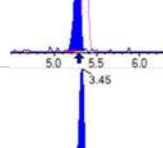
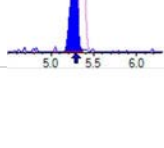
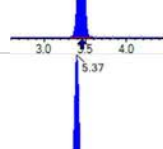
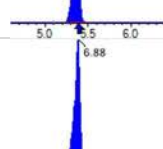
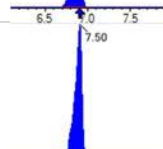
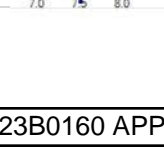
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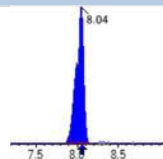
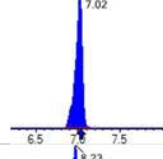
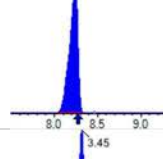
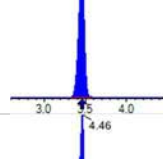
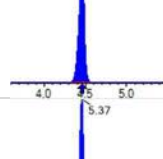
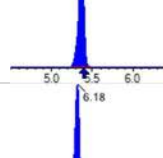
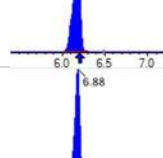
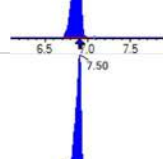
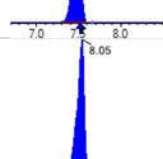
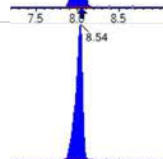
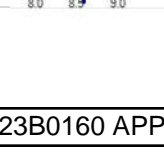
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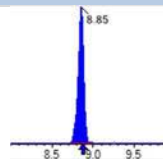
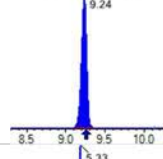
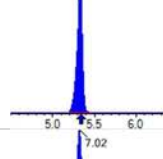
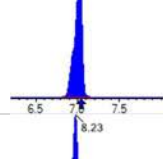
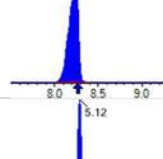
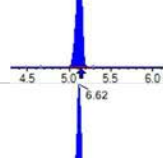
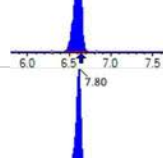
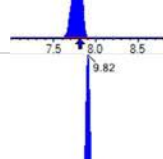
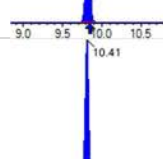
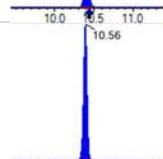
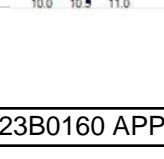
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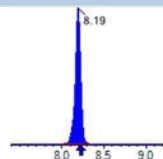
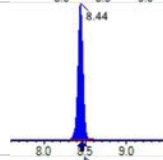
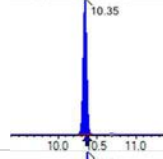
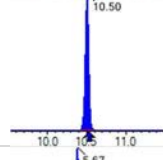
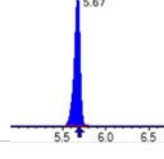
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 120180 (299.0 / 99.0) 98748	(5.33 , 1.00) (0.00 , N/A , -0.1)	564.9 223.2	0.8217 130.6 138.0	0.0862 [0.0885]	97.4%			
PFPeS	(349.0 / 80.0) 226508 (349.0 / 99.0) 77332	(6.24 , 0.89) (N/A , -0.02 , -0.1)	2749.2 66677.7	0.3414 102.1 96.0	0.1019 [0.0938]	108.6%			
PFHxS	(399.0 / 80.0) 183500 (399.0 / 99.0) 53423	(7.02 , 1.00) (0.00 , N/A , 0.3)	300.6 115.5	0.2911 91.0 88.1	0.0941 [0.0911]	103.3%			
PFHpS	(449.0 / 80.0) 221198 (449.0 / 99.0) 59678	(7.67 , 0.93) (N/A , -0.01 , -1.3)	6249.2 4548.5	0.2698 99.4 99.7	0.1028 [0.0951]	108.1%			
PFOS	(499.0 / 80.0) 286936 (499.0 / 99.0) 49057	(8.23 , 1.00) (0.00 , N/A , 0.2)	62.6 47.8	0.1710 77.7 80.7	0.1088 [0.0927]	117.3%			
PFNS	(549.0 / 80.0) 257167 (549.0 / 99.0) 62238	(8.69 , 1.06) (N/A , -0.02 , 0.2)	67474572.9 1751.3	0.2420 100.6 104.9	0.0975 [0.0960]	101.5%			
PFDS	(599.0 / 80.0) 288177 (599.0 / 99.0) 50143	(8.96 , 1.09) (N/A , -0.02 , -1.0)	589.6 205.4	0.1740 86.0 85.1	0.0983 [0.0963]	102.0%			
PFDoS	(699.0 / 80.0) 135645 (699.0 / 99.0) 32292	(9.30 , 1.13) (N/A , -0.02 , -0.5)	415.2 307.9	0.2381 121.8 122.8	0.1002 [0.0970]	103.3%			
4:2FTS	(327.0 / 307.0) 150895 (327.0 / 81.0) 108714	(5.12 , 1.00) (0.00 , N/A , 0.1)	556.1 247.3	0.7205 104.0 104.7	0.3719 [0.3738]	99.5%			
6:2FTS	(427.0 / 407.0) 94592 (427.0 / 81.0) 78187	(6.62 , 1.00) (0.00 , N/A , 0.1)	882.9 428.1	0.8266 97.5 96.7	0.5015 [0.3796]	132.1%			QC,
8:2FTS	(527.0 / 507.0) 68796 (527.0 / 81.0) 68929	(7.80 , 1.00) (0.01 , N/A , 0.8)	766.3 136.0	1.0019 122.8 116.3	0.3666 [0.3833]	95.6%			

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
PFOSA	(498.0 / 78.0) 362296 (498.0 / 478.0) 9424	(9.82 , 1.00) (0.00 , N/A , 0.4)	921.9 195.9	0.0260 132.4 130.4	0.1045 [0.1000]	104.5%			
NMeFOFA	(512.0 / 219.0) 324948 (512.0 / 169.0) 292244	(10.41 , 1.00) (0.00 , N/A , 1.2)	1143.1 1173.4	0.8994 108.9 109.2	0.4097 [0.4000]	102.4%			
NEIFOSA	(526.0 / 219.0) 347515 (526.0 / 169.0) 438948	(10.56 , 1.00) (0.00 , N/A , 0.8)	1754.2 1791.4	1.2631 99.7 101.2	0.4409 [0.4000]	110.2%			
NMeFOSAA	(570.0 / 419.0) 33891 (570.0 / 483.0) 9758	(8.19 , 1.00) (-0.01 , N/A , 2.8)	665.3 13214.8	0.2879 58.7 60.2	0.1092 [0.1000]	109.2%			
NEIFOSAA	(584.0 / 419.0) 21571 (584.0 / 526.0) 13364	(8.44 , 1.00) (0.00 , N/A , -0.6)	28500.5 245535.0	0.6195 109.7 103.3	0.0855 [0.1000]	85.5%			
NMeFOSE	(616.0 / 59.0) 138372	(10.35 , 1.00) (0.01 , N/A , 0.0)	226.5	N/A 0.0 0.0	0.3932 [0.4000]	98.3%			
NEtFOSE	(630.0 / 59.0) 142922	(10.51 , 1.00) (0.00 , N/A , 0.0)	304.5	N/A 0.0 0.0	0.4134 [0.4000]	103.4%			
HFPO-DA	(285.0 / 169.0) 74759 (285.0 / 185.0) 201642	(5.67 , 1.00) (0.00 , N/A , -0.2)	222.8 386.6	2.6972 98.1 98.7	0.1952 [0.2000]	97.6%			
ADONA	(377.0 / 85.0) 320385 (377.0 / 251.0) 32011	(6.46 , 1.14) (N/A , -0.02 , -0.4)	539.1 78.1	0.0999 114.1 99.7	0.2254 [0.1885]	119.5%			
9CI-Pf3ONS	(531.0 / 351.0) 674044 (533.0 / 353.0) 228756	(8.60 , 1.52) (N/A , -0.03 , 0.0)	449.7 279.7	0.3394 115.2 112.1	0.2022 [0.1867]	108.3%			
11CI-PF3OUDS	(631.0 / 451.0) 331232 (633.0 / 453.0) 105572	(9.11 , 1.61) (N/A , -0.02 , 0.5)	822.1 412.4	0.3187 103.3 111.0	0.2021 [0.1886]	107.1%			

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
3:3FTCA	(241.0 / 177.0) 6589 (241.0 / 117.0) 9583	(4.00, 0.90) (N/A, 0.00, -0.4)	196.8 59.3	1.4543 83.9 88.3	0.4261 [0.4000]	106.5%			
5:3FTCA	(341.0 / 236.7) 38122 (341.0 / 217.0) 72461	(5.88, 1.10) (N/A, -0.02, -0.1)	437.5 142.8	1.9008 113.0 105.9	0.3611 [0.4000]	90.3%			
7:3FTCA	(441.0 / 317.0) 84260 (441.0 / 337.0) 64553	(7.78, 1.45) (N/A, -0.02, -0.1)	224.0 800.7	0.7661 89.2 89.7	0.4439 [0.4000]	111.0%			
PFEESA	(315.0 / 135.0) 170009 (315.0 / 83.0) 56511	(5.76, 1.07) (N/A, -0.02, 0.1)	486.2 118.3	0.3324 118.1 122.2	0.1852 [0.1785]	103.8%			
PFMPA	(229.0 / 85.0) 28998	(3.84, 0.86) (N/A, 0.00, 0.0)	266.8	N/A 0.0 0.0	0.2166 [0.2000]	108.3%			
PFMBA	(279.0 / 85.0) 120017	(4.77, 1.07) (N/A, 0.00, 0.0)	35.6	N/A 0.0 0.0	0.2617 [0.2000]	130.8%			QC,
NFDHA	(295.0 / 201.0) 87345 (295.0 / 85.0) 83314	(5.28, 0.98) (N/A, -0.01, -0.1)	226.1 211.7	0.9539 91.4 87.5	0.2126 [0.2000]	106.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 356577	(3.45, N/A) (N/A, 0.00, N/A)	1071.9	N/A	1.0518 [1.0000]	105.2% {114.6%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 616272	(5.37, N/A) (N/A, -0.02, N/A)	1615.8	N/A	1.0362 [1.0000]	103.6% {120.3%}			
13C4_PFOA_IIS	(417.0 / 372.0) 874519	(6.88, N/A) (N/A, -0.01, N/A)	1016.8	N/A	1.0751 [1.0000]	107.5% {117.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 810053	(7.50, N/A) (N/A, 0.00, N/A)	887.7	N/A	1.0608 [1.0000]	106.1% {112.4%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 732382	(8.04, N/A) (N/A, -0.02, N/A)	604.5	N/A	1.0202 [1.0000]	102.0% { 113.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1319365	(7.02, N/A) (N/A, -0.01, N/A)	1440.4	N/A	1.0713 [1.0000]	107.1% { 123.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1903788	(8.23, N/A) (N/A, -0.03, N/A)	1439.5	N/A	1.0727 [1.0000]	107.3% { 117.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3135437	(3.45, N/A) (N/A, 0.00, N/A)	2978.0	N/A	7.3948 [8.0000]	92.4% { 106.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2377178	(4.46, N/A) (N/A, 0.00, N/A)	1942.8	N/A	3.4618 [4.0000]	86.5% { 102.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1582915	(5.37, N/A) (N/A, -0.02, N/A)	1490.8	N/A	1.8904 [2.0000]	94.5% { 117.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1374185	(6.18, N/A) (N/A, -0.02, N/A)	1189.5	N/A	1.7596 [2.0000]	88.0% { 108.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1660882	(6.88, N/A) (N/A, -0.02, N/A)	1236.5	N/A	1.7744 [2.0000]	88.7% { 108.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 729297	(7.50, N/A) (N/A, -0.01, N/A)	821.6	N/A	0.9034 [1.0000]	90.3% { 109.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 782461	(8.05, N/A) (N/A, -0.01, N/A)	844.5	N/A	0.9231 [1.0000]	92.3% { 125.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 855570	(8.54, N/A) (N/A, -0.02, N/A)	690.9	N/A	1.0188 [1.0000]	101.9% { 118.8% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 808304	(8.85, N/A) (N/A, -0.02, N/A)	1165.3	N/A	1.0378 [1.0000]	103.8% { 128.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 761544	(9.24, N/A) (N/A, -0.02, N/A)	1374.2	N/A	0.9406 [1.0000]	94.1% { 112.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4906008	(5.33, N/A) (N/A, -0.01, N/A)	2628.4	N/A	1.8401 [2.0000]	92.0% { 114.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2476241	(7.02, N/A) (N/A, -0.01, N/A)	1185.5	N/A	1.7777 [2.0000]	88.9% { 116.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4778847	(8.23, N/A) (N/A, -0.02, N/A)	1675.3	N/A	1.9107 [2.0000]	95.5% { 118.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 575037	(5.12, N/A) (N/A, -0.01, N/A)	995.9	N/A	3.5213 [4.0000]	88.0% { 114.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 578296	(6.62, N/A) (N/A, -0.02, N/A)	889.7	N/A	3.1409 [4.0000]	78.5% { 102.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 668662	(7.80, N/A) (N/A, -0.01, N/A)	1161.4	N/A	3.4343 [4.0000]	85.9% { 106.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8920690	(9.82, N/A) (N/A, -0.02, N/A)	2758.0	N/A	1.9363 [2.0000]	96.8% { 118.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1846963	(10.41, N/A) (N/A, -0.02, N/A)	1891.0	N/A	1.8670 [2.0000]	93.3% { 112.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1622686	(10.56, N/A) (N/A, -0.02, N/A)	2475.5	N/A	1.8733 [2.0000]	93.7% { 107.0% }			

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1453141	(8.19, N/A) (N/A, -0.02, N/A)	1492.6	N/A	4.1398 [4.0000]	103.5% { 115.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1158236	(8.44, N/A) (N/A, -0.03, N/A)	13142.4	N/A	3.8749 [4.0000]	96.9% { 116.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6716878	(10.35, N/A) (N/A, -0.02, N/A)	2009.1	N/A	19.9428 [20.0000]	99.7% { 118.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6842588	(10.50, N/A) (N/A, -0.02, N/A)	1252.7	N/A	17.7606 [20.0000]	88.8% { 102.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3737400	(5.67, N/A) (N/A, -0.02, N/A)	1885.2	N/A	7.1032 [8.0000]	88.8% { 108.3% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23B0084

Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2309009
 Sequence: SC00809

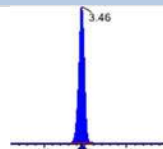
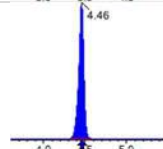
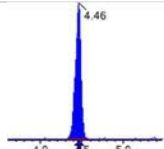
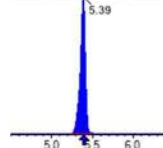
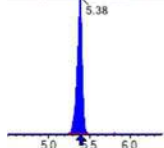
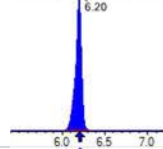
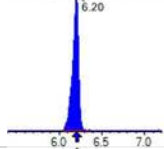
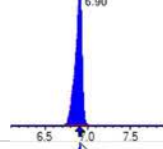
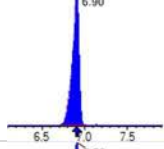
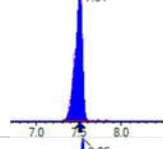
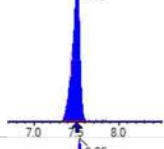
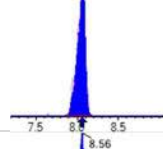
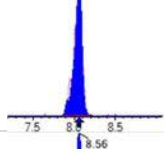
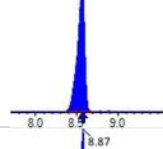
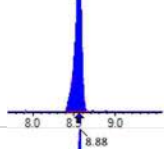
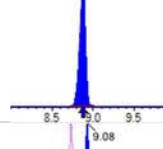
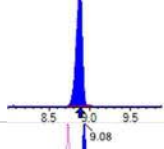
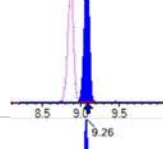
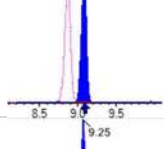
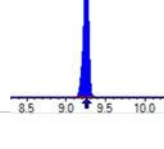
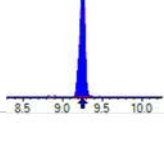
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00809-CCV1	PFBA	20.0	22.2	111	ng/mL	+/- 30.00%
	PFPEA	10.0	10.7	107	ng/mL	+/- 30.00%
	PFHXA	5.00	5.47	109	ng/mL	+/- 30.00%
	PFHPA	5.00	5.12	102	ng/mL	+/- 30.00%
	PFOA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFNA	5.00	5.20	104	ng/mL	+/- 30.00%
	PFDA	5.00	6.01	120	ng/mL	+/- 30.00%
	PFUnA	5.00	5.22	104	ng/mL	+/- 30.00%
	PFDOA	5.00	5.46	109	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.81	116	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.14	103	ng/mL	+/- 30.00%
	PFBS	4.42	5.09	115	ng/mL	+/- 30.00%
	PFPEs	4.70	5.65	120	ng/mL	+/- 30.00%
	PFHXS	4.58	5.23	114	ng/mL	+/- 30.00%
	PFHPS	4.78	5.90	123	ng/mL	+/- 30.00%
	PFOS	4.65	5.08	109	ng/mL	+/- 30.00%
	PFNS	4.80	5.75	120	ng/mL	+/- 30.00%
	PFDS	4.82	5.59	116	ng/mL	+/- 30.00%
	PFDOS	4.85	5.43	112	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.9	106	ng/mL	+/- 30.00%
	6:2FTS	19.0	22.1	116	ng/mL	+/- 30.00%
	8:2FTS	19.2	20.4	106	ng/mL	+/- 30.00%
	PFOSA	5.00	5.65	113	ng/mL	+/- 30.00%
	NMeFOSA	20.0	23.1	115	ng/mL	+/- 30.00%
	NEtFOSA	20.0	23.4	117	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.21	104	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.26	105	ng/mL	+/- 30.00%
	NMeFOSE	20.0	21.8	109	ng/mL	+/- 30.00%
	NEtFOSE	20.0	22.0	110	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.7	107	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2309009
Standard ID:	23B0084	Sequence:	SC00809

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00809-CCV1	ADONA	9.45	11.0	117	ng/mL	+/- 30.00%
	PFEESA	8.90	10.5	118	ng/mL	+/- 30.00%
	PFMPA	10.0	10.8	108	ng/mL	+/- 30.00%
	PFMBA	10.0	10.9	109	ng/mL	+/- 30.00%
	NFDHA	10.0	11.0	110	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	11.1	119	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	10.9	115	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.6	103	ng/mL	+/- 30.00%
	5:3FTCA	20.0	22.0	110	ng/mL	+/- 30.00%
	7:3FTCA	20.0	22.2	111	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) 6888232	(3.46, 1.00) (0.00, N/A, 0.0)	211.5	N/A 0.0 0.0	22.1515 [20.0000]	110.8%			
PFPeA	(263.0 / 219.0) 5473117 (263.0 / 69.0) 73181	(4.46, 1.00) (0.00, N/A, 0.0)	3381.0 659.4	0.0134 112.2 100.0	10.6730 [10.0000]	106.7%			
PFHxA	(313.0 / 269.0) 3432476 (313.0 / 119.0) 380547	(5.39, 1.00) (0.00, N/A, 0.1)	5816.7 42588.6	0.1109 118.5 100.0	5.4718 [5.0000]	109.4%			
PFHpA	(363.0 / 319.0) 2895767 (363.0 / 169.0) 938387	(6.20, 1.00) (0.00, N/A, -0.1)	3932.8 11827.2	0.3241 102.7 100.0	5.1181 [5.0000]	102.4%			
PFOA	(413.0 / 369.0) 3828500 (413.0 / 169.0) 1305636	(6.90, 1.00) (0.00, N/A, 0.0)	3496.8 1332.1	0.3410 100.8 100.0	5.1652 [5.0000]	103.3%			
PFNA	(463.0 / 419.0) 3260772 (463.0 / 169.0) 754285	(7.51, 1.00) (0.00, N/A, 0.2)	5351.9 4297446.0	0.2313 98.8 100.0	5.1990 [5.0000]	104.0%			
PFDA	(513.0 / 469.0) 3728403 (513.0 / 169.0) 449361	(8.06, 1.00) (0.01, N/A, 0.2)	1302.3 702.8	0.1205 97.3 100.0	6.0078 [5.0000]	120.2%			
PFUnA	(563.0 / 519.0) 3307807 (563.0 / 169.0) 396056	(8.56, 1.00) (0.00, N/A, 0.2)	1747.4 888.9	0.1197 111.2 100.0	5.2218 [5.0000]	104.4%			
PFDoA	(613.0 / 569.0) 3007159 (613.0 / 169.0) 526451	(8.87, 1.00) (0.00, N/A, -0.2)	1405.6 829.7	0.1751 110.2 100.0	5.4630 [5.0000]	109.3%			
PFTrDA	(663.0 / 619.0) 3077422 (663.0 / 169.0) 804616	(9.08, 1.02) (N/A, 0.00, -0.1)	1541.0 1586.2	0.2615 96.3 100.0	5.8098 [5.0000]	116.2%			
PFTeDA	(713.0 / 669.0) 3215500 (713.0 / 169.0) 707544	(9.26, 1.00) (0.00, N/A, 0.1)	1774.3 826.5	0.2200 100.6 100.0	5.1440 [5.0000]	102.9%			

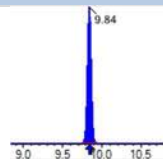
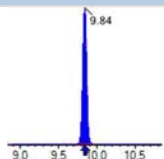
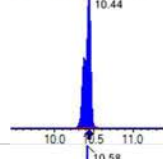
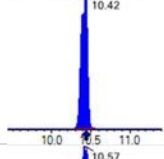
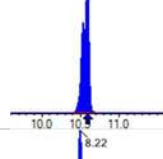
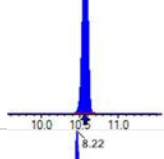
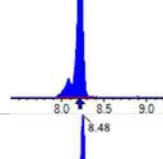
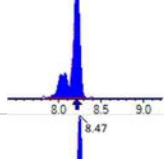
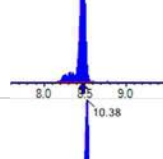
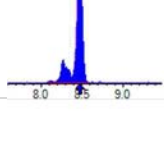
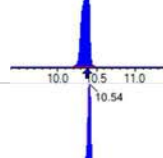
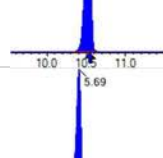
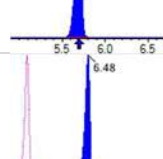
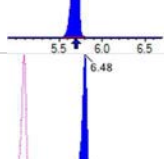
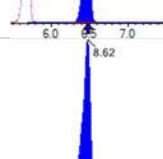
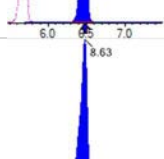
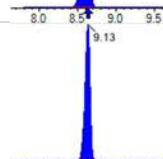
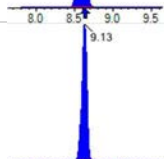
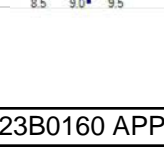
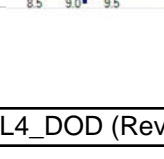


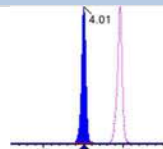
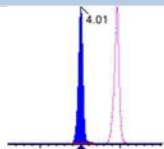
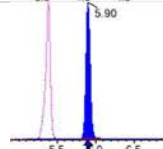
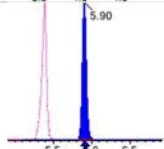
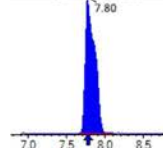
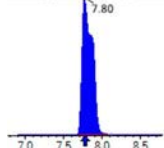
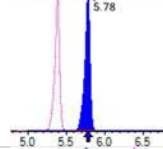
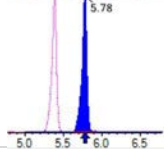
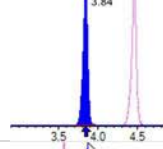
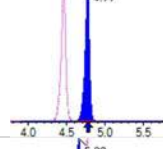
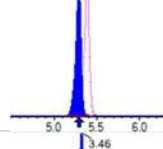
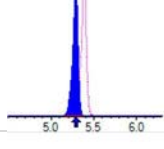
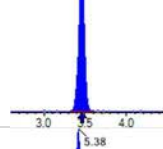
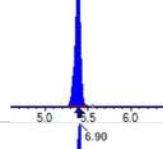
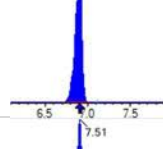
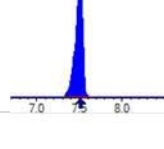
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

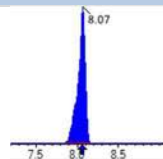
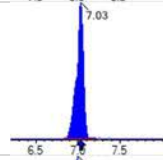
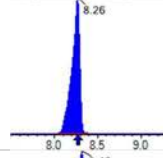
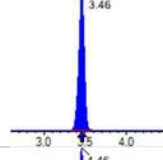
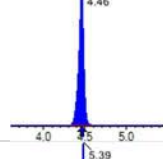
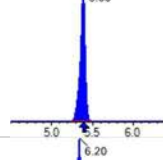
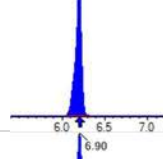
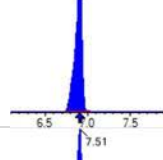
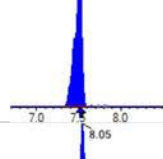
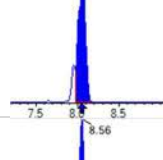
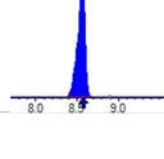
Sample I.D.: SC00809-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

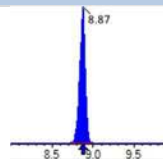
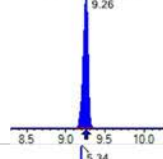
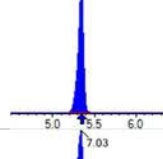
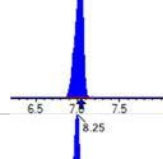
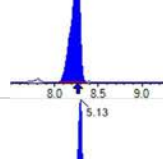
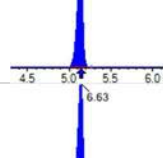
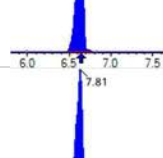
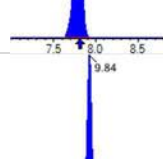
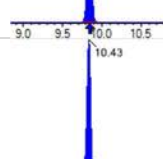
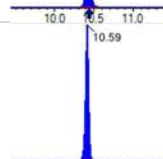
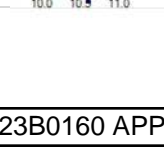
Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (3)
 Acquired: 2023/02/28 - 18:40

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 6197131 (299.0 / 99.0) 3689141	(5.34, 1.00) (0.00, N/A, 0.1)	1890.1 2279.3	0.5953 94.6 100.0	5.0854 [4.4237]	115.0%			
PFPeS	(349.0 / 80.0) 10779684 (349.0 / 99.0) 3831894	(6.26, 0.89) (N/A, 0.00, 0.0)	24561.1 2614.4	0.3555 106.3 100.0	5.6489 [4.6919]	120.4%			
PFHxS	(399.0 / 80.0) 8748944 (399.0 / 99.0) 2892150	(7.03, 1.00) (0.01, N/A, 0.2)	8057.7 1016797.8	0.3306 103.3 100.0	5.2254 [4.5549]	114.7%			
PFHpS	(449.0 / 80.0) 10704075 (449.0 / 99.0) 2895755	(7.68, 0.93) (N/A, 0.00, 0.1)	43606.7 2089.2	0.2705 99.6 100.0	5.8975 [4.7570]	124.0%			
PFOS	(499.0 / 80.0) 11300675 (499.0 / 99.0) 2395513	(8.25, 1.00) (0.00, N/A, 0.0)	343.8 599.8	0.2120 96.4 100.0	5.0801 [4.6375]	109.5%			
PFNS	(549.0 / 80.0) 12801050 (549.0 / 99.0) 2954194	(8.71, 1.06) (N/A, 0.00, 0.1)	21742.7 146724.3	0.2308 95.9 100.0	5.7507 [4.7994]	119.8%			
PFDS	(599.0 / 80.0) 13839875 (599.0 / 99.0) 2828833	(8.98, 1.09) (N/A, 0.00, 0.0)	2702.5 1220.4	0.2044 101.0 100.0	5.5945 [4.8155]	116.2%			
PFDoS	(699.0 / 80.0) 6197016 (699.0 / 99.0) 1200996	(9.33, 1.13) (N/A, 0.00, 0.1)	1994.0 1203.3	0.1938 99.2 100.0	5.4263 [4.8478]	111.9%			
4:2FTS	(327.0 / 307.0) 7046209 (327.0 / 81.0) 4846748	(5.13, 1.00) (0.00, N/A, -0.1)	1927.0 1943.3	0.6879 99.3 100.0	19.9016 [18.6906]	106.5%			
6:2FTS	(427.0 / 407.0) 4061613 (427.0 / 81.0) 3470567	(6.63, 1.00) (0.00, N/A, -0.1)	1694.2 1671.4	0.8545 100.8 100.0	22.0518 [18.9808]	116.2%			
8:2FTS	(527.0 / 507.0) 3582542 (527.0 / 81.0) 3087139	(7.81, 1.00) (0.00, N/A, -0.2)	1625.2 1517.6	0.8617 105.6 100.0	20.4112 [19.1658]	106.5%			

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
PFOSA	(498.0 / 78.0) 16574485 (498.0 / 478.0) 330718	(9.84, 1.00) (0.00, N/A, 0.1)	3180.1 1266.1	0.0200 101.6 100.0	5.6490 [5.0000]	113.0%			
NMeFOFA	(512.0 / 219.0) 16265318 (512.0 / 169.0) 13399473	(10.44, 1.00) (0.00, N/A, 1.1)	4606.5 5286.6	0.8238 99.7 100.0	23.0587 [20.0000]	115.3%			
NEFOFA	(526.0 / 219.0) 17221211 (526.0 / 169.0) 21504858	(10.58, 1.00) (-0.01, N/A, 0.6)	13248.7 11950.9	1.2487 98.6 100.0	23.3834 [20.0000]	116.9%			
NMeFOSAA	(570.0 / 419.0) 1406498 (570.0 / 483.0) 672601	(8.22, 1.00) (0.00, N/A, 0.0)	1927.1 374.1	0.4782 97.5 100.0	5.2111 [5.0000]	104.2%			
NEIFOSAA	(584.0 / 419.0) 1144080 (584.0 / 526.0) 686485	(8.48, 1.00) (0.01, N/A, 0.1)	3044.4 1536.2	0.6000 106.2 100.0	5.2602 [5.0000]	105.2%			
NMeFOSE	(616.0 / 59.0) 6483131	(10.38, 1.00) (0.01, N/A, 0.0)	3322.2	N/A 0.0 0.0	21.7914 [20.0000]	109.0%			
NEtFOSE	(630.0 / 59.0) 7468163	(10.54, 1.00) (0.01, N/A, 0.0)	1219.5	N/A 0.0 0.0	22.0267 [20.0000]	110.1%			
HFPO-DA	(285.0 / 169.0) 3776163 (285.0 / 185.0) 10318729	(5.69, 1.00) (0.00, N/A, 0.1)	1809.5 2557.9	2.7326 99.4 100.0	10.6782 [10.0000]	106.8%			
ADONA	(377.0 / 85.0) 14463192 (377.0 / 251.0) 1449407	(6.48, 1.14) (N/A, 0.00, 0.0)	2380.2 1457.4	0.1002 114.5 100.0	11.0199 [9.4270]	116.9%			
9CI-Pf3ONS	(531.0 / 351.0) 34253435 (533.0 / 353.0) 10366020	(8.62, 1.52) (N/A, 0.00, -0.1)	1815.6 1885.9	0.3026 102.7 100.0	11.1282 [9.3325]	119.2%			
11CI-PF3OUDS	(631.0 / 451.0) 16476092 (633.0 / 453.0) 4730385	(9.13, 1.60) (N/A, 0.00, 0.1)	1938.2 1174.0	0.2871 93.0 100.0	10.8873 [9.4321]	115.4%			

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) 311442 (241.0 / 117.0) 512717	(4.01, 0.90) (N/A, 0.00, 0.0)	1269.9 1307.4	1.6463 94.9 100.0	20.5653 [20.0000]	102.8%			
5:3FTCA	(341.0 / 236.7) 1974661 (341.0 / 217.0) 3542872	(5.90, 1.10) (N/A, 0.00, 0.0)	1948.4 1889.9	1.7942 106.7 100.0	22.0206 [20.0000]	110.1%			
7:3FTCA	(441.0 / 317.0) 3576769 (441.0 / 337.0) 3056530	(7.80, 1.45) (N/A, 0.00, -0.3)	700.3 751.6	0.8546 99.5 100.0	22.1862 [20.0000]	110.9%			
PFEESA	(315.0 / 135.0) 8201992 (315.0 / 83.0) 2230789	(5.78, 1.07) (N/A, 0.00, 0.0)	2415.9 1398.2	0.2720 96.6 100.0	10.5218 [8.9246]	117.9%			
PFMPA	(229.0 / 85.0) 1416687	(3.84, 0.86) (N/A, 0.00, 0.0)	2705.9	N/A 0.0 0.0	10.8052 [10.0000]	108.1%			
PFMBA	(279.0 / 85.0) 4882639	(4.77, 1.07) (N/A, 0.00, 0.0)	2337.1	N/A 0.0 0.0	10.8702 [10.0000]	108.7%			
NFDHA	(295.0 / 201.0) 3837710 (295.0 / 85.0) 4182127	(5.29, 0.98) (N/A, 0.00, 0.0)	2040.0 2306.8	1.0897 104.4 100.0	10.9993 [10.0000]	110.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 311039	(3.46, N/A) (N/A, 0.00, N/A)	865.7	N/A	0.9175 [1.0000]	91.7% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 512380	(5.38, N/A) (N/A, 0.00, N/A)	1103.1	N/A	0.8615 [1.0000]	86.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 742897	(6.90, N/A) (N/A, 0.00, N/A)	931.2	N/A	0.9133 [1.0000]	91.3% { 100.0% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 720819	(7.51, N/A) (N/A, 0.00, N/A)	1649.6	N/A	0.9439 [1.0000]	94.4% { 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
13C2_PFDA_IIS	(515.0 / 470.1) 645176	(8.07, N/A) (N/A, 0.00, N/A)	1290.0	N/A	0.8987 [1.0000]	89.9% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1071649	(7.03, N/A) (N/A, 0.00, N/A)	742.4	N/A	0.8702 [1.0000]	87.0% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1622994	(8.26, N/A) (N/A, 0.00, N/A)	1231.1	N/A	0.9144 [1.0000]	91.4% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2941645	(3.46, N/A) (N/A, 0.00, N/A)	3189.1	N/A	7.9535 [8.0000]	99.4% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2327908	(4.46, N/A) (N/A, 0.00, N/A)	2025.0	N/A	4.0775 [4.0000]	101.9% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1344366	(5.39, N/A) (N/A, 0.00, N/A)	1599.2	N/A	1.9310 [2.0000]	96.6% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1267169	(6.20, N/A) (N/A, 0.00, N/A)	1354.4	N/A	1.9516 [2.0000]	97.6% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1538499	(6.90, N/A) (N/A, 0.00, N/A)	1446.1	N/A	1.9349 [2.0000]	96.7% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 663989	(7.51, N/A) (N/A, 0.00, N/A)	699.0	N/A	0.9244 [1.0000]	92.4% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 625937	(8.05, N/A) (N/A, 0.00, N/A)	843.9	N/A	0.8382 [1.0000]	83.8% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 720363	(8.56, N/A) (N/A, 0.00, N/A)	852.5	N/A	0.9737 [1.0000]	97.4% { 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
13C2_PFDa_EIS	(615.0 / 570.0) 630943	(8.87, N/A) (N/A, 0.00, N/A)	1532.7	N/A	0.9196 [1.0000]	92.0% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 679825	(9.26, N/A) (N/A, 0.00, N/A)	1288.5	N/A	0.9531 [1.0000]	95.3% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4286483	(5.34, N/A) (N/A, 0.00, N/A)	2282.9	N/A	1.9794 [2.0000]	99.0% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2125830	(7.03, N/A) (N/A, 0.00, N/A)	872.8	N/A	1.8789 [2.0000]	93.9% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4031362	(8.25, N/A) (N/A, 0.00, N/A)	750.9	N/A	1.8907 [2.0000]	94.5% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 501755	(5.13, N/A) (N/A, 0.00, N/A)	1446.1	N/A	3.7828 [4.0000]	94.6% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 564736	(6.63, N/A) (N/A, 0.00, N/A)	1070.8	N/A	3.7763 [4.0000]	94.4% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 625397	(7.81, N/A) (N/A, 0.00, N/A)	1101.1	N/A	3.9546 [4.0000]	98.9% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7551238	(9.84, N/A) (N/A, 0.00, N/A)	2364.2	N/A	1.9226 [2.0000]	96.1% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1642661	(10.43, N/A) (N/A, 0.00, N/A)	2486.8	N/A	1.9477 [2.0000]	97.4% { 100.0% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1516206	(10.59, N/A) (N/A, 0.00, N/A)	2339.8	N/A	2.0532 [2.0000]	102.7% { 100.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (3)
 Acquired: 2023/02/28 - 18:40

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] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1263201	(8.21 , N/A) (N/A , 0.00 , N/A)	1137.3	N/A	4.2213 [4.0000]	105.5% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 997991	(8.47 , N/A) (N/A , 0.00 , N/A)	11822.0	N/A	3.9164 [4.0000]	97.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5678668	(10.37 , N/A) (N/A , 0.00 , N/A)	2373.1	N/A	19.7773 [20.0000]	98.9% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6710813	(10.53 , N/A) (N/A , 0.00 , N/A)	1281.6	N/A	20.4322 [20.0000]	102.2% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3450790	(5.69 , N/A) (N/A , 0.00 , N/A)	1867.1	N/A	7.8882 [8.0000]	98.6% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Instrument ID: Saphira
 Standard ID: 23B0084

Work Order: 23B0160
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2309009
 Sequence: SC00809

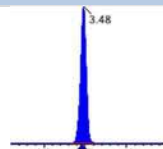
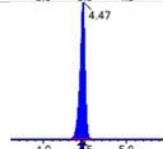
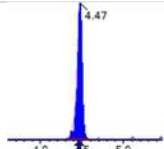
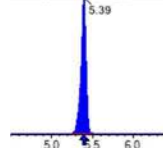
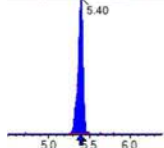
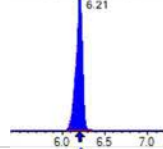
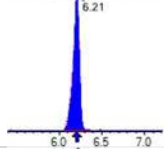
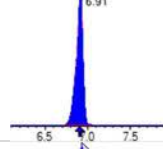
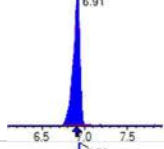
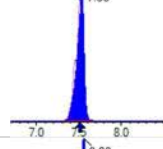
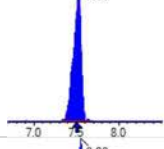
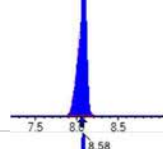
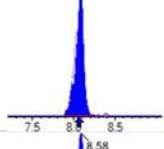
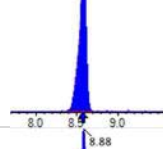
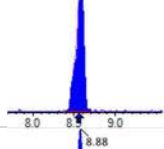
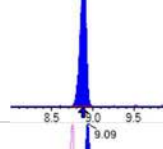
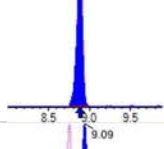
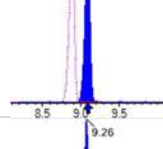
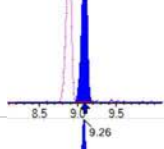
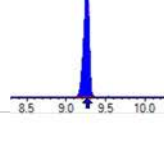
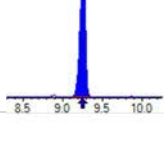
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00809-CCV2	PFBA	20.0	22.1	110	ng/mL	+/- 30.00%
	PFPEA	10.0	10.9	109	ng/mL	+/- 30.00%
	PFHXA	5.00	5.20	104	ng/mL	+/- 30.00%
	PFHPA	5.00	5.19	104	ng/mL	+/- 30.00%
	PFOA	5.00	5.08	102	ng/mL	+/- 30.00%
	PFNA	5.00	5.50	110	ng/mL	+/- 30.00%
	PFDA	5.00	5.05	101	ng/mL	+/- 30.00%
	PFUnA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFDOA	5.00	5.19	104	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.29	106	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.83	96.7	ng/mL	+/- 30.00%
	PFBS	4.42	5.19	117	ng/mL	+/- 30.00%
	PFPEs	4.70	5.28	112	ng/mL	+/- 30.00%
	PFHXS	4.58	5.06	110	ng/mL	+/- 30.00%
	PFHPS	4.78	5.47	114	ng/mL	+/- 30.00%
	PFOS	4.65	4.96	107	ng/mL	+/- 30.00%
	PFNS	4.80	5.81	121	ng/mL	+/- 30.00%
	PFDS	4.82	5.69	118	ng/mL	+/- 30.00%
	PFDOS	4.85	6.42	132	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.0	106	ng/mL	+/- 30.00%
	6:2FTS	19.0	20.9	110	ng/mL	+/- 30.00%
	8:2FTS	19.2	21.3	111	ng/mL	+/- 30.00%
	PFOSA	5.00	5.65	113	ng/mL	+/- 30.00%
	NMeFOSA	20.0	23.3	117	ng/mL	+/- 30.00%
	NEtFOSA	20.0	22.7	114	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.46	109	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.42	108	ng/mL	+/- 30.00%
	NMeFOSE	20.0	21.7	109	ng/mL	+/- 30.00%
	NEtFOSE	20.0	22.8	114	ng/mL	+/- 30.00%
	HFPO-DA	10.0	11.4	114	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2309009
Standard ID:	23B0084	Sequence:	SC00809

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00809-CCV2	ADONA	9.45	11.4	121	ng/mL	+/- 30.00%
	PFEESA	8.90	9.84	111	ng/mL	+/- 30.00%
	PFMPA	10.0	10.8	108	ng/mL	+/- 30.00%
	PFMBA	10.0	10.5	105	ng/mL	+/- 30.00%
	NFDHA	10.0	10.9	109	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	10.6	113	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	10.8	114	ng/mL	+/- 30.00%
	3:3FTCA	20.0	21.3	106	ng/mL	+/- 30.00%
	5:3FTCA	20.0	20.1	100	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.2	86.1	ng/mL	+/- 30.00%

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
PFBA	(213.0 / 169.0) 7246995	(3.48, 1.00) (0.00, N/A, 0.0)	195.4	N/A 0.0 0.0	22.0906 [20.0000]	110.5%			
PFPeA	(263.0 / 219.0) 6135452 (263.0 / 69.0) 63209	(4.47, 1.00) (0.00, N/A, -0.1)	4024.7 805.3	0.0103 86.4 77.0	10.9309 [10.0000]	109.3%			
PFHxA	(313.0 / 269.0) 3691821 (313.0 / 119.0) 382946	(5.39, 1.00) (0.00, N/A, -0.1)	4855.2 259899.6	0.1037 110.9 93.6	5.2047 [5.0000]	104.1%			
PFHpA	(363.0 / 319.0) 3024901 (363.0 / 169.0) 951093	(6.21, 1.00) (0.00, N/A, 0.1)	12718.6 312237.4	0.3144 99.6 97.0	5.1894 [5.0000]	103.8%			
PFOA	(413.0 / 369.0) 3955627 (413.0 / 169.0) 1307593	(6.91, 1.00) (0.00, N/A, 0.0)	7068.5 14127.0	0.3306 97.7 96.9	5.0806 [5.0000]	101.6%			
PFNA	(463.0 / 419.0) 3209407 (463.0 / 169.0) 702096	(7.53, 1.00) (0.01, N/A, 0.5)	7231.8 15421.1	0.2188 93.4 94.6	5.4978 [5.0000]	110.0%			
PFDA	(513.0 / 469.0) 3783333 (513.0 / 169.0) 485260	(8.08, 1.00) (0.01, N/A, 0.0)	1337.7 414.1	0.1283 103.5 106.4	5.0456 [5.0000]	100.9%			
PFUnA	(563.0 / 519.0) 3277460 (563.0 / 169.0) 381360	(8.58, 1.00) (0.00, N/A, -0.2)	1792.8 413.5	0.1164 108.1 97.2	5.1699 [5.0000]	103.4%			
PFDoA	(613.0 / 569.0) 3099943 (613.0 / 169.0) 595645	(8.88, 1.00) (0.00, N/A, 0.1)	1680.0 906.6	0.1921 120.9 109.8	5.1863 [5.0000]	103.7%			
PFTrDA	(663.0 / 619.0) 3043828 (663.0 / 169.0) 782279	(9.09, 1.02) (N/A, 0.01, 0.0)	1648.8 561.1	0.2570 94.7 98.3	5.2921 [5.0000]	105.8%			
PFTeDA	(713.0 / 669.0) 3252122 (713.0 / 169.0) 668793	(9.26, 1.00) (0.00, N/A, 0.1)	1449.2 726.5	0.2056 94.1 93.5	4.8328 [5.0000]	96.7%			

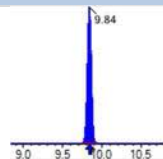
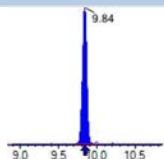
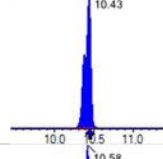
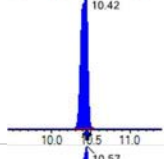
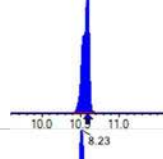
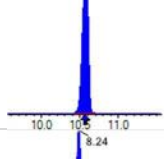
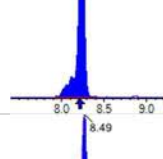
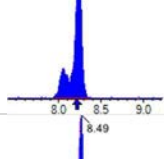
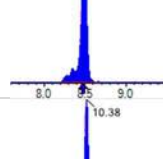
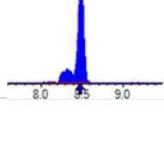
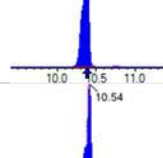
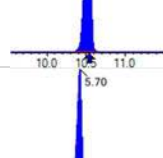
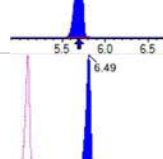
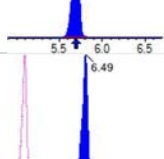
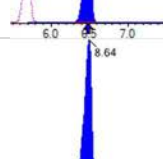
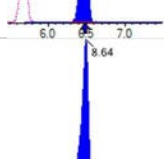
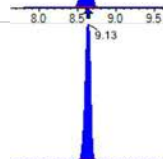
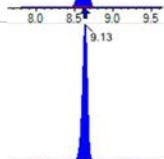
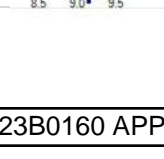
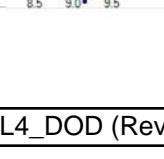


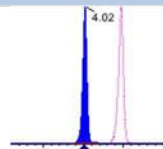
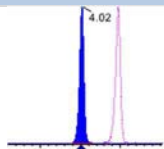
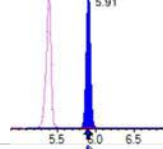
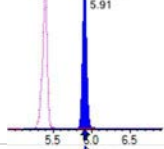
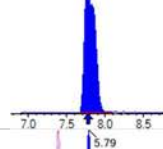
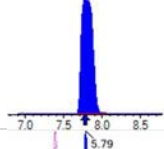
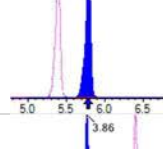
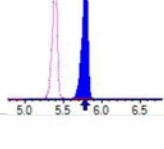
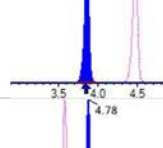
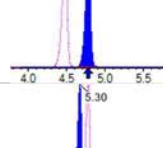
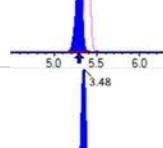
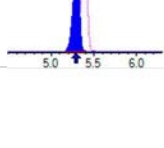
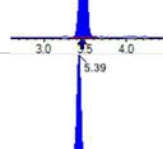
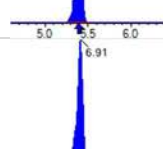
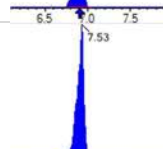
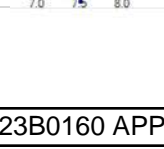
Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

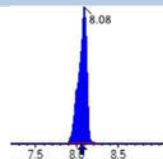
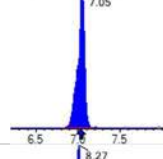
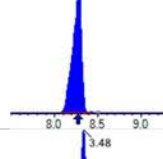
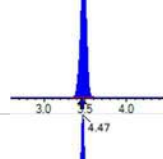
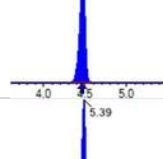
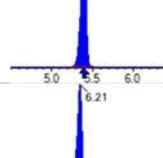
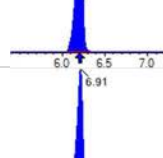
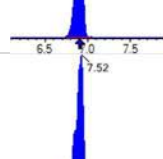
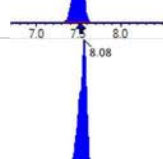
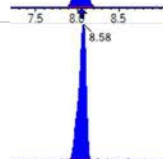
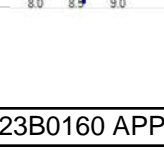
Sample I.D.: SC00809-CCV2
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

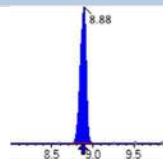
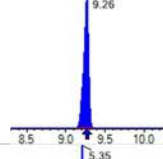
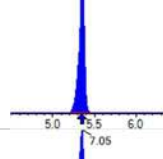
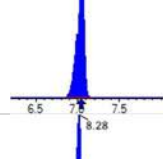
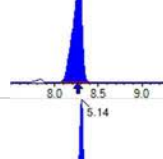
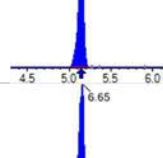
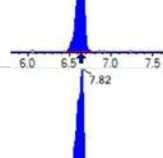
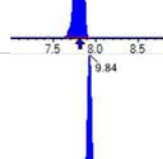
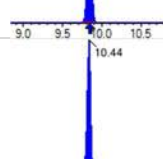
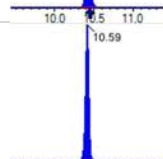
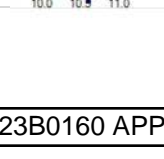
Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28B (12)
Acquired: 2023/03/01 - 08:59

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
PFBS	(299.0 / 80.0) 6631321 (299.0 / 99.0) 3880192	(5.35, 1.00) (0.00, N/A, 0.2)	2104.3 2059.9	0.5851 93.0 98.3	5.1882 [4.4237]	117.3%			
PFPeS	(349.0 / 80.0) 10945442 (349.0 / 99.0) 3772916	(6.27, 0.89) (N/A, 0.01, 0.0)	25203.5 270053.2	0.3447 103.0 97.0	5.2816 [4.6919]	112.6%			
PFHxS	(399.0 / 80.0) 9197308 (399.0 / 99.0) 2955188	(7.05, 1.00) (0.00, N/A, 0.2)	6974.5 1277732.5	0.3213 100.4 97.2	5.0582 [4.5549]	111.0%			
PFHpS	(449.0 / 80.0) 9575245 (449.0 / 99.0) 2552890	(7.69, 0.93) (N/A, 0.01, 0.0)	8996.2 252244809.8	0.2666 98.2 98.6	5.4669 [4.7570]	114.9%			
PFOS	(499.0 / 80.0) 10656701 (499.0 / 99.0) 2236629	(8.27, 1.00) (0.00, N/A, -0.1)	363.9 505.0	0.2099 95.4 99.0	4.9643 [4.6375]	107.0%			
PFNS	(549.0 / 80.0) 12478085 (549.0 / 99.0) 2693519	(8.73, 1.05) (N/A, 0.01, 0.0)	7310.9 44560.7	0.2159 89.7 93.5	5.8089 [4.7994]	121.0%			
PFDS	(599.0 / 80.0) 13579350 (599.0 / 99.0) 2800718	(8.98, 1.09) (N/A, 0.01, -0.1)	2722.6 1155.6	0.2062 101.9 100.9	5.6882 [4.8155]	118.1%			
PFDoS	(699.0 / 80.0) 7072657 (699.0 / 99.0) 1426416	(9.33, 1.13) (N/A, 0.00, -0.1)	1546.8 1219.5	0.2017 103.2 104.1	6.4177 [4.8478]	132.4%			QC,
4:2FTS	(327.0 / 307.0) 7189699 (327.0 / 81.0) 5046373	(5.14, 1.00) (0.00, N/A, 0.1)	2206.7 1825.3	0.7019 101.3 102.0	20.0153 [18.6906]	107.1%			
6:2FTS	(427.0 / 407.0) 3911572 (427.0 / 81.0) 3315609	(6.65, 1.00) (0.00, N/A, 0.0)	1850.0 1789.3	0.8476 100.0 99.2	20.8985 [18.9808]	110.1%			
8:2FTS	(527.0 / 507.0) 3500916 (527.0 / 81.0) 2803070	(7.83, 1.00) (0.00, N/A, 0.0)	1512.9 1689.4	0.8007 98.1 92.9	21.2686 [19.1658]	111.0%			

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
PFOSA	(498.0 / 78.0) 16216780 (498.0 / 478.0) 307923	(9.84, 1.00) (0.00, N/A, -0.1)	2736.6 958.1	0.0190 96.6 95.2	5.6505 [5.0000]	113.0%			
NMeFOSA	(512.0 / 219.0) 14180182 (512.0 / 169.0) 11604760	(10.43, 1.00) (0.00, N/A, 1.0)	3474.9 3813.3	0.8184 99.1 99.3	23.3026 [20.0000]	116.5%			
NEIFOSA	(526.0 / 219.0) 14944527 (526.0 / 169.0) 18532825	(10.58, 1.00) (0.00, N/A, 0.7)	10701.2 9923.8	1.2401 97.9 99.3	22.7090 [20.0000]	113.5%			
NMeFOSAA	(570.0 / 419.0) 1309607 (570.0 / 483.0) 638541	(8.23, 1.00) (0.00, N/A, -0.1)	2703.1 415.9	0.4876 99.4 102.0	5.4592 [5.0000]	109.2%			
NEIFOSAA	(584.0 / 419.0) 1187992 (584.0 / 526.0) 610396	(8.49, 1.00) (0.01, N/A, 0.1)	2152.6 1191.3	0.5138 90.9 85.6	5.4230 [5.0000]	108.5%			
NMeFOSE	(616.0 / 59.0) 5734353	(10.38, 1.00) (0.01, N/A, 0.0)	2786.6	N/A 0.0 0.0	21.7183 [20.0000]	108.6%			
NEIFOSE	(630.0 / 59.0) 6055438	(10.54, 1.00) (0.01, N/A, 0.0)	1207.2	N/A 0.0 0.0	22.7797 [20.0000]	113.9%			
HFPO-DA	(285.0 / 169.0) 4146894 (285.0 / 185.0) 10518543	(5.70, 1.00) (0.00, N/A, 0.1)	1962.3 2374.2	2.5365 92.3 92.8	11.4265 [10.0000]	114.3%			
ADONA	(377.0 / 85.0) 15342869 (377.0 / 251.0) 1362071	(6.49, 1.14) (N/A, 0.01, 0.2)	2581.3 1123.1	0.0888 101.4 88.6	11.3910 [9.4270]	120.8%			
9CI-Pf3ONS	(531.0 / 351.0) 33503870 (533.0 / 353.0) 10550227	(8.64, 1.52) (N/A, 0.02, -0.1)	1608.2 1770.1	0.3149 106.9 104.1	10.6061 [9.3325]	113.6%			
11CI-PF3OUDS	(631.0 / 451.0) 16739651 (633.0 / 453.0) 4986411	(9.13, 1.60) (N/A, 0.00, 0.0)	2090.8 1770.7	0.2979 96.5 103.8	10.7784 [9.4321]	114.3%			

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) 352786 (241.0 / 117.0) 545805	(4.02, 0.90) (N/A, 0.01, 0.1)	1348.4 1002.3	1.5471 89.2 94.0	21.2827 [20.0000]	106.4%			
5:3FTCA	(341.0 / 236.7) 2036971 (341.0 / 217.0) 3568779	(5.91, 1.10) (N/A, 0.00, 0.1)	1499.4 1781.4	1.7520 104.2 97.6	20.0889 [20.0000]	100.4%			
7:3FTCA	(441.0 / 317.0) 3138978 (441.0 / 337.0) 2989189	(7.79, 1.44) (N/A, 0.00, -0.2)	702.0 858.4	0.9523 110.9 111.4	17.2193 [20.0000]	86.1%			
PFEESA	(315.0 / 135.0) 8676853 (315.0 / 83.0) 2247850	(5.79, 1.07) (N/A, 0.01, 0.1)	2133.5 1714.1	0.2591 92.0 95.3	9.8439 [8.9246]	110.3%			
PFMPA	(229.0 / 85.0) 1555169	(3.86, 0.86) (N/A, 0.02, 0.0)	2588.2	N/A 0.0 0.0	10.8366 [10.0000]	108.4%			
PFMBA	(279.0 / 85.0) 5168826	(4.78, 1.07) (N/A, 0.01, 0.0)	2120.0	N/A 0.0 0.0	10.5131 [10.0000]	105.1%			
NFDHA	(295.0 / 201.0) 4303852 (295.0 / 85.0) 4479832	(5.30, 0.98) (N/A, 0.01, 0.0)	1805.6 2382.2	1.0409 99.7 95.5	10.9090 [10.0000]	109.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 349595	(3.48, N/A) (N/A, 0.02, N/A)	932.9	N/A	1.0312 [1.0000]	103.1% { 112.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 558394	(5.39, N/A) (N/A, 0.01, N/A)	1659.1	N/A	0.9388 [1.0000]	93.9% { 109.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 749666	(6.91, N/A) (N/A, 0.01, N/A)	1453.3	N/A	0.9216 [1.0000]	92.2% { 100.9% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 631091	(7.53, N/A) (N/A, 0.02, N/A)	802.8	N/A	0.8264 [1.0000]	82.6% { 87.6% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 620972	(8.08, N/A) (N/A, 0.02, N/A)	1256.0	N/A	0.8650 [1.0000]	86.5% { 96.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1079284	(7.05, N/A) (N/A, 0.02, N/A)	803.6	N/A	0.8764 [1.0000]	87.6% { 100.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1421044	(8.27, N/A) (N/A, 0.01, N/A)	1062.1	N/A	0.8007 [1.0000]	80.1% { 87.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3103394	(3.48, N/A) (N/A, 0.02, N/A)	3460.5	N/A	7.4655 [8.0000]	93.3% { 105.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2548052	(4.47, N/A) (N/A, 0.01, N/A)	2134.4	N/A	4.0953 [4.0000]	102.4% { 109.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1520141	(5.39, N/A) (N/A, 0.01, N/A)	1744.8	N/A	2.0036 [2.0000]	100.2% { 113.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1305494	(6.21, N/A) (N/A, 0.01, N/A)	1360.8	N/A	1.8450 [2.0000]	92.2% { 103.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1616056	(6.91, N/A) (N/A, 0.01, N/A)	1180.7	N/A	2.0140 [2.0000]	100.7% { 105.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 618002	(7.52, N/A) (N/A, 0.01, N/A)	3305.0	N/A	0.9827 [1.0000]	98.3% { 93.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 756273	(8.08, N/A) (N/A, 0.02, N/A)	1248.5	N/A	1.0522 [1.0000]	105.2% { 120.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 720920	(8.58, N/A) (N/A, 0.02, N/A)	482.9	N/A	1.0125 [1.0000]	101.2% { 100.1% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 685105	(8.88, N/A) (N/A, 0.01, N/A)	1017.7	N/A	1.0374 [1.0000]	103.7% { 108.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 731846	(9.26, N/A) (N/A, 0.01, N/A)	916.4	N/A	1.0661 [1.0000]	106.6% { 107.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4495837	(5.35, N/A) (N/A, 0.01, N/A)	2830.5	N/A	2.0614 [2.0000]	103.1% { 104.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2308627	(7.05, N/A) (N/A, 0.02, N/A)	1599.4	N/A	2.0261 [2.0000]	101.3% { 108.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3890265	(8.28, N/A) (N/A, 0.02, N/A)	738.7	N/A	2.0838 [2.0000]	104.2% { 96.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 509067	(5.14, N/A) (N/A, 0.01, N/A)	880.1	N/A	3.8108 [4.0000]	95.3% { 101.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 573890	(6.65, N/A) (N/A, 0.01, N/A)	636.9	N/A	3.8104 [4.0000]	95.3% { 101.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 586510	(7.82, N/A) (N/A, 0.02, N/A)	1188.0	N/A	3.6825 [4.0000]	92.1% { 93.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7386310	(9.84, N/A) (N/A, 0.00, N/A)	2521.1	N/A	2.1478 [2.0000]	107.4% { 97.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1417091	(10.44, N/A) (N/A, 0.00, N/A)	1583.3	N/A	1.9190 [2.0000]	96.0% { 86.3% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1354831	(10.59, N/A) (N/A, 0.00, N/A)	2174.0	N/A	2.0954 [2.0000]	104.8% { 89.4% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (12)
 Acquired: 2023/03/01 - 08:59

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1122724	(8.23 , N/A) (N/A , 0.02 , N/A)	1942.6	N/A	4.2850 [4.0000]	107.1% { 88.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1005190	(8.48 , N/A) (N/A , 0.02 , N/A)	35605.2	N/A	4.5053 [4.0000]	112.6% { 100.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5039720	(10.37 , N/A) (N/A , 0.00 , N/A)	1660.7	N/A	20.0464 [20.0000]	100.2% { 88.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5261484	(10.53 , N/A) (N/A , 0.00 , N/A)	1181.5	N/A	18.2960 [20.0000]	91.5% { 78.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3541420	(5.70 , N/A) (N/A , 0.01 , N/A)	1840.9	N/A	7.4283 [8.0000]	92.9% { 102.6% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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	7.06	ng/mL		
	13C5-PFPEA	3.52	ng/mL		
	13C5-PFHXA	1.77	ng/mL		
	13C4-PFHPA	1.64	ng/mL		
	13C8-PFOA	1.73	ng/mL		
	13C9-PFNA	0.869	ng/mL		
	13C6-PFDA	0.892	ng/mL		
	13C7-PFUnA	0.927	ng/mL		
	13C2-PFDOA	0.891	ng/mL		
	13C2-PFTEDA	0.846	ng/mL		
	13C3-PFBS	1.88	ng/mL		
	13C3-PFHXS	1.93	ng/mL		
	13C8-PFOS	1.74	ng/mL		
	13C2-4:2FTS	3.41	ng/mL		
	13C2-6:2FTS	3.42	ng/mL		
	13C2-8:2FTS	3.34	ng/mL		
	13C8-PFOSA	1.68	ng/mL		
	D3-NMEFOSA	1.72	ng/mL		
	D5-NETFOSA	1.89	ng/mL		
	D3-NMEFOSAA	3.65	ng/mL		
	D5-NETFOSAA	3.62	ng/mL		
	D7-NMEFOSE	17.6	ng/mL		
	D9-NETFOSSE	18.1	ng/mL		
	13C3-HFPO-DA	6.62	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (1)
 Acquired: 2023/02/28 - 18:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(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			

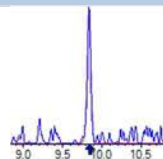
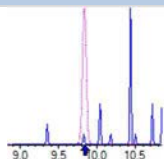
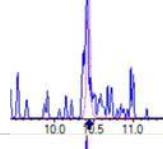
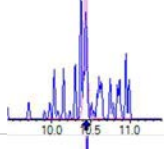
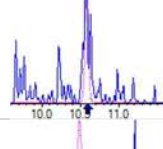
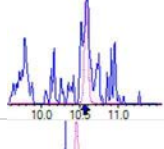
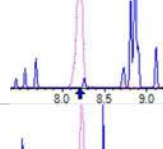
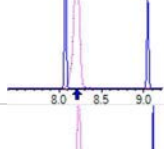
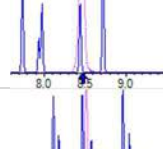
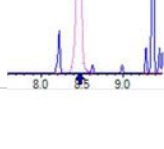
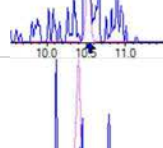
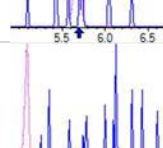
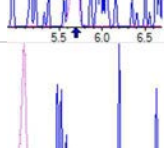
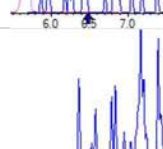
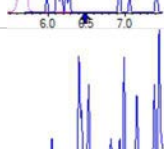
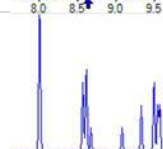

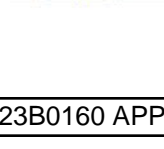
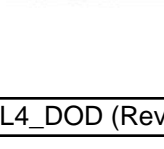


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (1)
 Acquired: 2023/02/28 - 18:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(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-Imin, 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) 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			
NEIFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 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			
NEIFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pr3ONS	(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			

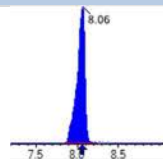
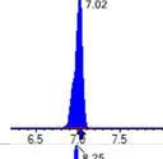
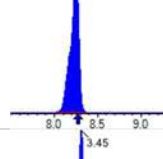
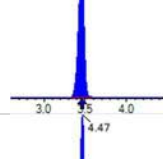
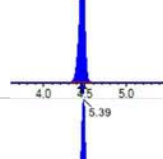
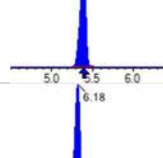
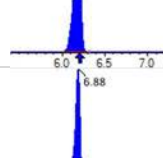
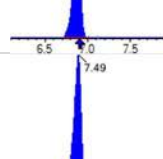
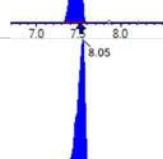
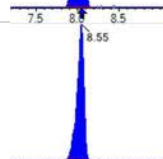
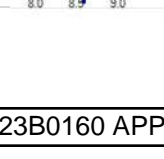


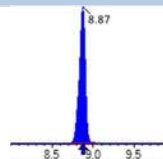
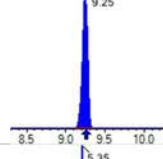
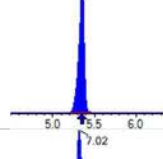
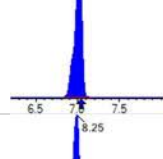
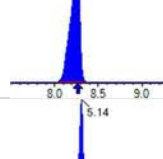
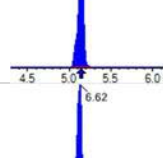
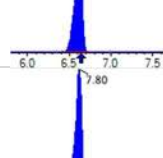
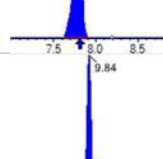
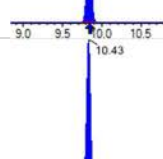
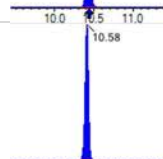
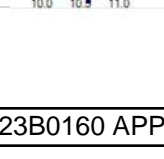
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (1)
 Acquired: 2023/02/28 - 18:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 378667	(3.45, N/A) (N/A, 0.00, N/A)	941.5	N/A	1.1169 [1.0000]	111.7% { 121.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 641445	(5.39, N/A) (N/A, 0.01, N/A)	1803.1	N/A	1.0785 [1.0000]	107.8% { 125.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 823715	(6.89, N/A) (N/A, -0.01, N/A)	904.6	N/A	1.0126 [1.0000]	101.3% { 110.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 774931	(7.50, N/A) (N/A, -0.01, N/A)	922.5	N/A	1.0148 [1.0000]	101.5% { 107.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, 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
13C2_PFDA_IIS	(515.0 / 470.1) 724824	(8.06, N/A) (N/A, -0.01, N/A)	520.9	N/A	1.0097 [1.0000]	101.0% {112.3%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 1220059	(7.02, N/A) (N/A, -0.02, N/A)	1030.9	N/A	0.9907 [1.0000]	99.1% {113.8%}			
13C4_PFOS_IIS	(503.0 / 79.9) 1963287	(8.25, N/A) (N/A, -0.01, N/A)	1018.2	N/A	1.1062 [1.0000]	110.6% {121.0%}			
13C4_PFBA_EIS	(217.0 / 172.0) 3180352	(3.45, N/A) (N/A, -0.01, N/A)	3011.0	N/A	7.0632 [8.0000]	88.3% {108.1%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 2517009	(4.47, N/A) (N/A, 0.01, N/A)	2605.8	N/A	3.5216 [4.0000]	88.0% {108.1%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 1538955	(5.39, N/A) (N/A, 0.00, N/A)	1287.9	N/A	1.7658 [2.0000]	88.3% {114.5%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 1332108	(6.18, N/A) (N/A, -0.02, N/A)	1178.4	N/A	1.6388 [2.0000]	81.9% {105.1%}			
13C8_PFOA_EIS	(421.0 / 376.0) 1526933	(6.88, N/A) (N/A, -0.02, N/A)	1356.9	N/A	1.7319 [2.0000]	86.6% {99.2%}			
13C9_PFNA_EIS	(472.0 / 427.0) 671208	(7.49, N/A) (N/A, -0.02, N/A)	917.6	N/A	0.8692 [1.0000]	86.9% {101.1%}			
13C6_PFDA_EIS	(519.0 / 474.0) 748163	(8.05, N/A) (N/A, 0.00, N/A)	612.4	N/A	0.8918 [1.0000]	89.2% {119.5%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 770641	(8.55, N/A) (N/A, -0.01, N/A)	1013.9	N/A	0.9272 [1.0000]	92.7% {107.0%}			

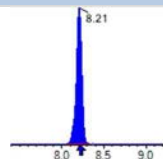
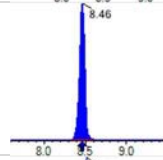
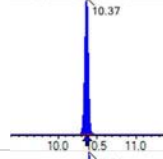
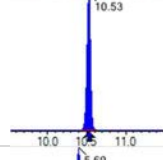
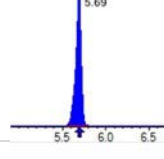
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 686787	(8.87, N/A) (N/A, 0.00, N/A)	1344.3	N/A	0.8910 [1.0000]	89.1% {108.9%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 677991	(9.25, N/A) (N/A, -0.01, N/A)	1479.8	N/A	0.8461 [1.0000]	84.6% {99.7%}			
13C3_PFBs_EIS	(302.0 / 80.0) 4638074	(5.35, N/A) (N/A, 0.01, N/A)	2804.4	N/A	1.8812 [2.0000]	94.1% {108.2%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 2484339	(7.02, N/A) (N/A, -0.01, N/A)	1286.4	N/A	1.9287 [2.0000]	96.4% {116.9%}			
13C8_PFOS_EIS	(507.0 / 80.0) 4490467	(8.25, N/A) (N/A, -0.01, N/A)	1538.2	N/A	1.7410 [2.0000]	87.0% {111.4%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 514715	(5.14, N/A) (N/A, 0.01, N/A)	1855.2	N/A	3.4085 [4.0000]	85.2% {102.6%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 582367	(6.62, N/A) (N/A, -0.01, N/A)	1008.8	N/A	3.4205 [4.0000]	85.5% {103.1%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 601807	(7.80, N/A) (N/A, -0.01, N/A)	1013.8	N/A	3.3426 [4.0000]	83.6% {96.2%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 7967139	(9.84, N/A) (N/A, -0.01, N/A)	2758.0	N/A	1.6769 [2.0000]	83.8% {105.5%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1750116	(10.43, N/A) (N/A, 0.00, N/A)	1888.7	N/A	1.7154 [2.0000]	85.8% {106.5%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1687295	(10.58, N/A) (N/A, 0.00, N/A)	2995.9	N/A	1.8888 [2.0000]	94.4% {111.3%}			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (1)
 Acquired: 2023/02/28 - 18:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1320345	(8.21, N/A) (N/A, -0.01, N/A)	1248.8	N/A	3.6475 [4.0000]	91.2% {104.5%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1116350	(8.46, N/A) (N/A, 0.00, N/A)	8898.7	N/A	3.6216 [4.0000]	90.5% {111.9%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6129231	(10.37, N/A) (N/A, 0.00, N/A)	2630.2	N/A	17.6466 [20.0000]	88.2% {107.9%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7186579	(10.53, N/A) (N/A, 0.00, N/A)	1405.2	N/A	18.0882 [20.0000]	90.4% {107.1%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 3624627	(5.69, N/A) (N/A, 0.00, N/A)	2134.7	N/A	6.6185 [8.0000]	82.7% {105.0%}			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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	7.21	ng/mL		
	13C5-PFPEA	3.65	ng/mL		
	13C5-PFHXA	1.74	ng/mL		
	13C4-PFHPA	1.69	ng/mL		
	13C8-PFOA	1.71	ng/mL		
	13C9-PFNA	0.807	ng/mL		
	13C6-PFDA	0.917	ng/mL		
	13C7-PFUnA	0.981	ng/mL		
	13C2-PFDOA	0.906	ng/mL		
	13C2-PFTEDA	0.913	ng/mL		
	13C3-PFBS	1.80	ng/mL		
	13C3-PFHXS	1.72	ng/mL		
	13C8-PFOS	1.76	ng/mL		
	13C2-4:2FTS	2.78	ng/mL		
	13C2-6:2FTS	2.89	ng/mL		
	13C2-8:2FTS	2.94	ng/mL		
	13C8-PFOSA	1.71	ng/mL		
	D3-NMEFOSA	1.72	ng/mL		
	D5-NETFOSA	1.86	ng/mL		
	D3-NMEFOSAA	3.40	ng/mL		
	D5-NETFOSAA	3.38	ng/mL		
	D7-NMEFOSE	18.4	ng/mL		
	D9-NETFOSE	19.2	ng/mL		
	13C3-HFPO-DA	6.92	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (6)
 Acquired: 2023/02/28 - 19:18

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) 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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (6)
 Acquired: 2023/02/28 - 19:18

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			



Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB2
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28B (6)
Acquired: 2023/02/28 - 19:18

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			
NEIFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 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			
NEIFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

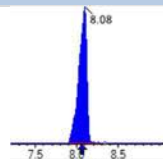
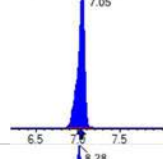
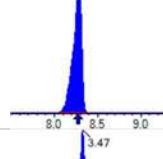
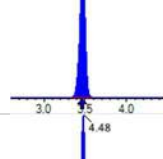
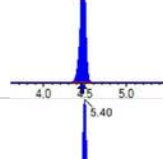
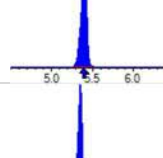
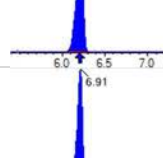
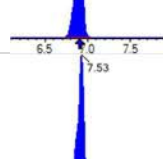
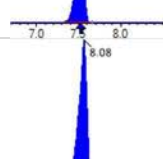
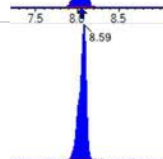
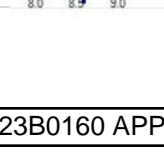


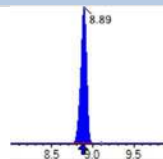
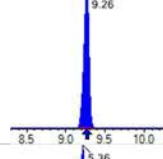
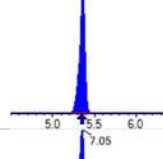
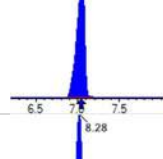
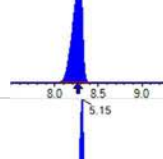
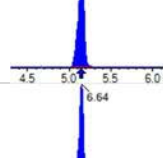
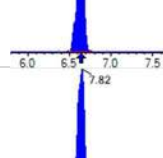
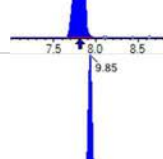
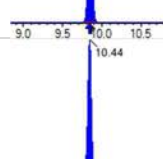
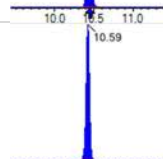
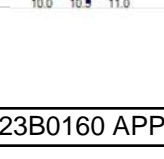
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (6)
 Acquired: 2023/02/28 - 19:18

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 361585	(3.47, N/A) (N/A, 0.01, N/A)	1184.5	N/A	1.0665 [1.0000]	106.7% { 116.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 605511	(5.40, N/A) (N/A, 0.02, N/A)	1364.2	N/A	1.0181 [1.0000]	101.8% { 118.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 834234	(6.91, N/A) (N/A, 0.01, N/A)	985.9	N/A	1.0256 [1.0000]	102.6% { 112.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 804683	(7.53, N/A) (N/A, 0.03, N/A)	694.8	N/A	1.0538 [1.0000]	105.4% { 111.6% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 717963	(8.08, N/A) (N/A, 0.01, N/A)	664.9	N/A	1.0001 [1.0000]	100.0% { 111.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1278599	(7.05, N/A) (N/A, 0.01, N/A)	1431.2	N/A	1.0382 [1.0000]	103.8% { 119.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1962043	(8.28, N/A) (N/A, 0.02, N/A)	1579.8	N/A	1.1055 [1.0000]	110.5% { 120.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3098459	(3.47, N/A) (N/A, 0.01, N/A)	3350.9	N/A	7.2064 [8.0000]	90.1% { 105.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2461640	(4.48, N/A) (N/A, 0.02, N/A)	1829.0	N/A	3.6486 [4.0000]	91.2% { 105.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1433756	(5.40, N/A) (N/A, 0.02, N/A)	1918.5	N/A	1.7427 [2.0000]	87.1% { 106.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1294058	(6.21, N/A) (N/A, 0.01, N/A)	1441.9	N/A	1.6865 [2.0000]	84.3% { 102.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1526474	(6.91, N/A) (N/A, 0.01, N/A)	1090.8	N/A	1.7096 [2.0000]	85.5% { 99.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 646940	(7.53, N/A) (N/A, 0.02, N/A)	1142.6	N/A	0.8068 [1.0000]	80.7% { 97.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 761664	(8.08, N/A) (N/A, 0.02, N/A)	1010.7	N/A	0.9166 [1.0000]	91.7% { 121.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 807827	(8.59, N/A) (N/A, 0.03, N/A)	995.0	N/A	0.9812 [1.0000]	98.1% { 112.1% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 691878	(8.89, N/A) (N/A, 0.02, N/A)	1239.5	N/A	0.9062 [1.0000]	90.6% { 109.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 724959	(9.26, N/A) (N/A, 0.01, N/A)	1275.9	N/A	0.9134 [1.0000]	91.3% { 106.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4642160	(5.36, N/A) (N/A, 0.02, N/A)	2470.7	N/A	1.7967 [2.0000]	89.8% { 108.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2327609	(7.05, N/A) (N/A, 0.02, N/A)	1029.4	N/A	1.7243 [2.0000]	86.2% { 109.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4549329	(8.28, N/A) (N/A, 0.02, N/A)	1388.1	N/A	1.7649 [2.0000]	88.2% { 112.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 439182	(5.15, N/A) (N/A, 0.02, N/A)	990.6	N/A	2.7752 [4.0000]	69.4% { 87.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 515701	(6.64, N/A) (N/A, 0.01, N/A)	747.3	N/A	2.8903 [4.0000]	72.3% { 91.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 554259	(7.82, N/A) (N/A, 0.02, N/A)	470.8	N/A	2.9375 [4.0000]	73.4% { 88.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8118141	(9.85, N/A) (N/A, 0.01, N/A)	2337.3	N/A	1.7097 [2.0000]	85.5% { 107.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1752201	(10.44, N/A) (N/A, 0.01, N/A)	2161.9	N/A	1.7186 [2.0000]	85.9% { 106.7% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1656755	(10.59, N/A) (N/A, 0.01, N/A)	2668.2	N/A	1.8558 [2.0000]	92.8% { 109.3% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (6)
 Acquired: 2023/02/28 - 19:18

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1230615	(8.24, N/A) (N/A, 0.02, N/A)	1496.9	N/A	3.4018 [4.0000]	85.0% { 97.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1042543	(8.49, N/A) (N/A, 0.02, N/A)	6381.5	N/A	3.3843 [4.0000]	84.6% { 104.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6377260	(10.38, N/A) (N/A, 0.01, N/A)	1998.3	N/A	18.3723 [20.0000]	91.9% { 112.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7610660	(10.54, N/A) (N/A, 0.01, N/A)	1881.0	N/A	19.1677 [20.0000]	95.8% { 113.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3579889	(5.71, N/A) (N/A, 0.02, N/A)	2140.5	N/A	6.9247 [8.0000]	86.6% { 103.7% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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: SC00809
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00809-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	7.16	ng/mL		
	13C5-PFPEA	3.52	ng/mL		
	13C5-PFHXA	1.82	ng/mL		
	13C4-PFHPA	1.68	ng/mL		
	13C8-PFOA	1.77	ng/mL		
	13C9-PFNA	0.898	ng/mL		
	13C6-PFDA	0.816	ng/mL		
	13C7-PFUnA	0.959	ng/mL		
	13C2-PFDOA	0.913	ng/mL		
	13C2-PFTEDA	1.03	ng/mL		
	13C3-PFBS	1.82	ng/mL		
	13C3-PFHXS	1.70	ng/mL		
	13C8-PFOS	1.73	ng/mL		
	13C2-4:2FTS	2.88	ng/mL		
	13C2-6:2FTS	3.30	ng/mL		
	13C2-8:2FTS	3.20	ng/mL		
	13C8-PFOSA	1.69	ng/mL		
	D3-NMEFOSA	1.58	ng/mL		
	D5-NETFOSA	1.89	ng/mL		
	D3-NMEFOSAA	3.48	ng/mL		
	D5-NETFOSAA	3.37	ng/mL		
	D7-NMEFOSE	17.8	ng/mL		
	D9-NETFOSSE	20.1	ng/mL		
	13C3-HFPO-DA	6.78	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (13)
 Acquired: 2023/03/01 - 09:12

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
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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (13)
 Acquired: 2023/03/01 - 09:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (13)
 Acquired: 2023/03/01 - 09:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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) 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			

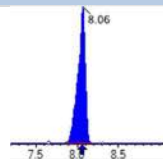
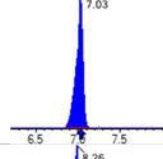
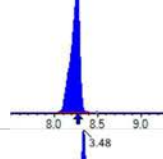
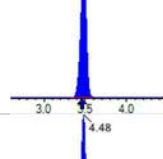
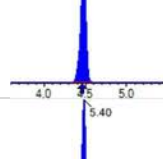
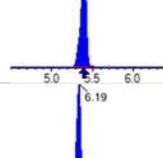
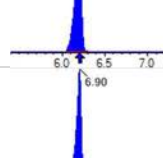
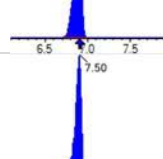
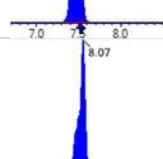
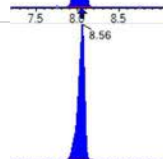
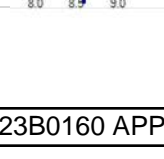


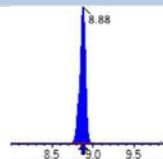
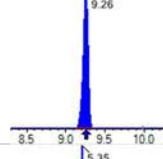
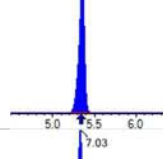
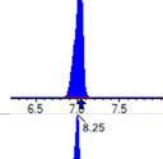
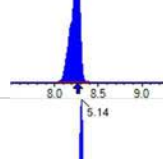
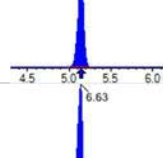
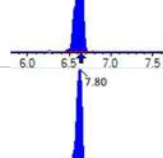
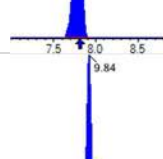
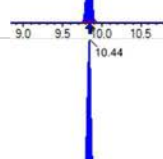
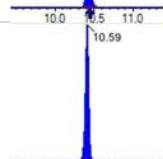
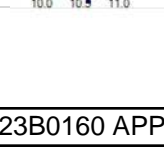
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (13)
 Acquired: 2023/03/01 - 09:12

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
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 366256	(3.48, N/A) (N/A, 0.02, N/A)	901.6	N/A	1.0803 [1.0000]	108.0% { 117.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 634608	(5.40, N/A) (N/A, 0.01, N/A)	1166.2	N/A	1.0670 [1.0000]	106.7% { 123.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 796596	(6.89, N/A) (N/A, 0.00, N/A)	1363.4	N/A	0.9793 [1.0000]	97.9% { 107.2% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 739642	(7.50, N/A) (N/A, 0.00, N/A)	1426.9	N/A	0.9686 [1.0000]	96.9% { 102.6% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 712083	(8.06, N/A) (N/A, 0.00, N/A)	713.5	N/A	0.9919 [1.0000]	99.2% { 110.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1211096	(7.03, N/A) (N/A, 0.00, N/A)	1059.0	N/A	0.9834 [1.0000]	98.3% { 113.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1845593	(8.26, N/A) (N/A, 0.00, N/A)	883.0	N/A	1.0399 [1.0000]	104.0% { 113.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3117721	(3.48, N/A) (N/A, 0.02, N/A)	3230.5	N/A	7.1588 [8.0000]	89.5% { 106.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2489907	(4.48, N/A) (N/A, 0.02, N/A)	2257.5	N/A	3.5212 [4.0000]	88.0% { 107.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1568265	(5.40, N/A) (N/A, 0.01, N/A)	1945.1	N/A	1.8188 [2.0000]	90.9% { 116.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1348519	(6.19, N/A) (N/A, 0.00, N/A)	2211.5	N/A	1.6769 [2.0000]	83.8% { 106.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1512933	(6.90, N/A) (N/A, 0.00, N/A)	1247.7	N/A	1.7744 [2.0000]	88.7% { 98.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 661594	(7.50, N/A) (N/A, -0.01, N/A)	1136.7	N/A	0.8976 [1.0000]	89.8% { 99.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 672449	(8.07, N/A) (N/A, 0.01, N/A)	990.5	N/A	0.8159 [1.0000]	81.6% { 107.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 782687	(8.56, N/A) (N/A, 0.00, N/A)	1089.0	N/A	0.9586 [1.0000]	95.9% { 108.7% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 691724	(8.88, N/A) (N/A, 0.01, N/A)	1046.7	N/A	0.9134 [1.0000]	91.3% { 109.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 807355	(9.26, N/A) (N/A, 0.00, N/A)	1005.5	N/A	1.0256 [1.0000]	102.6% { 118.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4465264	(5.35, N/A) (N/A, 0.01, N/A)	2624.2	N/A	1.8245 [2.0000]	91.2% { 104.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2174929	(7.03, N/A) (N/A, 0.00, N/A)	1921.7	N/A	1.7010 [2.0000]	85.0% { 102.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4184992	(8.25, N/A) (N/A, 0.00, N/A)	1366.7	N/A	1.7260 [2.0000]	86.3% { 103.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 432457	(5.14, N/A) (N/A, 0.01, N/A)	1136.0	N/A	2.8850 [4.0000]	72.1% { 86.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 558557	(6.63, N/A) (N/A, 0.00, N/A)	961.4	N/A	3.3049 [4.0000]	82.6% { 98.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 572453	(7.80, N/A) (N/A, 0.00, N/A)	1992.6	N/A	3.2030 [4.0000]	80.1% { 91.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7563268	(9.84, N/A) (N/A, -0.01, N/A)	2927.2	N/A	1.6934 [2.0000]	84.7% { 100.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1518024	(10.44, N/A) (N/A, 0.00, N/A)	1749.8	N/A	1.5828 [2.0000]	79.1% { 92.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1588896	(10.59, N/A) (N/A, 0.00, N/A)	2839.7	N/A	1.8921 [2.0000]	94.6% { 104.8% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (13)
 Acquired: 2023/03/01 - 09:12

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1183772	(8.21, N/A) (N/A, 0.00, N/A)	945.1	N/A	3.4787 [4.0000]	87.0% { 93.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 975635	(8.46, N/A) (N/A, -0.01, N/A)	3391.6	N/A	3.3669 [4.0000]	84.2% { 97.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5811411	(10.37, N/A) (N/A, 0.00, N/A)	1236.3	N/A	17.7985 [20.0000]	89.0% { 102.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7491013	(10.53, N/A) (N/A, 0.00, N/A)	1266.9	N/A	20.0568 [20.0000]	100.3% { 111.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3675015	(5.70, N/A) (N/A, 0.01, N/A)	2367.7	N/A	6.7828 [8.0000]	84.8% { 106.5% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00840
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00840-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	0.101	ng/mL	0.40	U
	NEtFOSE	0.111	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: SC00840
 Calibration: 2309009

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00840-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	6.83	ng/mL		
	13C5-PFPEA	3.93	ng/mL		
	13C5-PFHXA	1.88	ng/mL		
	13C4-PFHPA	1.95	ng/mL		
	13C8-PFOA	1.61	ng/mL		
	13C9-PFNA	0.909	ng/mL		
	13C6-PFDA	0.869	ng/mL		
	13C7-PFUnA	0.862	ng/mL		
	13C2-PFDOA	1.04	ng/mL		
	13C2-PFTEDA	0.906	ng/mL		
	13C3-PFBS	1.82	ng/mL		
	13C3-PFHXS	1.70	ng/mL		
	13C8-PFOS	1.93	ng/mL		
	13C2-4:2FTS	3.28	ng/mL		
	13C2-6:2FTS	3.18	ng/mL		
	13C2-8:2FTS	3.42	ng/mL		
	13C8-PFOSA	1.86	ng/mL		
	D3-NMEFOSA	1.87	ng/mL		
	D5-NETFOSA	2.05	ng/mL		
	D3-NMEFOSAA	4.07	ng/mL		
	D5-NETFOSAA	4.08	ng/mL		
	D7-NMEFOSE	19.9	ng/mL		
	D9-NETFOSE	20.0	ng/mL		
	13C3-HFPO-DA	7.79	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (9)
 Acquired: 2023/02/28 - 17:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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			
PFTTeDA	(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.: SC00840-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (9)
 Acquired: 2023/02/28 - 17:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (9)
 Acquired: 2023/02/28 - 17:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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) 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			
NEIFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) 30935	(10.38 , 1.00) (0.01 , N/A , 0.0)	57.0	N/A 0.0 0.0	0.1012	N/A			
NEtFOSE	(630.0 / 59.0) 37534	(10.53 , 1.00) (0.00 , N/A , 0.0)	73.6	N/A 0.0 0.0	0.1107	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			

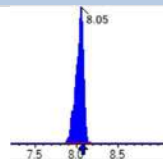
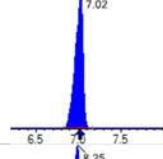
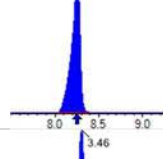
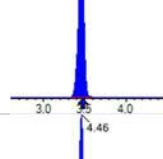
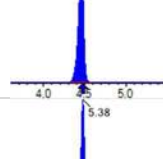
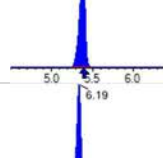
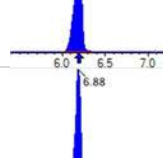
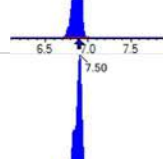
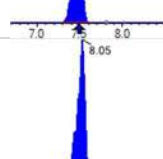
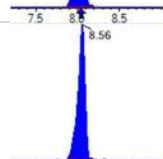
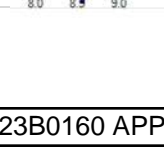


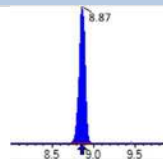
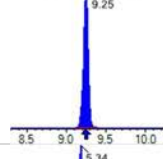
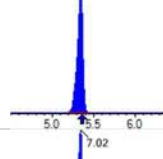
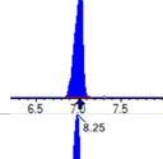
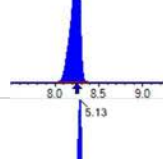
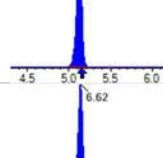
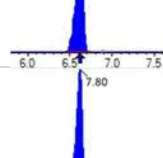
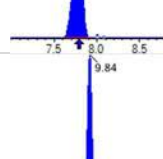
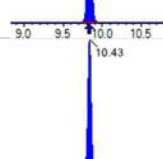
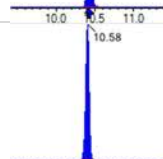
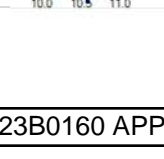
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (9)
 Acquired: 2023/02/28 - 17:35

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) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 308902	(3.46, N/A) (N/A, -0.01, N/A)	1070.8	N/A	0.9112 [1.0000]	91.1% { 93.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 492240	(5.38, N/A) (N/A, -0.01, N/A)	5902.7	N/A	0.8276 [1.0000]	82.8% { 88.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 779414	(6.89, N/A) (N/A, 0.00, N/A)	1766.6	N/A	0.9582 [1.0000]	95.8% { 103.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 701819	(7.50, N/A) (N/A, 0.01, N/A)	659.7	N/A	0.9191 [1.0000]	91.9% { 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
13C2_PFDA_IIS	(515.0 / 470.1) 662877	(8.05, N/A) (N/A, 0.00, N/A)	1116.5	N/A	0.9234 [1.0000]	92.3% { 96.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1153284	(7.02, N/A) (N/A, 0.00, N/A)	1358.4	N/A	0.9364 [1.0000]	93.6% { 96.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1655832	(8.25, N/A) (N/A, 0.01, N/A)	894.9	N/A	0.9329 [1.0000]	93.3% { 95.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2507442	(3.46, N/A) (N/A, 0.00, N/A)	2830.1	N/A	6.8265 [8.0000]	85.3% { 85.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2156125	(4.46, N/A) (N/A, -0.01, N/A)	1996.4	N/A	3.9311 [4.0000]	98.3% { 88.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1260382	(5.38, N/A) (N/A, -0.01, N/A)	1789.2	N/A	1.8845 [2.0000]	94.2% { 82.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1216516	(6.19, N/A) (N/A, 0.01, N/A)	1409.3	N/A	1.9503 [2.0000]	97.5% { 86.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1343118	(6.88, N/A) (N/A, 0.00, N/A)	1415.4	N/A	1.6100 [2.0000]	80.5% { 80.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 635603	(7.50, N/A) (N/A, 0.01, N/A)	879.4	N/A	0.9088 [1.0000]	90.9% { 89.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 667077	(8.05, N/A) (N/A, 0.02, N/A)	877.9	N/A	0.8695 [1.0000]	86.9% { 90.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 655229	(8.56, N/A) (N/A, 0.01, N/A)	630.8	N/A	0.8620 [1.0000]	86.2% { 87.1% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 736171	(8.87, N/A) (N/A, 0.01, N/A)	1616.9	N/A	1.0443 [1.0000]	104.4% { 99.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 663664	(9.25, N/A) (N/A, 0.01, N/A)	941.8	N/A	0.9056 [1.0000]	90.6% { 92.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4248266	(5.34, N/A) (N/A, -0.01, N/A)	3325.1	N/A	1.8229 [2.0000]	91.1% { 93.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2066130	(7.02, N/A) (N/A, 0.00, N/A)	1133.7	N/A	1.6969 [2.0000]	84.8% { 87.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4203475	(8.25, N/A) (N/A, 0.01, N/A)	1574.8	N/A	1.9323 [2.0000]	96.6% { 98.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 468716	(5.13, N/A) (N/A, -0.01, N/A)	1403.3	N/A	3.2836 [4.0000]	82.1% { 90.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 511696	(6.62, N/A) (N/A, 0.01, N/A)	812.2	N/A	3.1794 [4.0000]	79.5% { 86.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 582261	(7.80, N/A) (N/A, 0.01, N/A)	687.3	N/A	3.4212 [4.0000]	85.5% { 87.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7457193	(9.84, N/A) (N/A, 0.01, N/A)	2452.0	N/A	1.8610 [2.0000]	93.0% { 95.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1606033	(10.43, N/A) (N/A, 0.01, N/A)	2085.7	N/A	1.8665 [2.0000]	93.3% { 93.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1547178	(10.58, N/A) (N/A, 0.01, N/A)	2981.0	N/A	2.0536 [2.0000]	102.7% { 98.9% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00840-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28A (9)
 Acquired: 2023/02/28 - 17:35

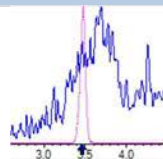
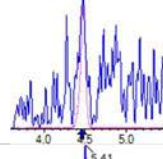
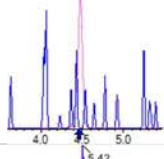
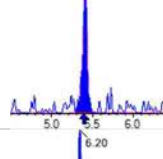
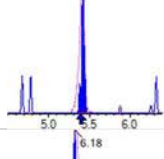
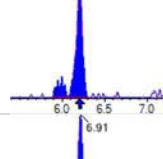
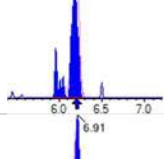
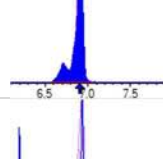
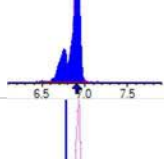
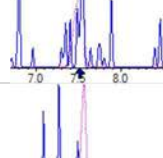
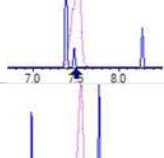
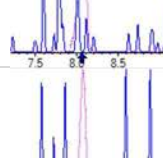
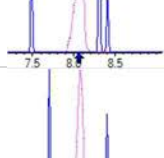
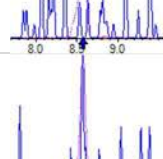
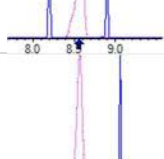
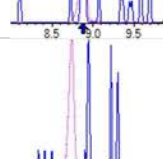
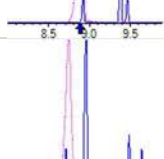
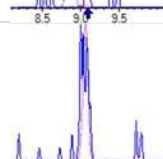
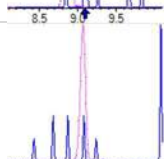
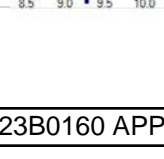
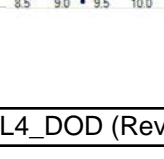
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1241849	(8.21 , N/A) (N/A , 0.01 , N/A)	1058.0	N/A	4.0676 [4.0000]	101.7% { 96.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1059492	(8.46 , N/A) (N/A , 0.01 , N/A)	4007.6	N/A	4.0753 [4.0000]	101.9% { 109.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5837509	(10.37 , N/A) (N/A , 0.01 , N/A)	2444.0	N/A	19.9273 [20.0000]	99.6% { 96.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6713177	(10.53 , N/A) (N/A , 0.01 , N/A)	1443.3	N/A	20.0340 [20.0000]	100.2% { 98.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3273875	(5.69 , N/A) (N/A , 0.00 , N/A)	2225.9	N/A	7.7900 [8.0000]	97.4% { 87.6% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (4)
 Acquired: 2023/02/28 - 18:53

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
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) 19416 (313.0 / 119.0) 3428	(5.41, 1.00) (0.00, N/A, -0.5)	87.0 3044.1	0.1765 188.7 159.2	0.0288	N/A			IR2,
PFHpA	(363.0 / 319.0) 79873 (363.0 / 169.0) 27389	(6.20, 1.00) (0.00, N/A, 1.5)	565.8 945.0	0.3429 108.6 105.8	0.1282	N/A			
PFOA	(413.0 / 369.0) 7318559 (413.0 / 169.0) 2603965	(6.91, 1.00) (0.01, N/A, 0.1)	3201.2 2945.9	0.3558 105.2 104.3	9.6430	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28B (4)
Acquired: 2023/02/28 - 18:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(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			

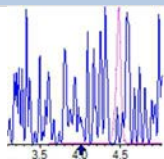
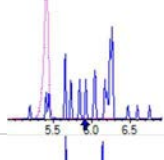
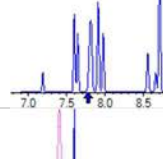
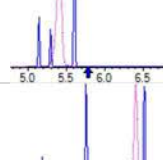
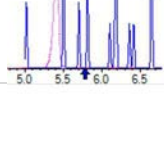
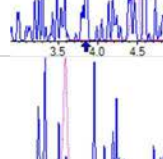
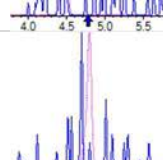
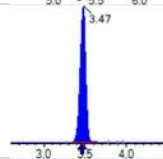
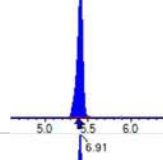
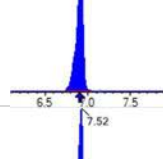
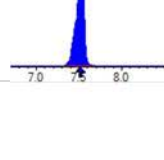
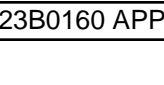


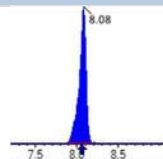
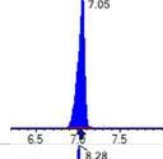
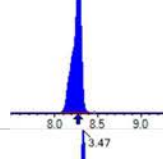
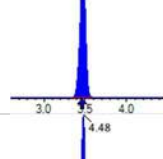
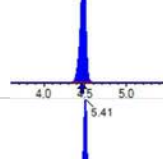
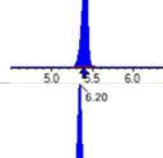
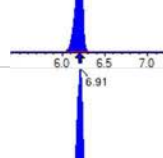
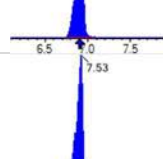
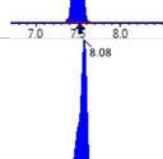
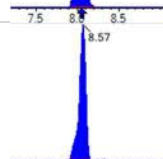
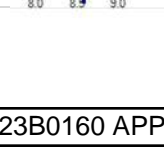
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

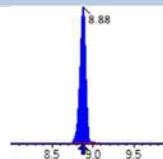
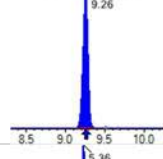
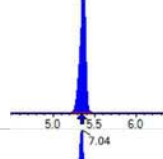
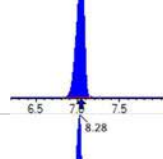
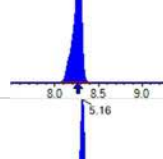
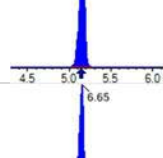
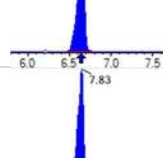
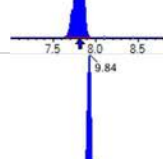
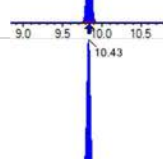
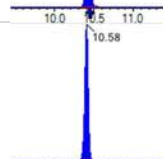
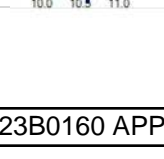
Sample I.D.: SC00809-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (4)
 Acquired: 2023/02/28 - 18:53

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) 34711027 (498.0 / 478.0) 703742	(9.83 , 1.00) (-0.01 , N/A , -0.2)	1835.1 1100.2	0.0203 103.2 101.6	11.1216	N/A			
NMeFOSA	(512.0 / 219.0) 8111353 (512.0 / 169.0) 6696290	(10.43 , 1.00) (0.00 , N/A , 1.1)	3875.3 5537.4	0.8255 99.9 100.2	10.5510	N/A			
NEIFOSA	(526.0 / 219.0) 8744795 (526.0 / 169.0) 11256717	(10.57 , 1.00) (-0.01 , N/A , 0.7)	8923.0 8446.0	1.2872 101.7 103.1	10.4883	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) 3772162	(10.37 , 1.00) (0.01 , N/A , 0.0)	3012.3	N/A 0.0 0.0	11.0446	N/A			
NEIFOSE	(630.0 / 59.0) 4347993	(10.53 , 1.00) (0.01 , N/A , 0.0)	1350.8	N/A 0.0 0.0	11.4171	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.) (Δ RT-I[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			
13C3_PFBA_IIS	(216.0 / 172.0) 379438	(3.47, N/A) (N/A, 0.02, N/A)	1107.1	N/A	1.1192 [1.0000]	111.9% { 122.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 674260	(5.41, N/A) (N/A, 0.03, N/A)	1231.7	N/A	1.1337 [1.0000]	113.4% { 131.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 870978	(6.91, N/A) (N/A, 0.01, N/A)	976.6	N/A	1.0707 [1.0000]	107.1% { 117.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 780806	(7.52, N/A) (N/A, 0.02, N/A)	967.2	N/A	1.0225 [1.0000]	102.3% { 108.3% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 820642	(8.08, N/A) (N/A, 0.01, N/A)	1471.6	N/A	1.1431 [1.0000]	114.3% { 127.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1248269	(7.05, N/A) (N/A, 0.01, N/A)	1240.3	N/A	1.0136 [1.0000]	101.4% { 116.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2066710	(8.28, N/A) (N/A, 0.02, N/A)	985.4	N/A	1.1644 [1.0000]	116.4% { 127.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3136959	(3.47, N/A) (N/A, 0.01, N/A)	3023.0	N/A	6.9527 [8.0000]	86.9% { 106.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2532998	(4.48, N/A) (N/A, 0.02, N/A)	2012.0	N/A	3.3715 [4.0000]	84.3% { 108.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1442891	(5.41, N/A) (N/A, 0.03, N/A)	1906.3	N/A	1.5750 [2.0000]	78.7% { 107.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1395609	(6.20, N/A) (N/A, 0.01, N/A)	1168.1	N/A	1.6334 [2.0000]	81.7% { 110.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1575329	(6.91, N/A) (N/A, 0.01, N/A)	1022.6	N/A	1.6898 [2.0000]	84.5% { 102.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 741363	(7.53, N/A) (N/A, 0.02, N/A)	1999.3	N/A	0.9528 [1.0000]	95.3% { 111.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 842138	(8.08, N/A) (N/A, 0.03, N/A)	1141.0	N/A	0.8866 [1.0000]	88.7% { 134.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 799195	(8.57, N/A) (N/A, 0.01, N/A)	685.4	N/A	0.8493 [1.0000]	84.9% { 110.9% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 763100	(8.88, N/A) (N/A, 0.01, N/A)	1251.7	N/A	0.8744 [1.0000]	87.4% { 120.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 819593	(9.26, N/A) (N/A, 0.00, N/A)	957.8	N/A	0.9034 [1.0000]	90.3% { 120.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4815586	(5.36, N/A) (N/A, 0.02, N/A)	1984.9	N/A	1.9091 [2.0000]	95.5% { 112.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2259200	(7.04, N/A) (N/A, 0.01, N/A)	972.7	N/A	1.7143 [2.0000]	85.7% { 106.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4629356	(8.28, N/A) (N/A, 0.02, N/A)	1650.8	N/A	1.7050 [2.0000]	85.3% { 114.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 496333	(5.16, N/A) (N/A, 0.03, N/A)	1331.9	N/A	3.2125 [4.0000]	80.3% { 98.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 569226	(6.65, N/A) (N/A, 0.01, N/A)	1023.9	N/A	3.2678 [4.0000]	81.7% { 100.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 606817	(7.83, N/A) (N/A, 0.02, N/A)	934.1	N/A	3.2942 [4.0000]	82.4% { 97.0% }			
13C8_PFOA_EIS	(506.0 / 78.0) 8032437	(9.84, N/A) (N/A, 0.00, N/A)	2993.3	N/A	1.6060 [2.0000]	80.3% { 106.4% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 1790269	(10.43, N/A) (N/A, -0.01, N/A)	2448.7	N/A	1.6670 [2.0000]	83.3% { 109.0% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 1716509	(10.58, N/A) (N/A, -0.01, N/A)	2921.0	N/A	1.8254 [2.0000]	91.3% { 113.2% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (4)
 Acquired: 2023/02/28 - 18:53

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1307041	(8.23, N/A) (N/A, 0.02, N/A)	1109.4	N/A	3.4300 [4.0000]	85.8% { 103.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1084540	(8.48, N/A) (N/A, 0.02, N/A)	45519.4	N/A	3.3423 [4.0000]	83.6% { 108.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6519106	(10.37, N/A) (N/A, -0.01, N/A)	2680.7	N/A	17.8298 [20.0000]	89.1% { 114.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7537774	(10.52, N/A) (N/A, 0.00, N/A)	1402.9	N/A	18.0227 [20.0000]	90.1% { 112.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3701246	(5.71, N/A) (N/A, 0.02, N/A)	2220.9	N/A	6.4295 [8.0000]	80.4% { 107.3% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (5)
 Acquired: 2023/02/28 - 19:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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) 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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (5)
 Acquired: 2023/02/28 - 19:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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) 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) 305290 (399.0 / 99.0) 91426	(7.02, 1.00) (0.00, N/A, 0.0)	333214.5 576.8	0.2995 93.6 90.6	0.1449	N/A			
PFHpS	(449.0 / 80.0) 536217 (449.0 / 99.0) 144394	(7.66, 0.93) (N/A, -0.02, -0.5)	244294.4 3124.1	0.2693 99.2 99.5	0.2516	N/A			
PFOS	(499.0 / 80.0) 22939225 (499.0 / 99.0) 5315148	(8.25, 1.00) (0.00, N/A, -0.1)	568.4 810.1	0.2317 105.4 109.3	8.7833	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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (5)
 Acquired: 2023/02/28 - 19:05

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			

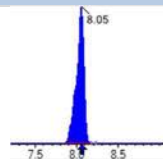
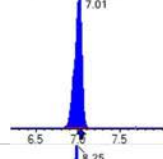
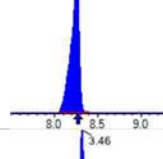
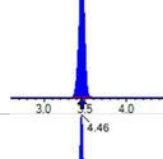
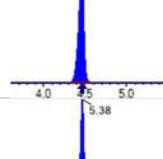
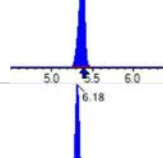
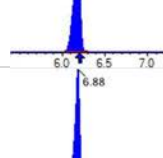
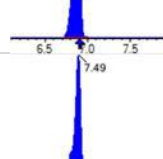
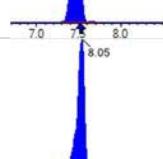
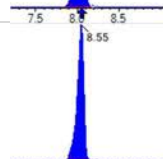
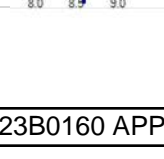


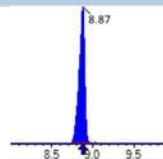
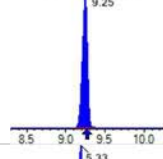
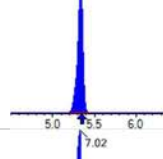
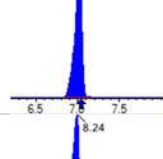
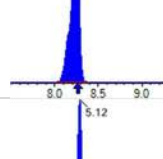
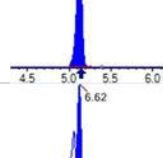
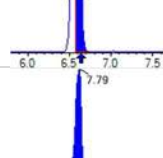
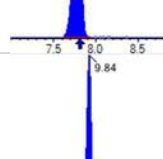
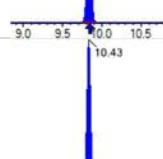
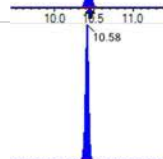
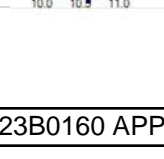
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (5)
 Acquired: 2023/02/28 - 19:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 405102	(3.46, N/A) (N/A, 0.00, N/A)	1051.9	N/A	1.1949 [1.0000]	119.5% { 130.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 633646	(5.38, N/A) (N/A, -0.01, N/A)	1789.1	N/A	1.0654 [1.0000]	106.5% { 123.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 878602	(6.88, N/A) (N/A, -0.01, N/A)	1020.9	N/A	1.0801 [1.0000]	108.0% { 118.3% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 725409	(7.49, N/A) (N/A, -0.01, N/A)	935.8	N/A	0.9500 [1.0000]	95.0% { 100.6% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 847204	(8.05, N/A) (N/A, -0.01, N/A)	950.8	N/A	1.1801 [1.0000]	118.0% { 131.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1409774	(7.01, N/A) (N/A, -0.02, N/A)	1109.4	N/A	1.1447 [1.0000]	114.5% { 131.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2001445	(8.25, N/A) (N/A, -0.01, N/A)	1142.9	N/A	1.1277 [1.0000]	112.8% { 123.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3536674	(3.46, N/A) (N/A, 0.00, N/A)	3472.2	N/A	7.3420 [8.0000]	91.8% { 120.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2894839	(4.46, N/A) (N/A, 0.00, N/A)	1930.8	N/A	4.1001 [4.0000]	102.5% { 124.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1709940	(5.38, N/A) (N/A, -0.01, N/A)	2098.0	N/A	1.9861 [2.0000]	99.3% { 127.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1551387	(6.18, N/A) (N/A, -0.02, N/A)	1295.7	N/A	1.9321 [2.0000]	96.6% { 122.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1733349	(6.88, N/A) (N/A, -0.02, N/A)	1486.7	N/A	1.8432 [2.0000]	92.2% { 112.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 800991	(7.49, N/A) (N/A, -0.01, N/A)	737.1	N/A	1.1080 [1.0000]	110.8% { 120.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 911245	(8.05, N/A) (N/A, 0.00, N/A)	748.9	N/A	0.9293 [1.0000]	92.9% { 145.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 902023	(8.55, N/A) (N/A, -0.01, N/A)	1064.0	N/A	0.9285 [1.0000]	92.9% { 125.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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
13C2_PFDa_EIS	(615.0 / 570.0) 805303	(8.87, N/A) (N/A, 0.00, N/A)	1262.3	N/A	0.8938 [1.0000]	89.4% { 127.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 859252	(9.25, N/A) (N/A, -0.01, N/A)	1385.2	N/A	0.9174 [1.0000]	91.7% { 126.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5665342	(5.33, N/A) (N/A, -0.01, N/A)	2678.7	N/A	1.9886 [2.0000]	99.4% { 132.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2675421	(7.02, N/A) (N/A, -0.01, N/A)	1497.0	N/A	1.7975 [2.0000]	89.9% { 125.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4733042	(8.24, N/A) (N/A, -0.01, N/A)	1554.1	N/A	1.8000 [2.0000]	90.0% { 117.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 545426	(5.12, N/A) (N/A, -0.01, N/A)	964.5	N/A	3.1258 [4.0000]	78.1% { 108.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 505400	(6.62, N/A) (N/A, -0.02, N/A)	1073.6	N/A	2.5690 [4.0000]	64.2% { 89.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 733619	(7.79, N/A) (N/A, -0.01, N/A)	501.6	N/A	3.5263 [4.0000]	88.2% { 117.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9743232	(9.84, N/A) (N/A, 0.00, N/A)	3257.8	N/A	2.0116 [2.0000]	100.6% { 129.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 2013934	(10.43, N/A) (N/A, 0.00, N/A)	1976.2	N/A	1.9364 [2.0000]	96.8% { 122.6% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1923244	(10.58, N/A) (N/A, 0.00, N/A)	2958.3	N/A	2.1119 [2.0000]	105.6% { 126.8% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00809-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (5)
 Acquired: 2023/02/28 - 19:05

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1421800	(8.21, N/A) (N/A, -0.01, N/A)	1001.2	N/A	3.8529 [4.0000]	96.3% { 112.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1234692	(8.46, N/A) (N/A, -0.01, N/A)	8882.8	N/A	3.9291 [4.0000]	98.2% { 123.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7039903	(10.37, N/A) (N/A, 0.00, N/A)	2266.8	N/A	19.8820 [20.0000]	99.4% { 124.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8373411	(10.53, N/A) (N/A, 0.00, N/A)	1980.0	N/A	20.6736 [20.0000]	103.4% { 124.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4429125	(5.67, N/A) (N/A, -0.01, N/A)	2022.2	N/A	8.1870 [8.0000]	102.3% { 128.4% }			

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QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

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Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-BLK1
Sampled:		Prepared:	02/23/23 08:50
Solids:		Preparation:	EPA 1633
Batch:	BCB0396	Sequence:	SC00809
Column:	1	Calibration:	2309009
			Instrument: Saphira
			File ID: S2023-02-28B (7)
			Analyzed: 02/28/23 19:31
			Dilution: 1

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	0.20 U	0.40	0.20	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	0.20 U	0.40	0.20	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	0.20 U	0.40	0.20	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	0.114 J	0.40	0.20	0.064	J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	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:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-BLK1
Sampled:		File ID:	S2023-02-28B (7)
Solids:		Prepared:	02/23/23 08:50
Batch:	BCB0396	Analyzed:	02/28/23 19:31
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2309009
		Instrument:	Saphira
		Sequence:	SC00809

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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (7)
 Acquired: 2023/02/28 - 19:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (7)
 Acquired: 2023/02/28 - 19:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 80591 (499.0 / 99.0) 16076	(8.28 , 1.00) (0.01 , N/A , 0.1)	61.9 33.8	0.1995 90.7 94.1	0.0285	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: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (7)
 Acquired: 2023/02/28 - 19:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[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) 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			
NEIFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 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			
NEIFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

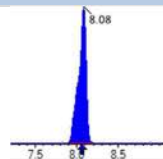
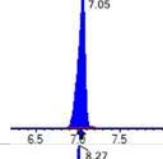
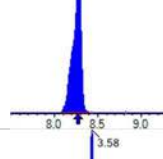
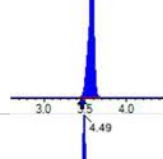
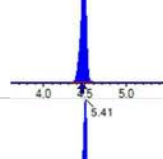
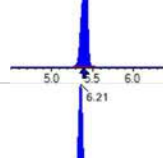
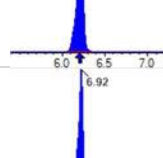
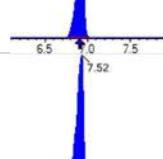
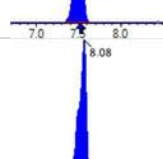
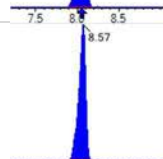
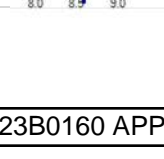


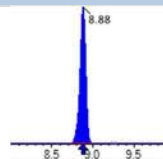
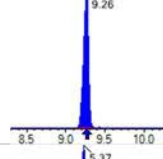
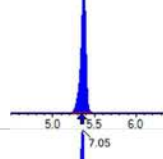
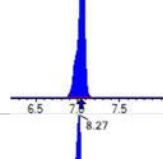
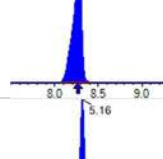
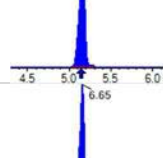
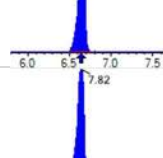
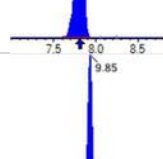
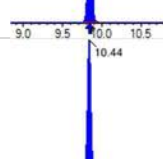
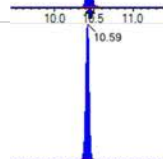
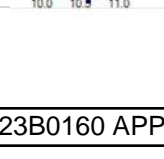
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (7)
 Acquired: 2023/02/28 - 19:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 402567	(3.58, N/A) (N/A, 0.12, N/A)	818.1	N/A	1.1874 [1.0000]	118.7% { 129.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 608884	(5.41, N/A) (N/A, 0.03, N/A)	1899.7	N/A	1.0237 [1.0000]	102.4% { 118.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 890981	(6.92, N/A) (N/A, 0.02, N/A)	853.0	N/A	1.0953 [1.0000]	109.5% { 119.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 791455	(7.52, N/A) (N/A, 0.01, N/A)	1008.1	N/A	1.0365 [1.0000]	103.6% { 109.8% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 722593	(8.08, N/A) (N/A, 0.01, N/A)	1030.3	N/A	1.0066 [1.0000]	100.7% { 112.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1272911	(7.05, N/A) (N/A, 0.02, N/A)	949.0	N/A	1.0336 [1.0000]	103.4% { 118.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1987249	(8.27, N/A) (N/A, 0.02, N/A)	931.3	N/A	1.1197 [1.0000]	112.0% { 122.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3823348	(3.58, N/A) (N/A, 0.12, N/A)	2538.2	N/A	7.9871 [8.0000]	99.8% { 130.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2758066	(4.49, N/A) (N/A, 0.03, N/A)	1988.6	N/A	4.0653 [4.0000]	101.6% { 118.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1657666	(5.41, N/A) (N/A, 0.02, N/A)	1730.8	N/A	2.0037 [2.0000]	100.2% { 123.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1607640	(6.21, N/A) (N/A, 0.02, N/A)	1449.2	N/A	2.0836 [2.0000]	104.2% { 126.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1794769	(6.92, N/A) (N/A, 0.02, N/A)	1753.9	N/A	1.8820 [2.0000]	94.1% { 116.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 844472	(7.52, N/A) (N/A, 0.01, N/A)	1187.1	N/A	1.0707 [1.0000]	107.1% { 127.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 853098	(8.08, N/A) (N/A, 0.02, N/A)	731.2	N/A	1.0200 [1.0000]	102.0% { 136.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 947186	(8.57, N/A) (N/A, 0.01, N/A)	1049.3	N/A	1.1432 [1.0000]	114.3% { 131.5% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 850335	(8.88, N/A) (N/A, 0.01, N/A)	1032.5	N/A	1.1065 [1.0000]	110.7% { 134.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 900704	(9.26, N/A) (N/A, 0.00, N/A)	1346.6	N/A	1.1275 [1.0000]	112.8% { 132.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4830524	(5.37, N/A) (N/A, 0.03, N/A)	2396.0	N/A	1.8779 [2.0000]	93.9% { 112.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2764096	(7.05, N/A) (N/A, 0.02, N/A)	1395.1	N/A	2.0568 [2.0000]	102.8% { 130.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5124182	(8.27, N/A) (N/A, 0.02, N/A)	1893.6	N/A	1.9627 [2.0000]	98.1% { 127.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 557699	(5.16, N/A) (N/A, 0.03, N/A)	1368.8	N/A	3.5398 [4.0000]	88.5% { 111.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 743663	(6.65, N/A) (N/A, 0.02, N/A)	1083.3	N/A	4.1865 [4.0000]	104.7% { 131.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 753240	(7.82, N/A) (N/A, 0.02, N/A)	570.3	N/A	4.0099 [4.0000]	100.2% { 120.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9156910	(9.85, N/A) (N/A, 0.01, N/A)	2703.8	N/A	1.9041 [2.0000]	95.2% { 121.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1348220	(10.44, N/A) (N/A, 0.00, N/A)	2500.6	N/A	1.3056 [2.0000]	65.3% { 82.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1242985	(10.59, N/A) (N/A, 0.00, N/A)	2986.7	N/A	1.3747 [2.0000]	68.7% { 82.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (7)
 Acquired: 2023/02/28 - 19:31

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1503899	(8.23, N/A) (N/A, 0.01, N/A)	1470.8	N/A	4.1045 [4.0000]	102.6% { 119.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1229121	(8.48, N/A) (N/A, 0.02, N/A)	3192.9	N/A	3.9393 [4.0000]	98.5% { 123.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4491623	(10.38, N/A) (N/A, 0.01, N/A)	2029.0	N/A	12.7758 [20.0000]	63.9% { 79.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7167194	(10.53, N/A) (N/A, 0.01, N/A)	1322.1	N/A	17.8219 [20.0000]	89.1% { 106.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4325330	(5.71, N/A) (N/A, 0.02, N/A)	3005.5	N/A	8.3203 [8.0000]	104.0% { 125.3% }			

ANALYSIS DATA SHEET

LCS

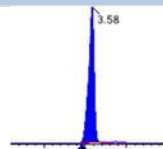
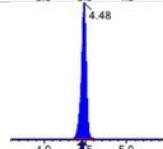
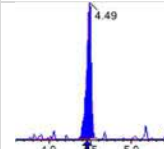
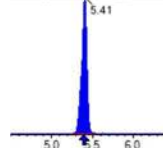
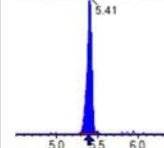
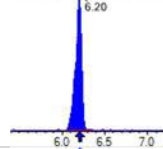
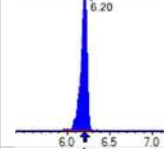
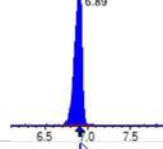
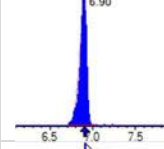
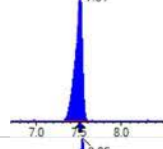
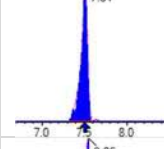
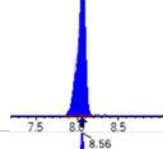
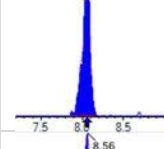
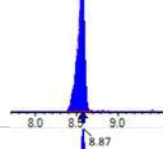
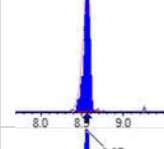
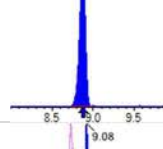
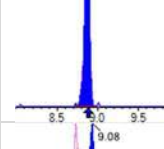
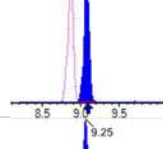
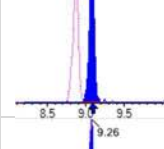
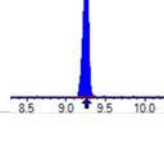
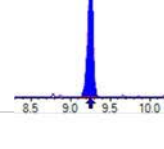
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-BS1
Sampled:		Prepared:	02/23/23 08:50
Solids:		Preparation:	EPA 1633
Batch:	BCB0396	Sequence:	SC00809
Column:	1	Calibration:	2309009
		Instrument:	Saphira
		File ID:	S2023-02-28B (8)
		Analyzed:	02/28/23 19:44
		Dilution:	1

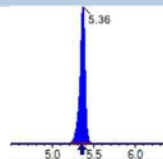
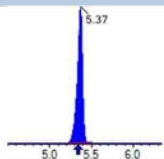
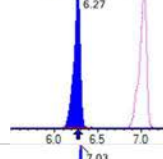
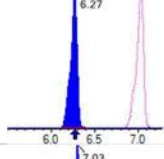
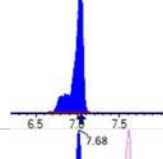
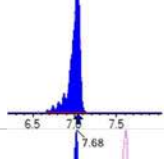
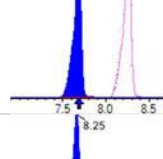
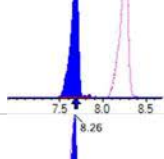
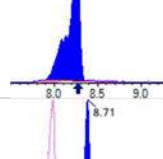
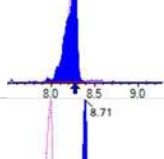
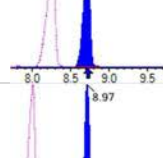
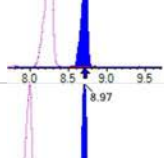
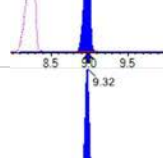
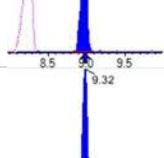
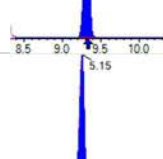
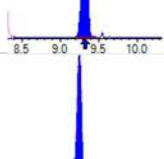
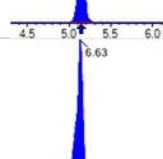
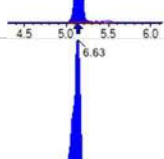
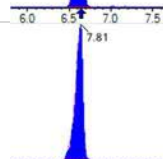
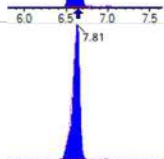
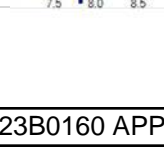
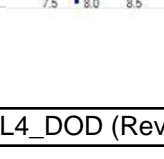
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PFBA	17.3	1.6	0.21	
PFPEA	8.67	0.80	0.065	
PFHXA	4.21	0.40	0.055	
PFHPA	4.09	0.40	0.041	
PFOA	4.13	0.40	0.15	
PFNA	3.95	0.40	0.082	
PFDA	3.76	0.40	0.10	
PFUnA	3.76	0.40	0.16	
PFDOA	4.16	0.40	0.11	
PFTRDA	3.64	0.40	0.20	
PFTEDA	3.85	0.40	0.20	
PFBS	3.96	0.40	0.037	
PFPEs	3.72	0.40	0.063	
PFHXS	3.84	0.40	0.032	
PFHPS	4.10	0.40	0.051	
PFOS	3.95	0.40	0.064	
PFNS	3.98	0.40	0.12	
PFDS	3.70	0.40	0.15	
PFDOS	4.17	0.40	0.12	
4:2FTS	17.0	1.6	0.29	
6:2FTS	15.3	1.6	0.31	
8:2FTS	17.9	1.6	0.082	
PFOSA	4.62	0.40	0.10	
NMeFOSA	17.2	1.6	0.47	
NEtFOSA	17.9	1.6	0.41	
NMeFOSAA	4.14	0.40	0.11	
NEtFOSAA	4.02	0.40	0.11	
NMeFOSE	18.1	1.6	1.0	
NEtFOSE	16.5	1.6	1.0	
HFPO-DA	8.21	0.80	0.17	

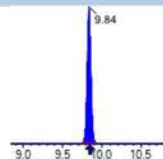
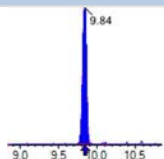
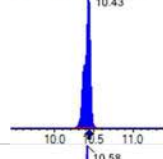
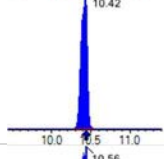
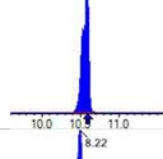
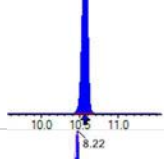
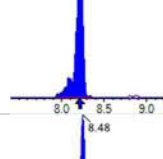
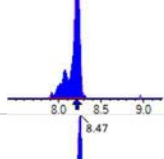
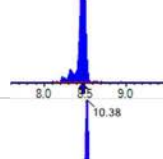
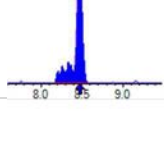
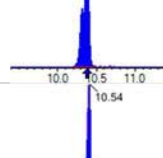
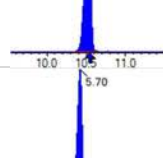
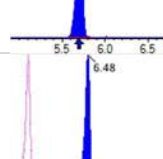
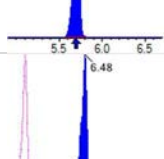
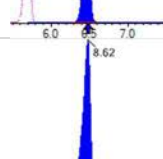
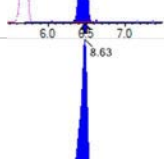
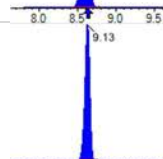
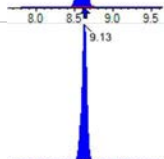
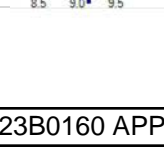
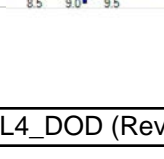
ANALYSIS DATA SHEET**LCS**

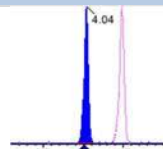
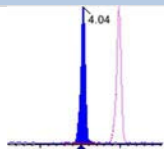
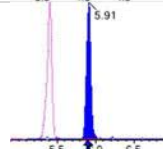
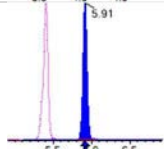
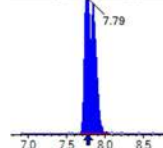
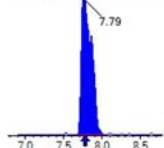
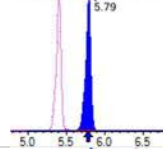
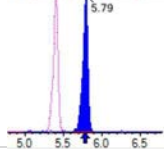
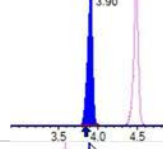
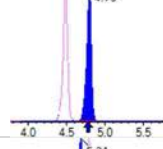
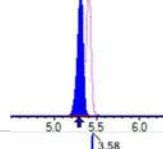
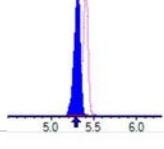
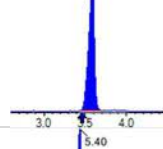
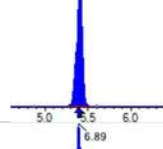
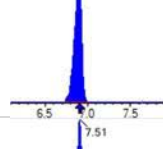
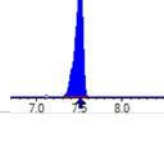
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Matrix:	Water	Laboratory ID:	BCB0396-BS1
Sampled:		File ID:	S2023-02-28B (8)
Solids:		Prepared:	02/23/23 08:50
Batch:	BCB0396	Analyzed:	02/28/23 19:44
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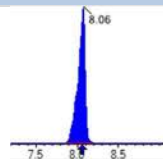
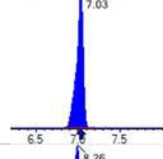
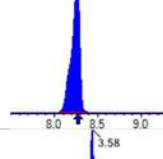
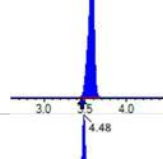
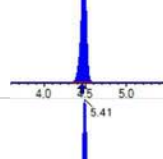
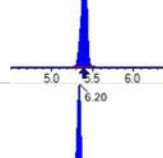
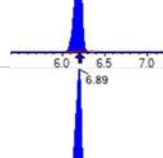
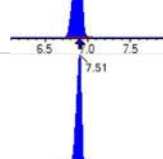
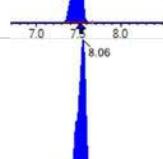
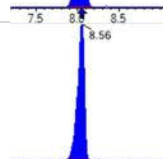
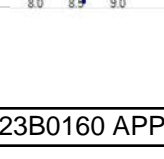
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	9.11	0.80	0.12	
PFEESA	7.94	0.80	0.11	
PFMPA	8.84	0.80	0.054	
PFMBA	9.04	0.80	0.091	
NFDHA	7.23	0.80	0.30	
9CL-PF3ONS	8.79	0.80	0.21	
11CL-PF3OUDS	7.92	0.80	0.21	
3:3FTCA	15.8	1.6	0.57	
5:3FTCA	14.8	1.6	0.44	
7:3FTCA	16.0	1.6	0.55	

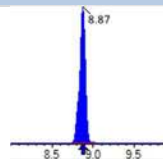
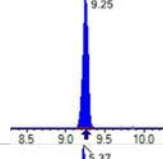
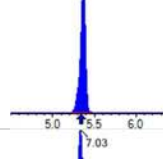
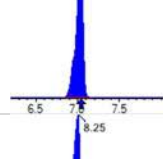
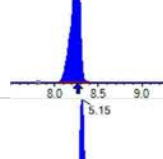
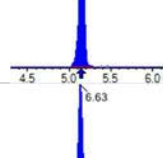
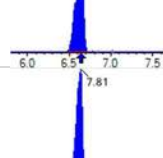
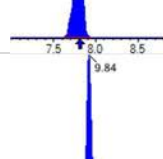
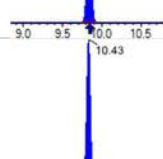
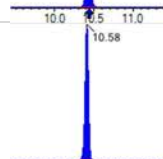
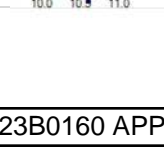
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1667838	(3.58, 1.00) (0.00, N/A, 0.0)	166.0	N/A 0.0 0.0	4.3213 [4.0000]	108.0%			
PFPeA	(263.0 / 219.0) 1276517 (263.0 / 69.0) 17448	(4.48, 1.00) (0.00, N/A, -0.3)	1707.6 145.9	0.0137 114.7 102.2	2.1665 [2.0000]	108.3%			
PFHxA	(313.0 / 269.0) 825924 (313.0 / 119.0) 88621	(5.41, 1.00) (0.00, N/A, -0.1)	1936.4 273909.1	0.1073 114.7 96.8	1.0536 [1.0000]	105.4%			
PFHpA	(363.0 / 319.0) 742666 (363.0 / 169.0) 238233	(6.20, 1.00) (0.00, N/A, -0.3)	1306.8 39670.6	0.3208 101.6 99.0	1.0229 [1.0000]	102.3%			
PFOA	(413.0 / 369.0) 895610 (413.0 / 169.0) 343414	(6.89, 1.00) (0.00, N/A, 0.0)	1250.9 1620.0	0.3834 113.3 112.4	1.0333 [1.0000]	103.3%			
PFNA	(463.0 / 419.0) 787033 (463.0 / 169.0) 198511	(7.51, 1.00) (0.00, N/A, 0.2)	4269.4 173.6	0.2522 107.7 109.0	0.9876 [1.0000]	98.8%			
PFDA	(513.0 / 469.0) 889278 (513.0 / 169.0) 106018	(8.06, 1.00) (0.00, N/A, 0.4)	687.9 1424.3	0.1192 96.2 98.9	0.9405 [1.0000]	94.1%			
PFUnA	(563.0 / 519.0) 805048 (563.0 / 169.0) 92539	(8.56, 1.00) (0.00, N/A, 0.1)	791.3 1429.4	0.1149 106.8 96.0	0.9402 [1.0000]	94.0%			
PFDoA	(613.0 / 569.0) 833986 (613.0 / 169.0) 144679	(8.87, 1.00) (0.00, N/A, 0.2)	967.5 1509.6	0.1735 109.2 99.1	1.0394 [1.0000]	103.9%			
PFTrDA	(663.0 / 619.0) 703140 (663.0 / 169.0) 209278	(9.08, 1.02) (N/A, 0.00, -0.2)	1255.4 687.8	0.2976 109.6 113.8	0.9107 [1.0000]	91.1%			
PFTeDA	(713.0 / 669.0) 768851 (713.0 / 169.0) 172358	(9.25, 1.00) (0.00, N/A, -0.3)	983.9 576.1	0.2242 102.5 101.9	0.9624 [1.0000]	96.2%			

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
PFBS	(299.0 / 80.0) 1288018 (299.0 / 99.0) 748340	(5.36, 1.00) (0.00, N/A, -0.1)	1503.5 1190.5	0.5810 92.4 97.6	0.9895 [0.8847]	111.8%			
PFPeS	(349.0 / 80.0) 2262386 (349.0 / 99.0) 829278	(6.27, 0.89) (N/A, 0.00, 0.1)	67381.6 2729.8	0.3666 109.6 103.1	0.9312 [0.9384]	99.2%			
PFHxS	(399.0 / 80.0) 2048411 (399.0 / 99.0) 674063	(7.03, 1.00) (0.00, N/A, 0.2)	8131.4 1475.7	0.3291 102.8 99.5	0.9609 [0.9110]	105.5%			
PFHpS	(449.0 / 80.0) 2376273 (449.0 / 99.0) 603902	(7.68, 0.93) (N/A, 0.00, -0.1)	114461.1 1698.9	0.2541 93.6 93.9	1.0255 [0.9514]	107.8%			
PFOS	(499.0 / 80.0) 2805762 (499.0 / 99.0) 612310	(8.25, 1.00) (0.00, N/A, -0.7)	237.2 239.0	0.2182 99.2 103.0	0.9880 [0.9275]	106.5%			
PFNS	(549.0 / 80.0) 2829148 (549.0 / 99.0) 700754	(8.71, 1.06) (N/A, 0.00, 0.0)	20873.7 4058.2	0.2477 102.9 107.3	0.9956 [0.9599]	103.7%			
PFDS	(599.0 / 80.0) 2918225 (599.0 / 99.0) 612393	(8.97, 1.09) (N/A, 0.00, -0.1)	1117.8 976.6	0.2099 103.7 102.7	0.9240 [0.9631]	95.9%			
PFDoS	(699.0 / 80.0) 1520264 (699.0 / 99.0) 328337	(9.32, 1.13) (N/A, 0.00, -0.1)	1871.3 532.4	0.2160 110.5 111.4	1.0427 [0.9696]	107.5%			
4:2FTS	(327.0 / 307.0) 1686704 (327.0 / 81.0) 1112929	(5.15, 1.00) (0.00, N/A, 0.1)	1573.4 866.5	0.6598 95.2 95.9	4.2403 [3.7381]	113.4%			
6:2FTS	(427.0 / 407.0) 876430 (427.0 / 81.0) 862319	(6.63, 1.00) (0.00, N/A, -0.2)	1921.2 655.9	0.9839 116.1 115.1	3.8170 [3.7962]	100.5%			
8:2FTS	(527.0 / 507.0) 933356 (527.0 / 81.0) 765600	(7.81, 1.00) (0.00, N/A, 0.0)	1025.5 627.7	0.8203 100.5 95.2	4.4747 [3.8332]	116.7%			

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
PFOSA	(498.0 / 78.0) 3852779 (498.0 / 478.0) 72413	(9.84, 1.00) (0.00, N/A, -0.1)	2590.7 726.2	0.0188 95.7 94.2	1.1557 [1.0000]	115.6%			
NMeFOSA	(512.0 / 219.0) 2405337 (512.0 / 169.0) 2015524	(10.43, 1.00) (0.00, N/A, 0.9)	2991.5 3742.6	0.8379 101.4 101.7	4.3103 [4.0000]	107.8%			
NEIFOSA	(526.0 / 219.0) 2643597 (526.0 / 169.0) 3472789	(10.58, 1.00) (-0.01, N/A, 0.7)	5554.8 3996.3	1.3137 103.7 105.2	4.4812 [4.0000]	112.0%			
NMeFOSAA	(570.0 / 419.0) 315614 (570.0 / 483.0) 151918	(8.22, 1.00) (0.00, N/A, -0.2)	6252.3 225.9	0.4813 98.2 100.7	1.0344 [1.0000]	103.4%			
NEIFOSAA	(584.0 / 419.0) 257460 (584.0 / 526.0) 156099	(8.48, 1.00) (0.01, N/A, 0.1)	23615.4 24263.5	0.6063 107.3 101.0	1.0059 [1.0000]	100.6%			
NMeFOSE	(616.0 / 59.0) 1008967	(10.38, 1.00) (0.01, N/A, 0.0)	1421.2	N/A 0.0 0.0	4.5218 [4.0000]	113.0%			
NEIFOSE	(630.0 / 59.0) 1496773	(10.54, 1.00) (0.01, N/A, 0.0)	1007.7	N/A 0.0 0.0	4.1204 [4.0000]	103.0%			
HFPO-DA	(285.0 / 169.0) 854461 (285.0 / 185.0) 2290868	(5.70, 1.00) (0.00, N/A, 0.0)	1321.1 1608.3	2.6811 97.5 98.1	2.0533 [2.0000]	102.7%			
ADONA	(377.0 / 85.0) 3516806 (377.0 / 251.0) 303055	(6.48, 1.14) (N/A, 0.00, 0.0)	1622.1 944.8	0.0862 98.4 86.0	2.2771 [1.8854]	120.8%			
9CI-PI3ONS	(531.0 / 351.0) 7959367 (533.0 / 353.0) 2348649	(8.62, 1.51) (N/A, 0.00, -0.1)	1625.4 1192.6	0.2951 100.2 97.5	2.1975 [1.8665]	117.7%			
11CI-PF3OUDS	(631.0 / 451.0) 3527756 (633.0 / 453.0) 1094563	(9.13, 1.60) (N/A, 0.00, 0.0)	2918.3 1555.2	0.3103 100.5 108.1	1.9810 [1.8864]	105.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (Δ RT-I[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) 68909 (241.0 / 117.0) 116613	(4.04, 0.90) (N/A, 0.03, 0.1)	589.6 472.6	1.6923 97.6 102.8	3.9602 [4.0000]	99.0%			
5:3FTCA	(341.0 / 236.7) 414732 (341.0 / 217.0) 726322	(5.91, 1.09) (N/A, 0.01, 0.0)	917.9 1209.0	1.7513 104.1 97.6	3.7008 [4.0000]	92.5%			
7:3FTCA	(441.0 / 317.0) 803986 (441.0 / 337.0) 739128	(7.79, 1.44) (N/A, 0.00, 0.5)	386.8 400.8	0.9193 107.0 107.6	3.9906 [4.0000]	99.8%			
PFEESA	(315.0 / 135.0) 1933414 (315.0 / 83.0) 522806	(5.79, 1.07) (N/A, 0.01, -0.1)	2053.4 631.9	0.2704 96.1 99.4	1.9847 [1.7849]	111.2%			
PFMPA	(229.0 / 85.0) 332859	(3.90, 0.87) (N/A, 0.06, 0.0)	1400.6	N/A 0.0 0.0	2.2095 [2.0000]	110.5%			
PFMBA	(279.0 / 85.0) 1166022	(4.79, 1.07) (N/A, 0.02, 0.0)	1426.3	N/A 0.0 0.0	2.2593 [2.0000]	113.0%			
NFDHA	(295.0 / 201.0) 788527 (295.0 / 85.0) 853963	(5.31, 0.98) (N/A, 0.02, 0.0)	1357.2 1961.6	1.0830 103.7 99.4	1.8084 [2.0000]	90.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 371087	(3.58, N/A) (N/A, 0.12, N/A)	738.6	N/A	1.0946 [1.0000]	109.5% {119.3%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 589691	(5.40, N/A) (N/A, 0.02, N/A)	1841.4	N/A	0.9915 [1.0000]	99.1% {115.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 762882	(6.89, N/A) (N/A, -0.01, N/A)	954.9	N/A	0.9379 [1.0000]	93.8% {102.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 821606	(7.51, N/A) (N/A, 0.00, N/A)	1013.9	N/A	1.0759 [1.0000]	107.6% {114.0%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 762555	(8.06, N/A) (N/A, 0.00, N/A)	1067.8	N/A	1.0622 [1.0000]	106.2% { 118.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1221057	(7.03, N/A) (N/A, 0.00, N/A)	988.3	N/A	0.9915 [1.0000]	99.1% { 113.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2039884	(8.26, N/A) (N/A, 0.00, N/A)	1183.7	N/A	1.1493 [1.0000]	114.9% { 125.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3651079	(3.58, N/A) (N/A, 0.12, N/A)	2514.3	N/A	8.2743 [8.0000]	103.4% { 124.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2674751	(4.48, N/A) (N/A, 0.02, N/A)	2042.6	N/A	4.0708 [4.0000]	101.8% { 114.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1680057	(5.41, N/A) (N/A, 0.02, N/A)	1664.8	N/A	2.0968 [2.0000]	104.8% { 125.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1626009	(6.20, N/A) (N/A, 0.00, N/A)	1299.3	N/A	2.1760 [2.0000]	108.8% { 128.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1799057	(6.89, N/A) (N/A, -0.01, N/A)	1036.0	N/A	2.2033 [2.0000]	110.2% { 116.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 843627	(7.51, N/A) (N/A, 0.00, N/A)	1480.2	N/A	1.0304 [1.0000]	103.0% { 127.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 953656	(8.06, N/A) (N/A, 0.01, N/A)	749.8	N/A	1.0805 [1.0000]	108.1% { 152.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 973678	(8.56, N/A) (N/A, 0.00, N/A)	968.1	N/A	1.1135 [1.0000]	111.4% { 135.2% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 919693	(8.87, N/A) (N/A, 0.00, N/A)	1665.8	N/A	1.1341 [1.0000]	113.4% { 145.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 868798	(9.25, N/A) (N/A, 0.00, N/A)	873.1	N/A	1.0306 [1.0000]	103.1% { 127.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4578713	(5.37, N/A) (N/A, 0.03, N/A)	2697.3	N/A	1.8556 [2.0000]	92.8% { 106.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2706601	(7.03, N/A) (N/A, 0.00, N/A)	1684.6	N/A	2.0995 [2.0000]	105.0% { 127.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5146595	(8.25, N/A) (N/A, 0.00, N/A)	873.7	N/A	1.9204 [2.0000]	96.0% { 127.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 563727	(5.15, N/A) (N/A, 0.02, N/A)	950.5	N/A	3.7300 [4.0000]	93.3% { 112.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 704018	(6.63, N/A) (N/A, 0.00, N/A)	1166.1	N/A	4.1316 [4.0000]	103.3% { 124.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 743219	(7.81, N/A) (N/A, 0.00, N/A)	1197.9	N/A	4.1246 [4.0000]	103.1% { 118.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8579613	(9.84, N/A) (N/A, -0.01, N/A)	2854.0	N/A	1.7380 [2.0000]	86.9% { 113.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1299540	(10.43, N/A) (N/A, 0.00, N/A)	2142.5	N/A	1.2260 [2.0000]	61.3% { 79.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1214521	(10.58, N/A) (N/A, 0.00, N/A)	2157.0	N/A	1.3085 [2.0000]	65.4% { 80.1% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (8)
 Acquired: 2023/02/28 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1428034	(8.21 , N/A) (N/A , 0.00 , N/A)	1292.4	N/A	3.7968 [4.0000]	94.9% { 113.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1174397	(8.47 , N/A) (N/A , 0.00 , N/A)	7425.2	N/A	3.6668 [4.0000]	91.7% { 117.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4259077	(10.37 , N/A) (N/A , 0.00 , N/A)	1906.0	N/A	11.8018 [20.0000]	59.0% { 75.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7190022	(10.53 , N/A) (N/A , 0.00 , N/A)	1289.3	N/A	17.4173 [20.0000]	87.1% { 107.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4060669	(5.70 , N/A) (N/A , 0.01 , N/A)	2362.3	N/A	8.0654 [8.0000]	100.8% { 117.7% }			

ANALYSIS DATA SHEET

MRL Check

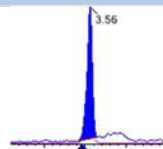
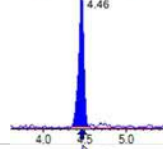
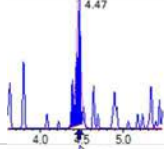
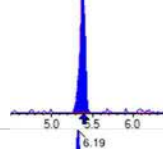
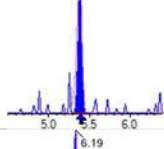
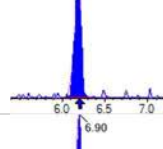
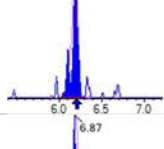
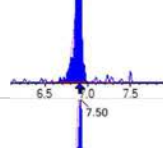
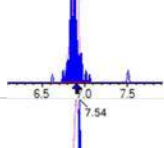
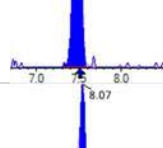
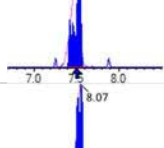
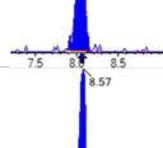
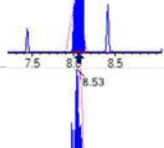
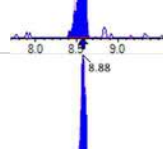
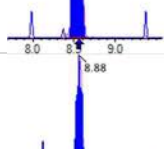
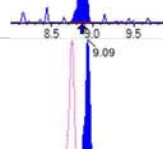
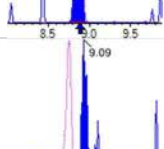
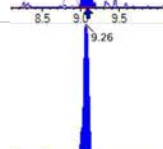
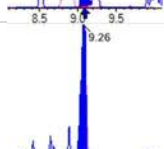
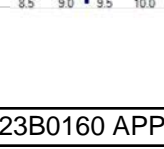
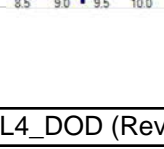
Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-MRL1
Sampled:		File ID:	S2023-02-28B (9)
Solids:		Prepared:	02/23/23 08:50
Batch:	BCB0396	Analyzed:	02/28/23 19:57
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Batch:	BCB0396
		Sequence:	SC00809
		Calibration:	2309009
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.44	1.6	0.21	J
PFPEA	0.686	0.80	0.065	J
PFHXA	0.390	0.40	0.055	J
PFHPA	0.351	0.40	0.041	J
PFOA	0.410	0.40	0.15	
PFNA	0.373	0.40	0.082	J
PFDA	0.353	0.40	0.10	IR1, J
PFUnA	0.351	0.40	0.16	J
PFDOA	0.385	0.40	0.11	J
PFTRDA	0.301	0.40	0.20	J
PFTEDA	0.412	0.40	0.20	
PFBS	0.319	0.40	0.037	J
PFPEs	0.320	0.40	0.063	J
PFHXS	0.326	0.40	0.032	J
PFHPS	0.327	0.40	0.051	J
PFOS	0.432	0.40	0.064	
PFNS	0.318	0.40	0.12	J
PFDS	0.299	0.40	0.15	J
PFDOS	0.362	0.40	0.12	IR1, J
4:2FTS	1.32	1.6	0.29	J
6:2FTS	1.35	1.6	0.31	J
8:2FTS	1.25	1.6	0.082	J
PFOSA	0.365	0.40	0.10	J
NMeFOSA	1.49	1.6	0.47	J
NEtFOSA	1.41	1.6	0.41	J
NMeFOSAA	0.343	0.40	0.11	J
NEtFOSAA	0.300	0.40	0.11	MI5, J
NMeFOSE	1.77	1.6	1.0	
NEtFOSE	1.42	1.6	1.0	J
HFPO-DA	0.653	0.80	0.17	J

ANALYSIS DATA SHEET**MRL Check**

Laboratory:	APPL, LLC	Work Order:	23B0160
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0396-MRL1
Sampled:		File ID:	S2023-02-28B (9)
Solids:		Prepared:	02/23/23 08:50
Batch:	BCB0396	Analyzed:	02/28/23 19:57
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2309009
		Instrument:	Saphira
		Sequence:	SC00809

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.648	0.80	0.12	J
PFEESA	0.633	0.80	0.11	J
PFMPA	0.752	0.80	0.054	J
PFMBA	0.749	0.80	0.091	J
NFDHA	0.651	0.80	0.30	J
9CL-PF3ONS	0.710	0.80	0.21	J
11CL-PF3OUDS	0.690	0.80	0.21	J
3:3FTCA	1.21	1.6	0.57	J
5:3FTCA	1.10	1.6	0.44	J
7:3FTCA	1.55	1.6	0.55	J

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) 154812	(3.56, 1.00) (0.00, N/A, 0.0)	93.4	N/A 0.0 0.0	0.3612 [0.4000]	90.3%			
PFPeA	(263.0 / 219.0) 110809 (263.0 / 69.0) 1807	(4.46, 1.00) (0.00, N/A, -0.6)	264.2 31.2	0.0163 136.8 122.0	0.1716 [0.2000]	85.8%			
PFHxA	(313.0 / 269.0) 78145 (313.0 / 119.0) 7158	(5.38, 1.00) (0.00, N/A, 0.1)	599.4 1318.8	0.0916 97.9 82.6	0.0976 [0.1000]	97.6%			
PFHpA	(363.0 / 319.0) 67866 (363.0 / 169.0) 24057	(6.19, 1.00) (0.00, N/A, -0.2)	531.8 160.9	0.3545 112.3 109.4	0.0877 [0.1000]	87.7%			
PFOA	(413.0 / 369.0) 91675 (413.0 / 169.0) 19617	(6.90, 1.00) (0.00, N/A, 1.5)	564.0 584.1	0.2140 63.2 62.7	0.1024 [0.1000]	102.4%			
PFNA	(463.0 / 419.0) 70081 (463.0 / 169.0) 14651	(7.50, 1.00) (0.00, N/A, -2.2)	5866.2 729686.8	0.2091 89.3 90.4	0.0932 [0.1000]	93.2%			
PFDA	(513.0 / 469.0) 90360 (513.0 / 169.0) 3973	(8.07, 1.00) (0.00, N/A, -0.1)	134.1 1210.3	0.0440 35.5 36.5	0.0882 [0.1000]	88.2%			IR1,
PFUnA	(563.0 / 519.0) 81100 (563.0 / 169.0) 10371	(8.57, 1.00) (0.00, N/A, 2.5)	140.3 513.8	0.1279 118.8 106.8	0.0876 [0.1000]	87.6%			
PFDoA	(613.0 / 569.0) 82077 (613.0 / 169.0) 13550	(8.88, 1.00) (0.00, N/A, 0.5)	120.3 105.4	0.1651 103.9 94.3	0.0963 [0.1000]	96.3%			
PFTTrDA	(663.0 / 619.0) 61718 (663.0 / 169.0) 12077	(9.09, 1.02) (N/A, 0.01, 0.4)	167.7 41.6	0.1957 72.1 74.8	0.0752 [0.1000]	75.2%			
PFTeDA	(713.0 / 669.0) 80020 (713.0 / 169.0) 16318	(9.26, 1.00) (-0.01, N/A, -0.1)	253.8 126.9	0.2039 93.3 92.7	0.1031 [0.1000]	103.1%			



Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0396-MRL1
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
Path: S2023-02-28B (9)
Acquired: 2023/02/28 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 122024 (299.0 / 99.0) 80085	(5.34, 1.00) (0.00, N/A, 0.6)	229.1 347.5	0.6563 104.3 110.2	0.0797 [0.0885]	90.0%			
PFPeS	(349.0 / 80.0) 210965 (349.0 / 99.0) 68087	(6.25, 0.89) (N/A, -0.01, 0.3)	47220904.7 796443.3	0.3227 96.5 90.8	0.0800 [0.0938]	85.2%			
PFHxS	(399.0 / 80.0) 188795 (399.0 / 99.0) 58765	(7.02, 1.00) (-0.01, N/A, 0.1)	587.0 46648.4	0.3113 97.3 94.2	0.0816 [0.0911]	89.5%			
PFHpS	(449.0 / 80.0) 204285 (449.0 / 99.0) 59555	(7.68, 0.93) (N/A, 0.00, 0.5)	516.6 4237.5	0.2915 107.4 107.8	0.0817 [0.0951]	85.8%			
PFOS	(499.0 / 80.0) 331190 (499.0 / 99.0) 69577	(8.26, 1.00) (-0.01, N/A, -0.4)	75.8 56.3	0.2101 95.5 99.1	0.1080 [0.0927]	116.5%			
PFNS	(549.0 / 80.0) 244040 (549.0 / 99.0) 69645	(8.72, 1.06) (N/A, 0.01, -0.5)	321327.8 3566.6	0.2854 118.6 123.7	0.0795 [0.0960]	82.9%			
PFDS	(599.0 / 80.0) 255245 (599.0 / 99.0) 66802	(8.98, 1.09) (N/A, 0.01, -0.3)	396.1 371.0	0.2617 129.3 128.0	0.0749 [0.0963]	77.7%			
PFDoS	(699.0 / 80.0) 142434 (699.0 / 99.0) 13305	(9.34, 1.13) (N/A, 0.01, 0.2)	622.7 135.8	0.0934 47.8 48.2	0.0905 [0.0970]	93.3%			IR1,
4:2FTS	(327.0 / 307.0) 138532 (327.0 / 81.0) 95581	(5.13, 1.00) (0.00, N/A, -0.1)	862.3 198.2	0.6900 99.6 100.3	0.3307 [0.3738]	88.5%			
6:2FTS	(427.0 / 407.0) 83681 (427.0 / 81.0) 73477	(6.62, 1.00) (0.00, N/A, -0.4)	250.6 209.5	0.8781 103.6 102.8	0.3377 [0.3796]	89.0%			
8:2FTS	(527.0 / 507.0) 71497 (527.0 / 81.0) 68402	(7.80, 1.00) (0.00, N/A, -0.8)	4061.3 127.4	0.9567 117.3 111.0	0.3115 [0.3833]	81.3%			

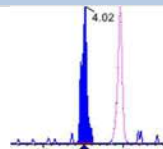
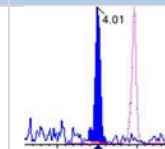
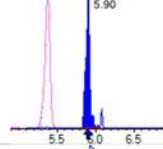
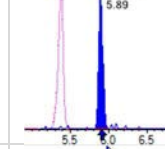
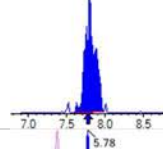
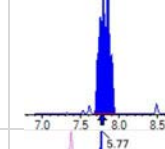
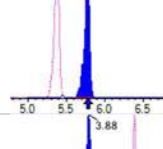
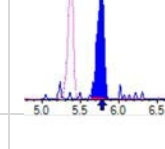
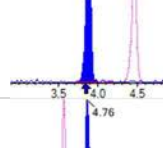
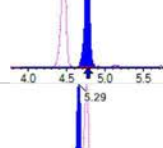
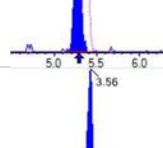
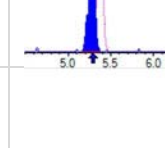
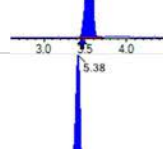
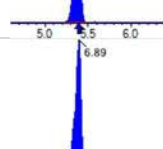
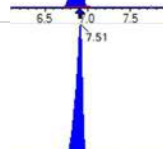
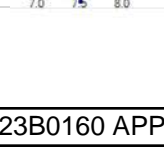


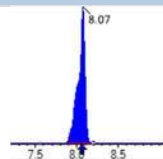
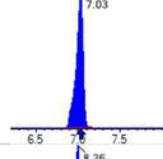
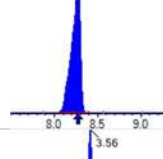
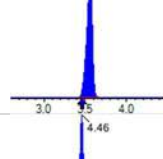
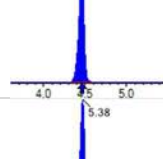
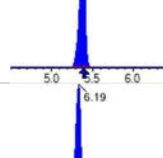
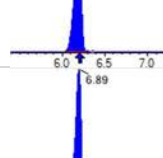
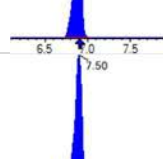
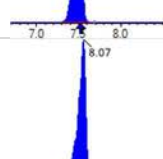
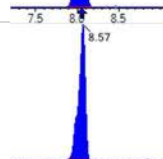
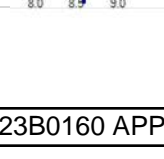
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

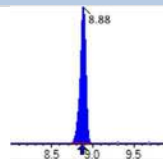
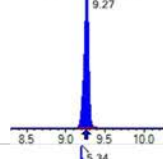
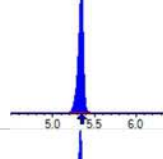
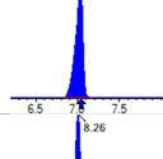
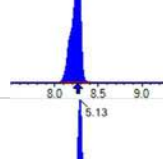
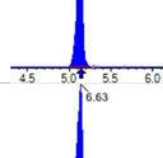
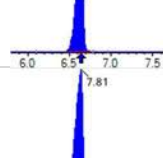
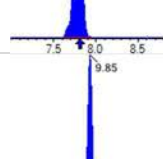
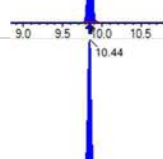
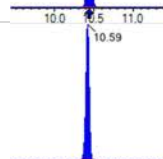
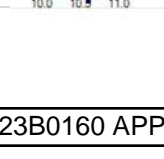
Sample I.D.: BCB0396-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (9)
 Acquired: 2023/02/28 - 19:57

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) 341900 (498.0 / 478.0) 8185	(9.85 , 1.00) (0.00 , N/A , 0.1)	576.5 159.7	0.0239 121.8 120.0	0.0913 [0.1000]	91.3%			
NMeFOSA	(512.0 / 219.0) 216582 (512.0 / 169.0) 173604	(10.44 , 1.00) (0.00 , N/A , 0.7)	939.0 1455.8	0.8016 97.0 97.3	0.3736 [0.4000]	93.4%			
NEFOSA	(526.0 / 219.0) 227043 (526.0 / 169.0) 287899	(10.59 , 1.00) (-0.01 , N/A , 0.8)	1366.5 1195.2	1.2680 100.1 101.5	0.3530 [0.4000]	88.2%			
NMeFOSAA	(570.0 / 419.0) 29497 (570.0 / 483.0) 16421	(8.22 , 1.00) (0.00 , N/A , 0.7)	3246.4 13714.3	0.5567 113.5 116.4	0.0858 [0.1000]	85.8%			
NEIFOSAA	(584.0 / 419.0) 22782 (584.0 / 526.0) 14440	(8.49 , 1.00) (0.02 , N/A , 0.7)	676.5 4491.1	0.6338 112.2 105.6	0.0749 [0.1000]	74.9%			MI5 DG 2023-03-01
NMeFOSE	(616.0 / 59.0) 105176	(10.38 , 1.00) (0.00 , N/A , 0.0)	243.6	N/A 0.0 0.0	0.4420 [0.4000]	110.5%			
NEtFOSE	(630.0 / 59.0) 134336	(10.54 , 1.00) (0.01 , N/A , 0.0)	219.9	N/A 0.0 0.0	0.3550 [0.4000]	88.7%			
HFPO-DA	(285.0 / 169.0) 77529 (285.0 / 185.0) 196576	(5.70 , 1.00) (0.01 , N/A , 0.7)	420.6 505.0	2.5355 92.2 92.8	0.1633 [0.2000]	81.6%			
ADONA	(377.0 / 85.0) 285383 (377.0 / 251.0) 27299	(6.47 , 1.14) (N/A , -0.01 , 0.2)	385.1 448.1	0.0957 109.3 95.5	0.1619 [0.1885]	85.9%			
9CI-Pf3ONS	(531.0 / 351.0) 733340 (533.0 / 353.0) 190755	(8.63 , 1.52) (N/A , 0.01 , -0.1)	476.0 331.5	0.2601 88.3 86.0	0.1774 [0.1867]	95.1%			
11CI-PF3OUDS	(631.0 / 451.0) 350408 (633.0 / 453.0) 103490	(9.14 , 1.61) (N/A , 0.01 , 0.3)	1089.7 1273.9	0.2953 95.7 102.9	0.1724 [0.1886]	91.4%			

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) 5759 (241.0 / 117.0) 10000	(4.02, 0.90) (N/A, 0.01, 0.5)	1351951.7 83.4	1.7364 100.1 105.5	0.3019 [0.4000]	75.5%			
5:3FTCA	(341.0 / 236.7) 31396 (341.0 / 217.0) 77618	(5.90, 1.10) (N/A, 0.00, 0.6)	604.3 209.6	2.4723 147.0 137.8	0.2743 [0.4000]	68.6%			QC,
7:3FTCA	(441.0 / 317.0) 79809 (441.0 / 337.0) 75480	(7.79, 1.45) (N/A, -0.01, -1.2)	144.4 210.9	0.9458 110.1 110.7	0.3878 [0.4000]	97.0%			
PFEESA	(315.0 / 135.0) 157569 (315.0 / 83.0) 51390	(5.78, 1.07) (N/A, 0.00, 0.4)	10207.5 95.4	0.3261 115.9 119.9	0.1584 [0.1785]	88.7%			
PFMPA	(229.0 / 85.0) 31031	(3.88, 0.87) (N/A, 0.04, 0.0)	249.4	N/A 0.0 0.0	0.1879 [0.2000]	94.0%			
PFMBA	(279.0 / 85.0) 105958	(4.76, 1.07) (N/A, 0.00, 0.0)	543.3	N/A 0.0 0.0	0.1873 [0.2000]	93.6%			
NFDHA	(295.0 / 201.0) 72532 (295.0 / 85.0) 86351	(5.29, 0.98) (N/A, 0.00, 0.2)	244.3 375.0	1.1905 114.0 109.2	0.1629 [0.2000]	81.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 392414	(3.56, N/A) (N/A, 0.10, N/A)	773.6	N/A	1.1575 [1.0000]	115.7% {126.2%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 654558	(5.38, N/A) (N/A, 0.00, N/A)	1414.4	N/A	1.1005 [1.0000]	110.1% {127.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 818792	(6.89, N/A) (N/A, 0.00, N/A)	1110.6	N/A	1.0066 [1.0000]	100.7% {110.2%}			
13C5_PFNA_IIS	(468.0 / 423.0) 828342	(7.51, N/A) (N/A, 0.00, N/A)	853.0	N/A	1.0848 [1.0000]	108.5% {114.9%}			

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
13C2_PFDA_IIS	(515.0 / 470.1) 752983	(8.07, N/A) (N/A, 0.01, N/A)	901.3	N/A	1.0489 [1.0000]	104.9% { 116.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1301238	(7.03, N/A) (N/A, -0.01, N/A)	1153.4	N/A	1.0566 [1.0000]	105.7% { 121.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1965552	(8.26, N/A) (N/A, 0.00, N/A)	805.2	N/A	1.1075 [1.0000]	110.7% { 121.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 4054429	(3.56, N/A) (N/A, 0.10, N/A)	2443.9	N/A	8.6890 [8.0000]	108.6% { 137.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2932151	(4.46, N/A) (N/A, 0.00, N/A)	2212.6	N/A	4.0203 [4.0000]	100.5% { 126.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1715980	(5.38, N/A) (N/A, -0.01, N/A)	1447.4	N/A	1.9294 [2.0000]	96.5% { 127.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1732949	(6.19, N/A) (N/A, -0.01, N/A)	1419.4	N/A	2.0892 [2.0000]	104.5% { 136.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1858004	(6.89, N/A) (N/A, -0.01, N/A)	1263.1	N/A	2.1201 [2.0000]	106.0% { 120.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 796104	(7.50, N/A) (N/A, -0.01, N/A)	1073.1	N/A	0.9644 [1.0000]	96.4% { 119.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 1032935	(8.07, N/A) (N/A, 0.02, N/A)	785.5	N/A	1.1852 [1.0000]	118.5% { 165.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 1052318	(8.57, N/A) (N/A, 0.01, N/A)	904.7	N/A	1.2188 [1.0000]	121.9% { 146.1% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 977402	(8.88, N/A) (N/A, 0.01, N/A)	1110.0	N/A	1.2206 [1.0000]	122.1% { 154.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 844136	(9.27, N/A) (N/A, 0.01, N/A)	1354.0	N/A	1.0141 [1.0000]	101.4% { 124.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 5387522	(5.34, N/A) (N/A, 0.00, N/A)	2991.9	N/A	2.0489 [2.0000]	102.4% { 125.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2938449	(7.03, N/A) (N/A, 0.00, N/A)	1762.3	N/A	2.1389 [2.0000]	106.9% { 138.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5556867	(8.26, N/A) (N/A, 0.01, N/A)	1220.6	N/A	2.1519 [2.0000]	107.6% { 137.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 593749	(5.13, N/A) (N/A, 0.00, N/A)	844.5	N/A	3.6866 [4.0000]	92.2% { 118.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 759768	(6.63, N/A) (N/A, -0.01, N/A)	745.6	N/A	4.1841 [4.0000]	104.6% { 134.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 817774	(7.81, N/A) (N/A, 0.00, N/A)	662.0	N/A	4.2587 [4.0000]	106.5% { 130.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9638008	(9.85, N/A) (N/A, 0.01, N/A)	2929.9	N/A	2.0262 [2.0000]	101.3% { 127.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1349849	(10.44, N/A) (N/A, 0.01, N/A)	1997.9	N/A	1.3216 [2.0000]	66.1% { 82.2% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1324270	(10.59, N/A) (N/A, 0.01, N/A)	3105.4	N/A	1.4807 [2.0000]	74.0% { 87.3% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0396-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-28A
 Path: S2023-02-28B (9)
 Acquired: 2023/02/28 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1608360	(8.22, N/A) (N/A, 0.01, N/A)	1300.7	N/A	4.4380 [4.0000]	111.0% { 127.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1395872	(8.47, N/A) (N/A, 0.01, N/A)	14380.9	N/A	4.5231 [4.0000]	113.1% { 139.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4541582	(10.38, N/A) (N/A, 0.01, N/A)	2059.5	N/A	13.0605 [20.0000]	65.3% { 80.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7490311	(10.54, N/A) (N/A, 0.01, N/A)	1231.4	N/A	18.8309 [20.0000]	94.2% { 111.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4633381	(5.68, N/A) (N/A, 0.00, N/A)	2462.0	N/A	8.2909 [8.0000]	103.6% { 134.3% }			

PREPARATION BENCH SHEET

Organics

Print Date/Time: 03/01/2023 7:23 pm

BCB0396

Matrix: Water

Prepared using: PFAS - EPA 1633

Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
23B0160-01	AF-RHMW225401-WGN01B-2302 W3	03/02/2023	03/22/2023	2/24/2023 8:56:00AM	550.64	2		200	"Report relevant surrogates"
23B0160-01RE1	AF-RHMW225401-WGN01B-2302 W3	03/02/2023	03/22/2023	2/24/2023 8:56:00AM	550.6	2		200	"Report relevant surrogates"
BCB0396-BLK1	Blank			2/23/2023 8:50:00AM	500	2	0	200	
BCB0396-BS1	LCS			2/23/2023 8:50:00AM	500	2	200	200	
BCB0396-MRL1	MRL Check			2/23/2023 8:50:00AM	500	2	20	200	

Spiking Solution(s)
 23B0196 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
 23B0374 MPFAC-HIF-ES 20.0ng/mL

Start Date/Time _____
 Stop Date/Time _____

Batch Comments:
 Spiked by: PAF 2/24/23 9:19am
 Witness: DAG
 Balance #: WB-2
 Cartridge: Biotage
 Concentration 2/25/23 1:05-4:00

Reagents	Standard	Description	LotNum
	22C0296	Envi-carb	122395
	23B0048	Am. Ac. preservative	*
	23B0116	Reagent -0.3M Formic Acid	M13H051
	23B0118	Reagent - 0.05MFA wash	x
	23B0413	Reagent - 1.0% Ammonia Hydroxide	219481

Spiking Witnessed By _____
Preparation Reviewed By _____
Extracts Received By _____

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00809
 Calibration: 2309009

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

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC00809-CCB1	S2023-02-28B (1)	02/28/23 18:14
Low Cal Check	SC00809-LCV1	S2023-02-28B (2)	02/28/23 18:27
Calibration Check	SC00809-CCV1	S2023-02-28B (3)	02/28/23 18:40
Performance Mix	SC00809-PEM1	S2023-02-28B (4)	02/28/23 18:53
Performance Mix	SC00809-PEM2	S2023-02-28B (5)	02/28/23 19:05
Calibration Blank	SC00809-CCB2	S2023-02-28B (6)	02/28/23 19:18
Blank	BCB0396-BLK1	S2023-02-28B (7)	02/28/23 19:31
LCS	BCB0396-BS1	S2023-02-28B (8)	02/28/23 19:44
MRL Check	BCB0396-MRL1	S2023-02-28B (9)	02/28/23 19:57
AF-RHMW225401-WGN01B-2302W3	23B0160-01	S2023-02-28B (10)	02/28/23 20:10
Calibration Check	SC00809-CCV2	S2023-02-28B (12)	03/01/23 08:59
Calibration Blank	SC00809-CCB3	S2023-02-28B (13)	03/01/23 09:12

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00840
 Calibration: 2309009

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

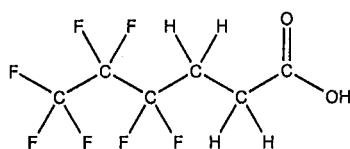
Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC00840-CAL1	S2023-02-28A (1)	02/28/23 15:52
Cal Standard	SC00840-CAL2	S2023-02-28A (2)	02/28/23 16:05
Cal Standard	SC00840-CAL3	S2023-02-28A (3)	02/28/23 16:18
Cal Standard	SC00840-CAL4	S2023-02-28A (4)	02/28/23 16:31
Cal Standard	SC00840-CAL5	S2023-02-28A (5)	02/28/23 16:44
Cal Standard	SC00840-CAL6	S2023-02-28A (6)	02/28/23 16:56
Cal Standard	SC00840-CAL7	S2023-02-28A (7)	02/28/23 17:09
Cal Standard	SC00840-CAL8	S2023-02-28A (8)	02/28/23 17:22
Initial Cal Blank	SC00840-ICB1	S2023-02-28A (9)	02/28/23 17:35
Secondary Cal Check	SC00840-SCV1	S2023-02-28A (10)	02/28/23 17:48



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.

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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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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:

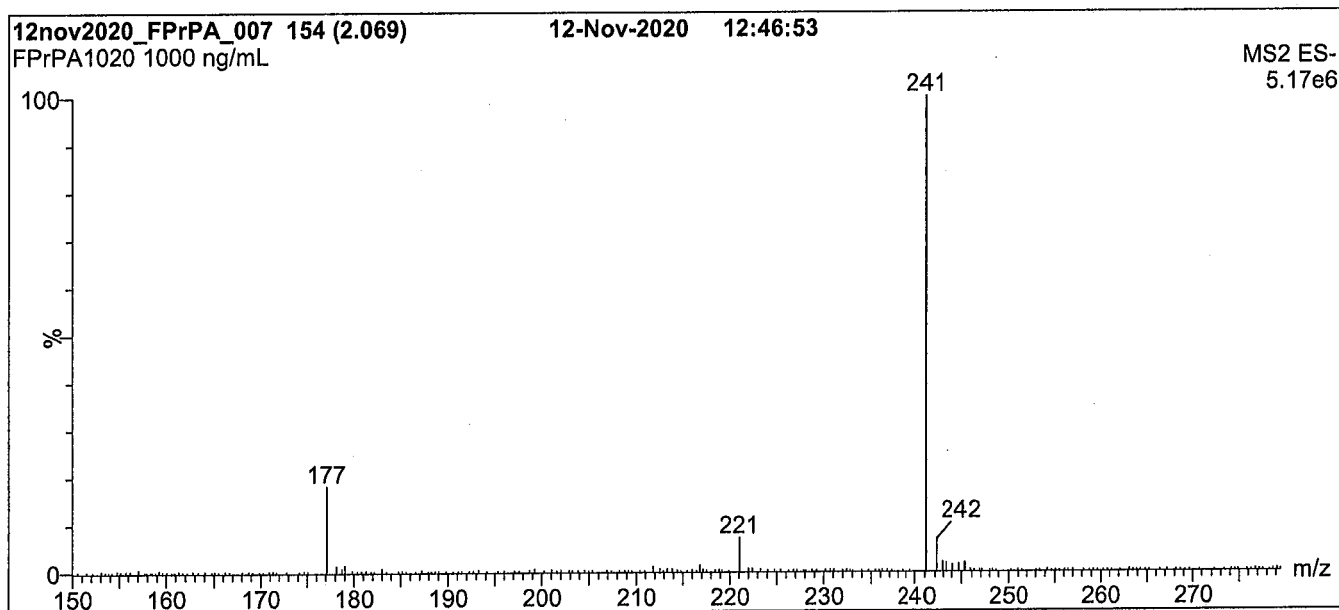
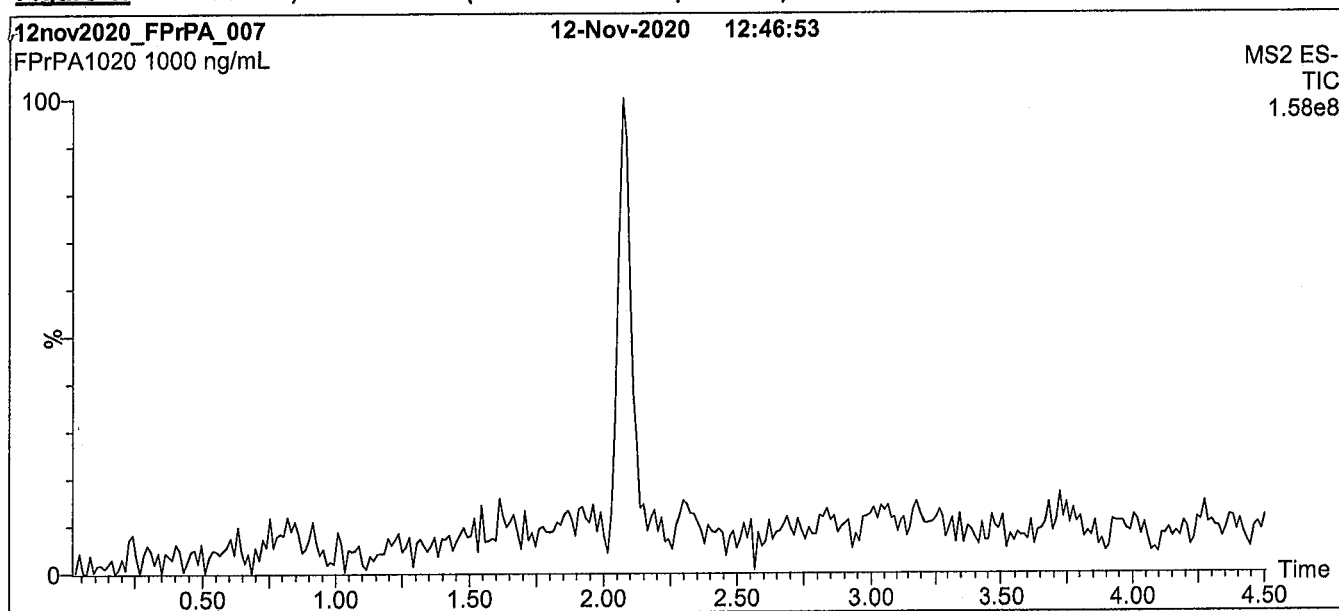
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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: 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)

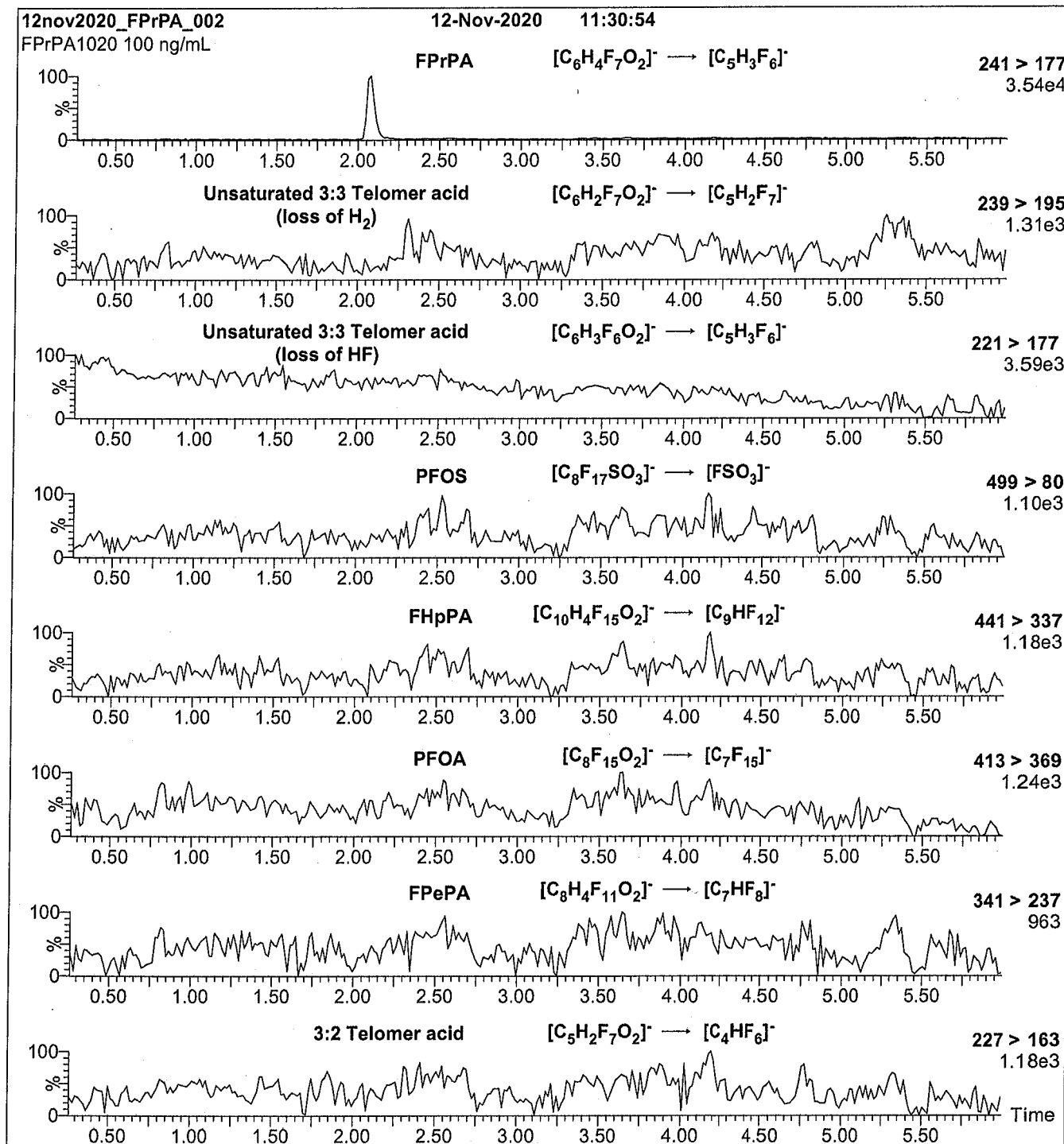
Source: Electrospray (negative)

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		

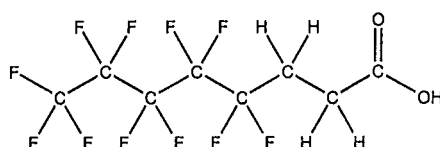
Analyte	Parent	CAS Number	Concentration	Units
3:3 FTA		113507-82-7	50	ug/mL



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.

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Certified By: 
 B.G. Chittim, General Manager **Date:** 11/27/2020
 (mm/dd/yyyy)

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 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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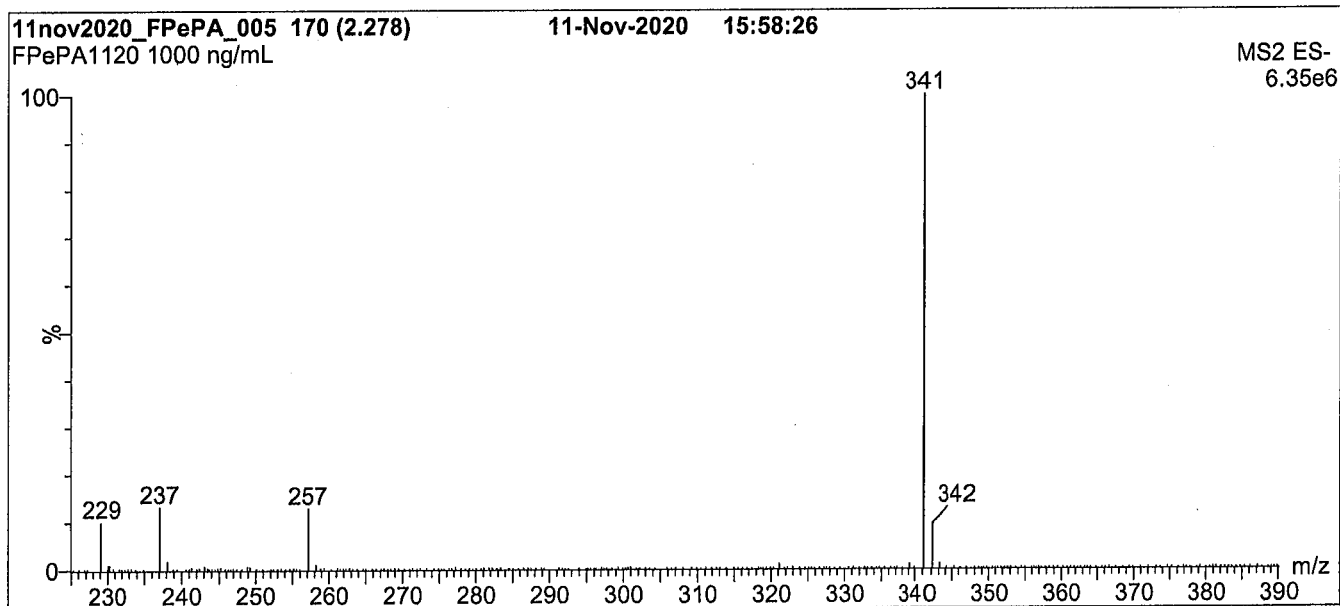
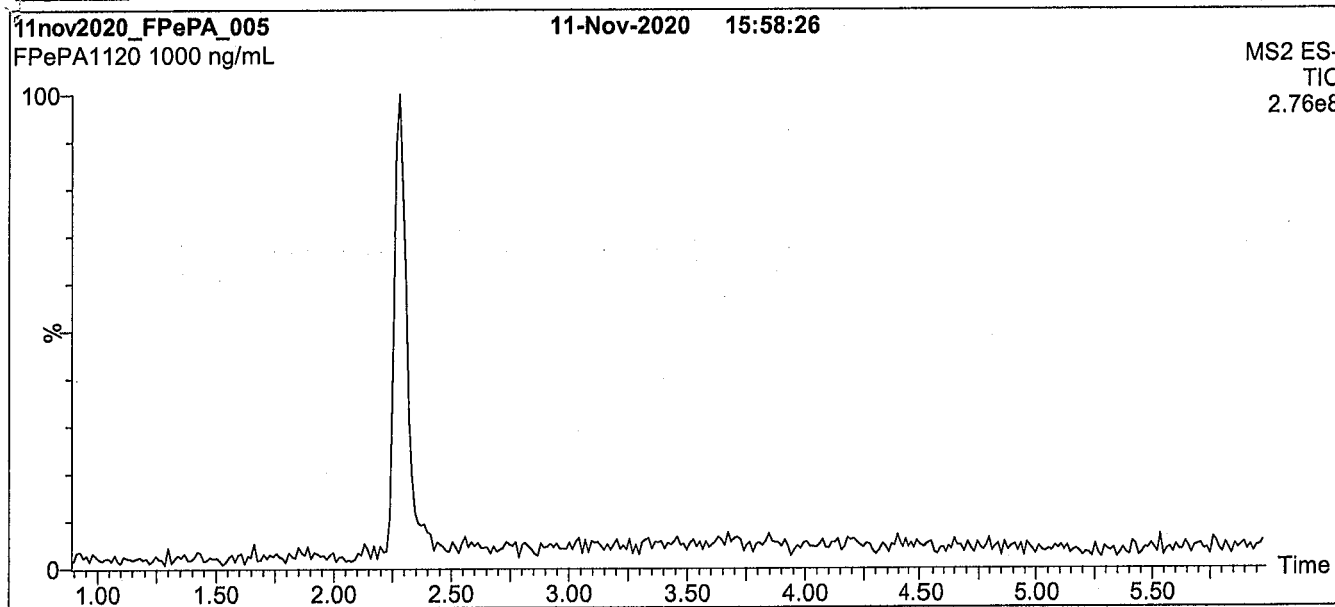
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Figure 1: FPePA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

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1.7 μ m, 2.1 x 100 mm

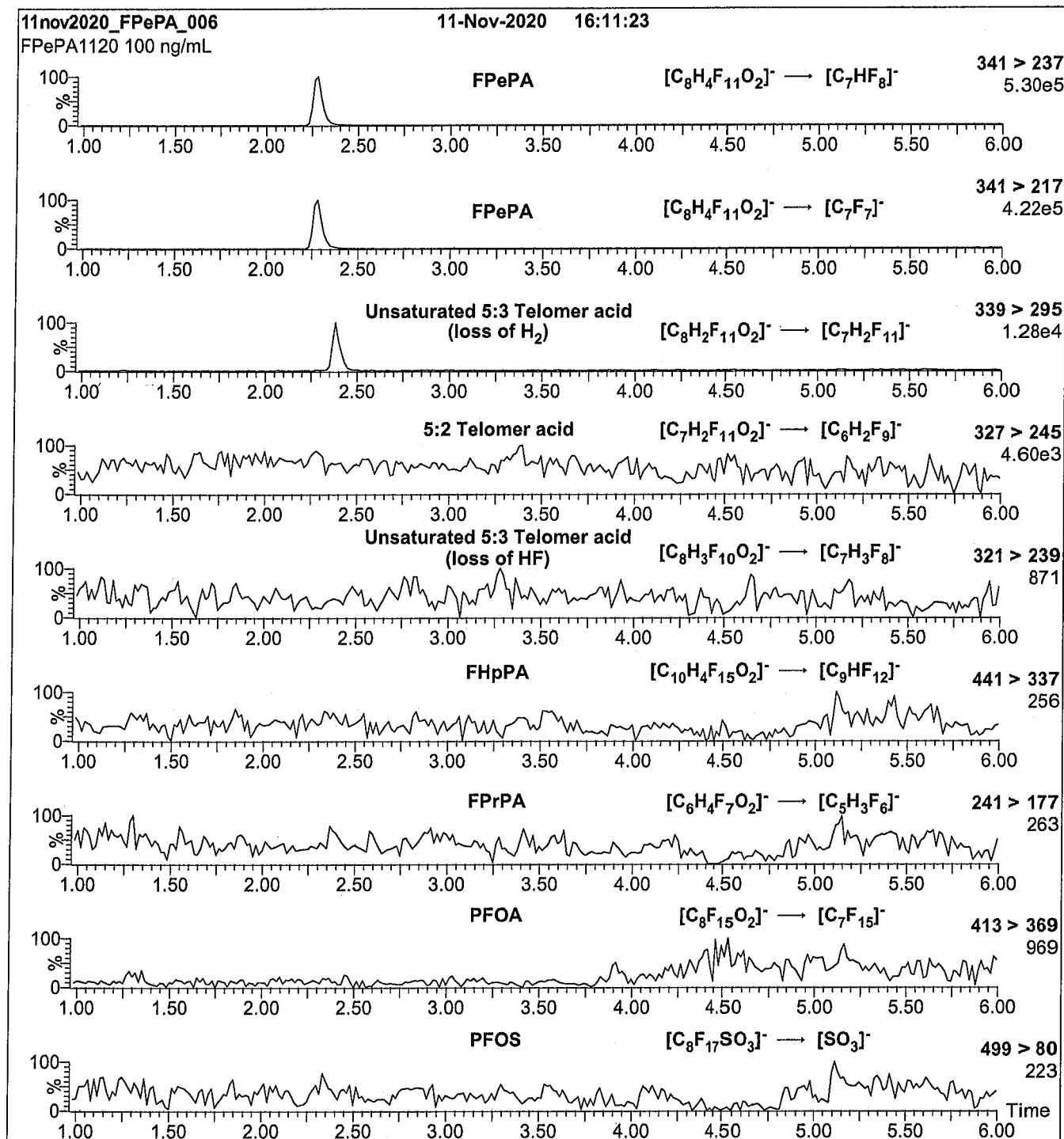
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

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

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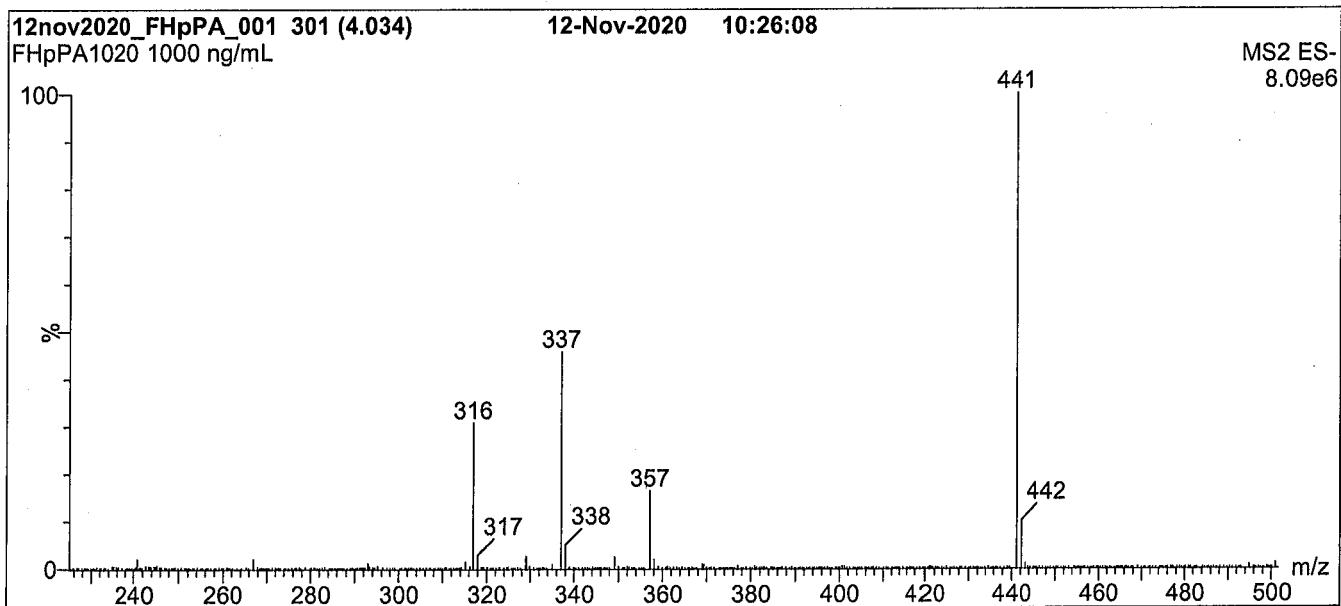
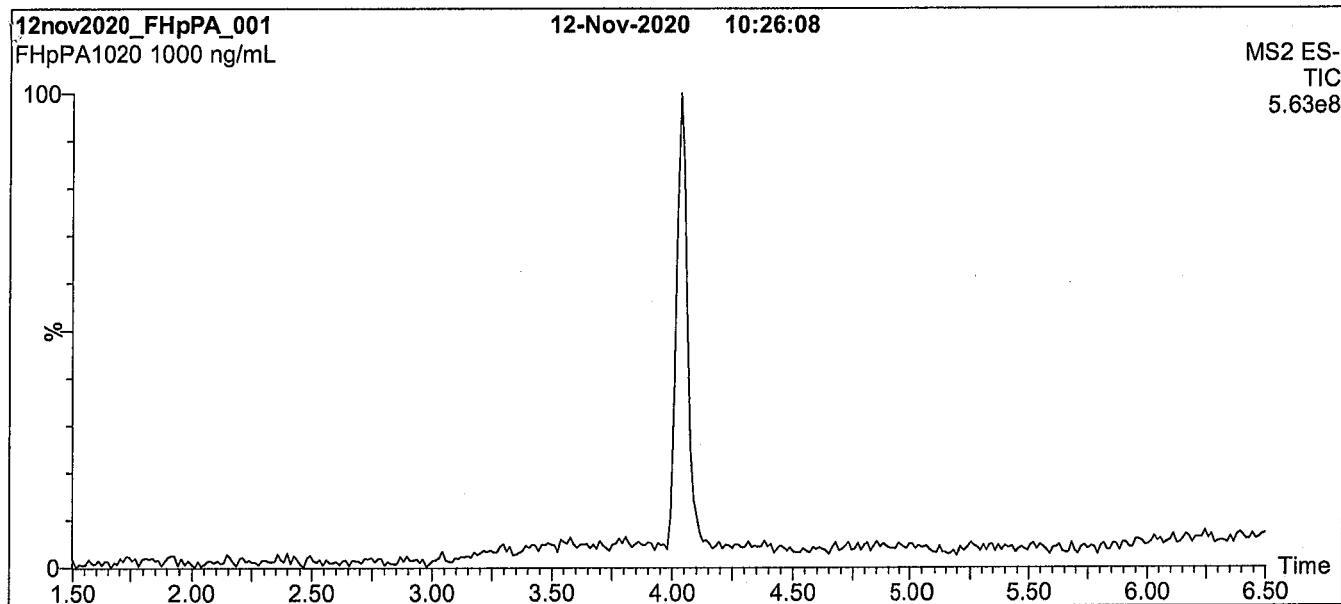
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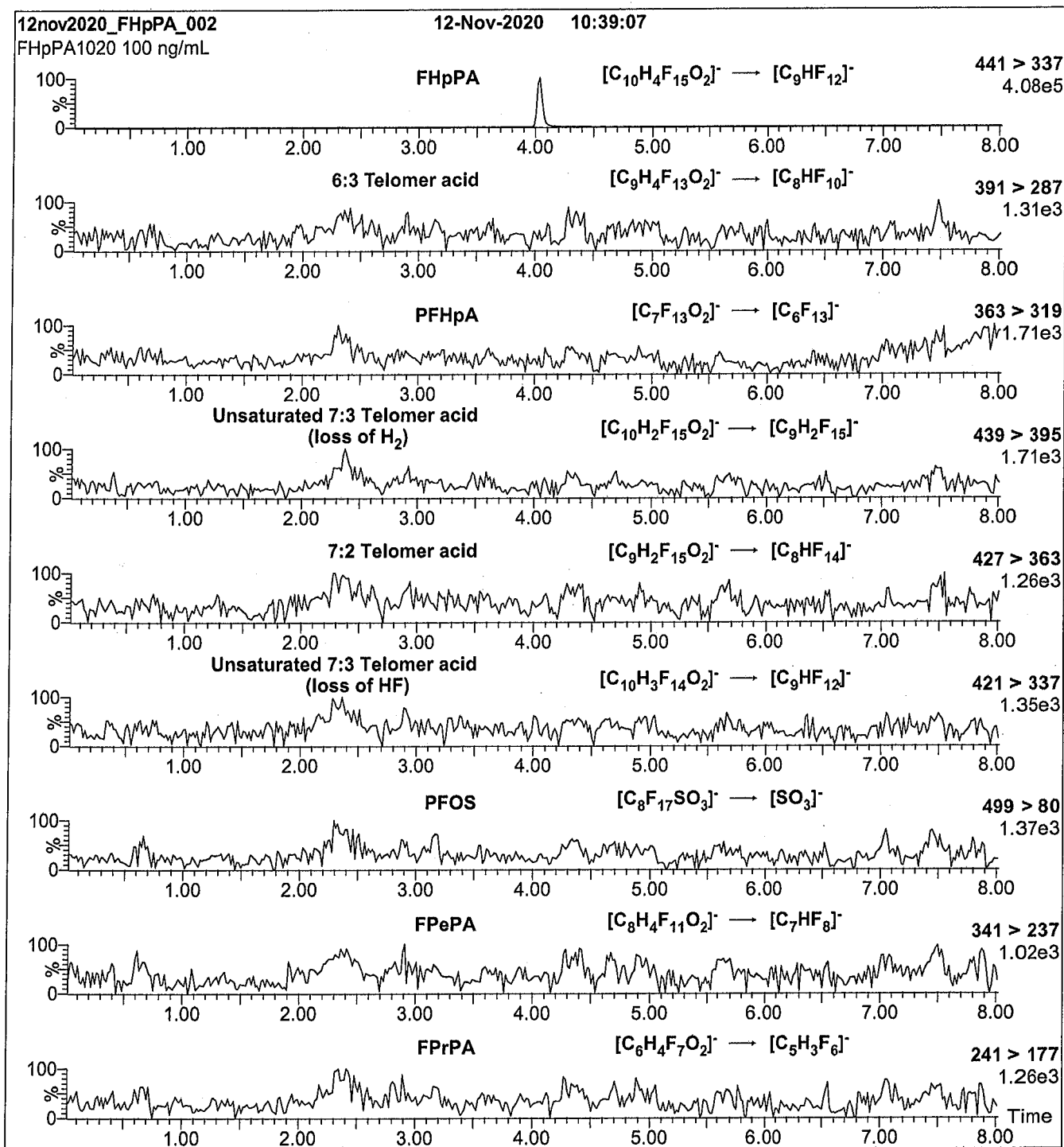
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Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
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Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
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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

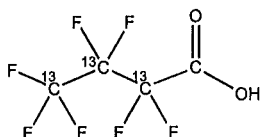


WELLINGTON LABORATORIES

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

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:

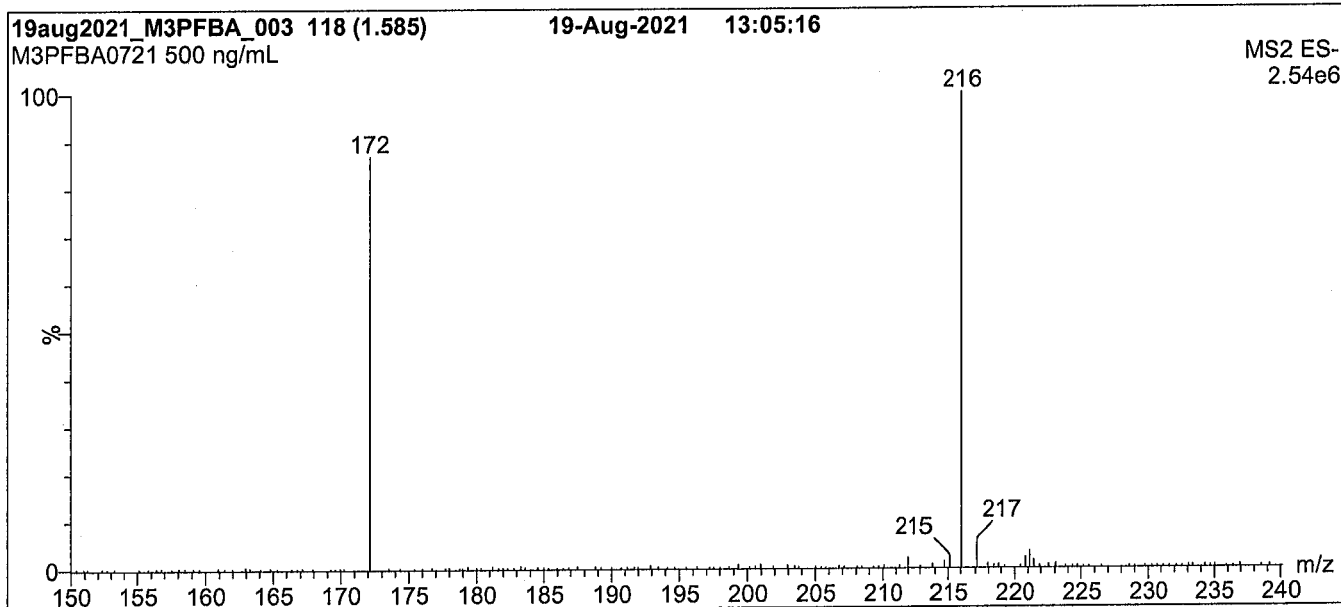
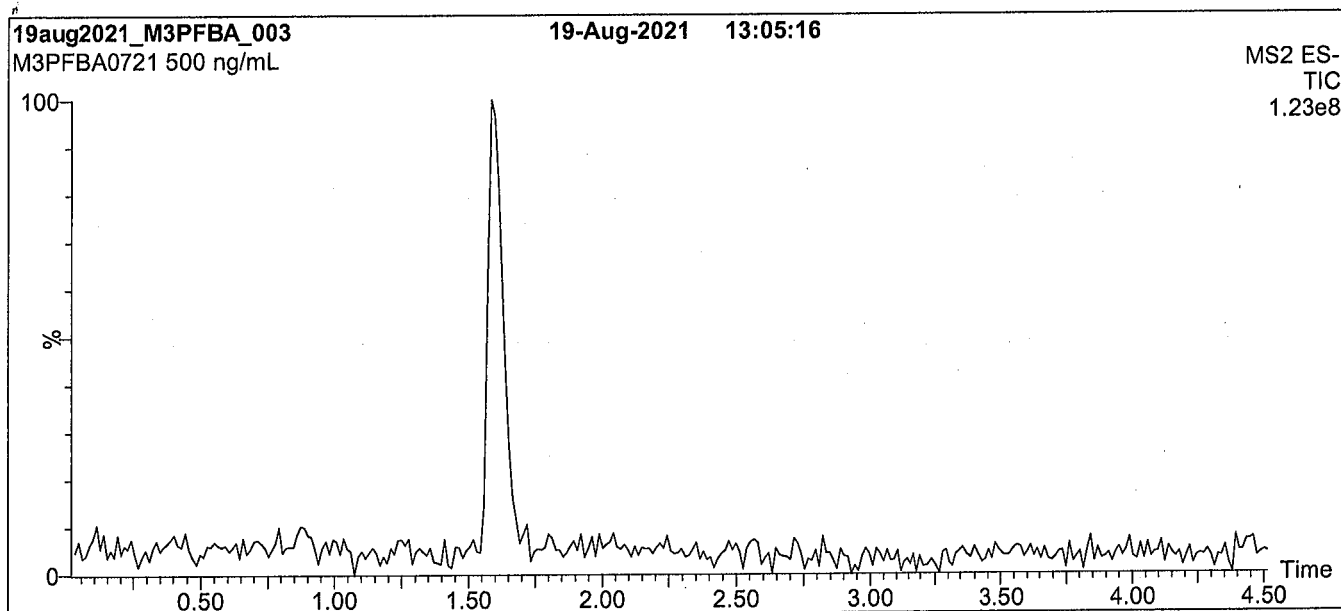
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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 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: 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

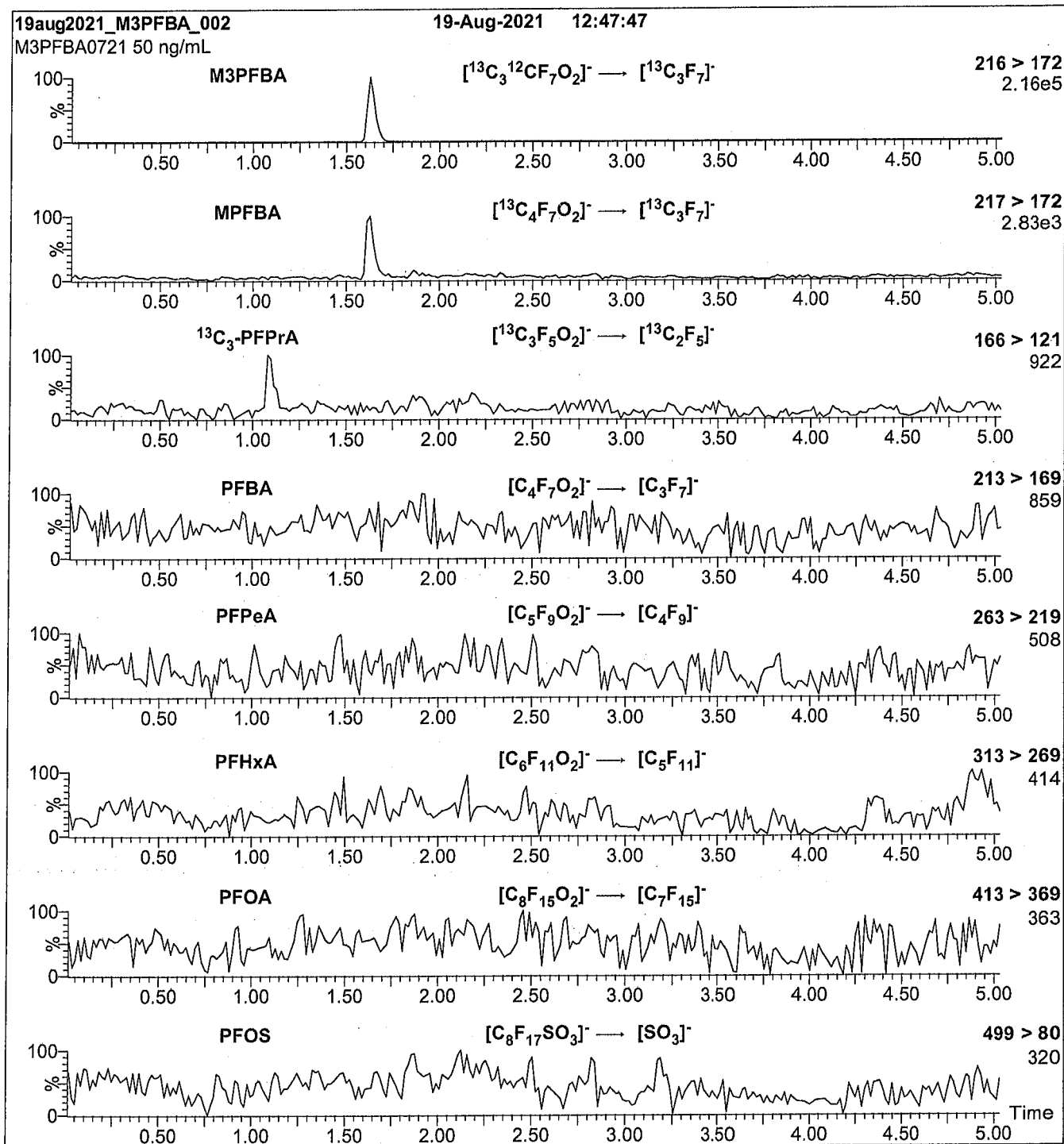
Mobile phase: Gradient
Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 12 min

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

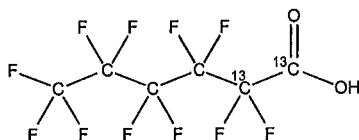


WELLINGTON LABORATORIES

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)

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:

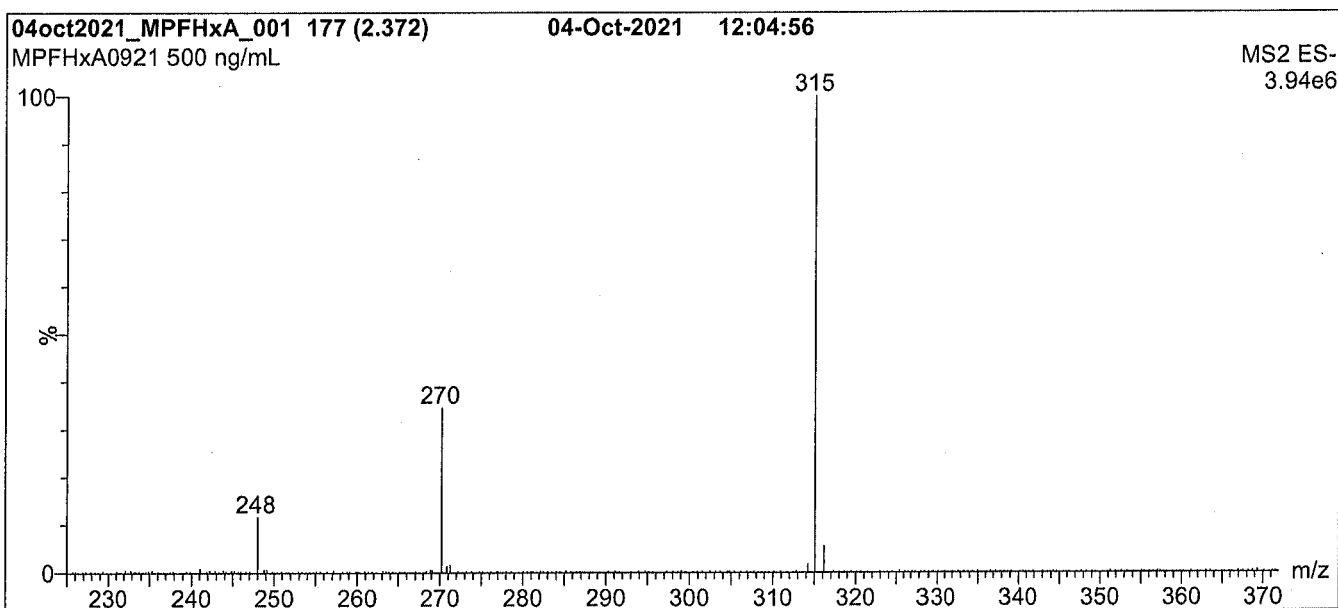
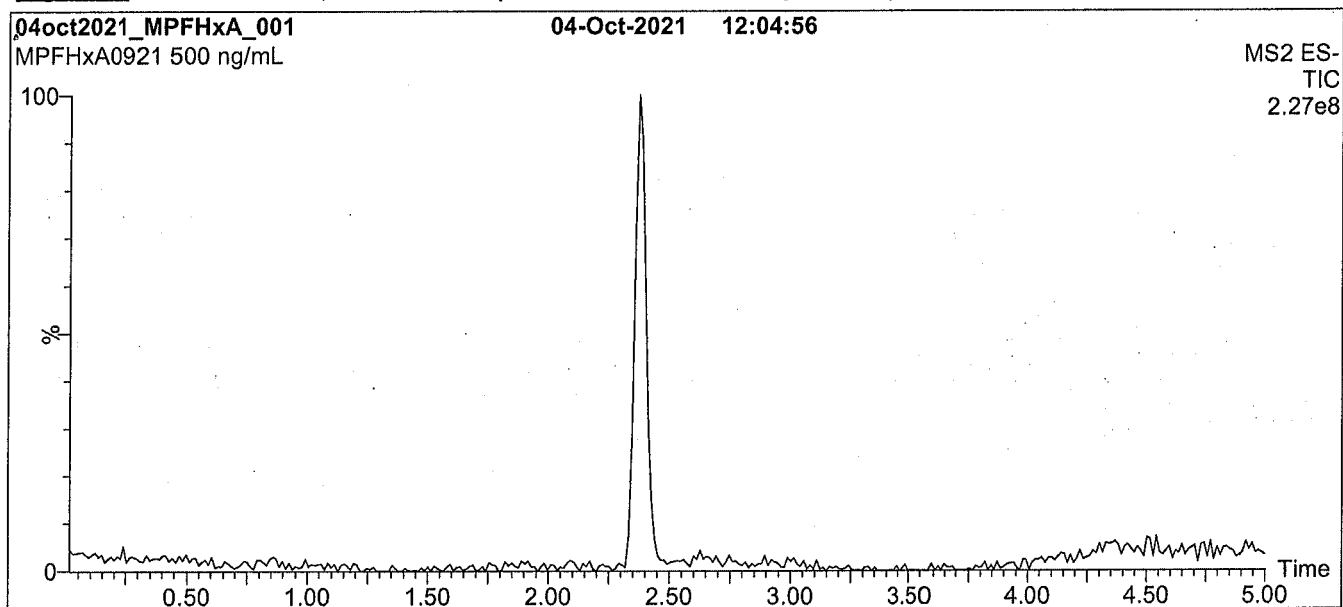
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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Figure 1: 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

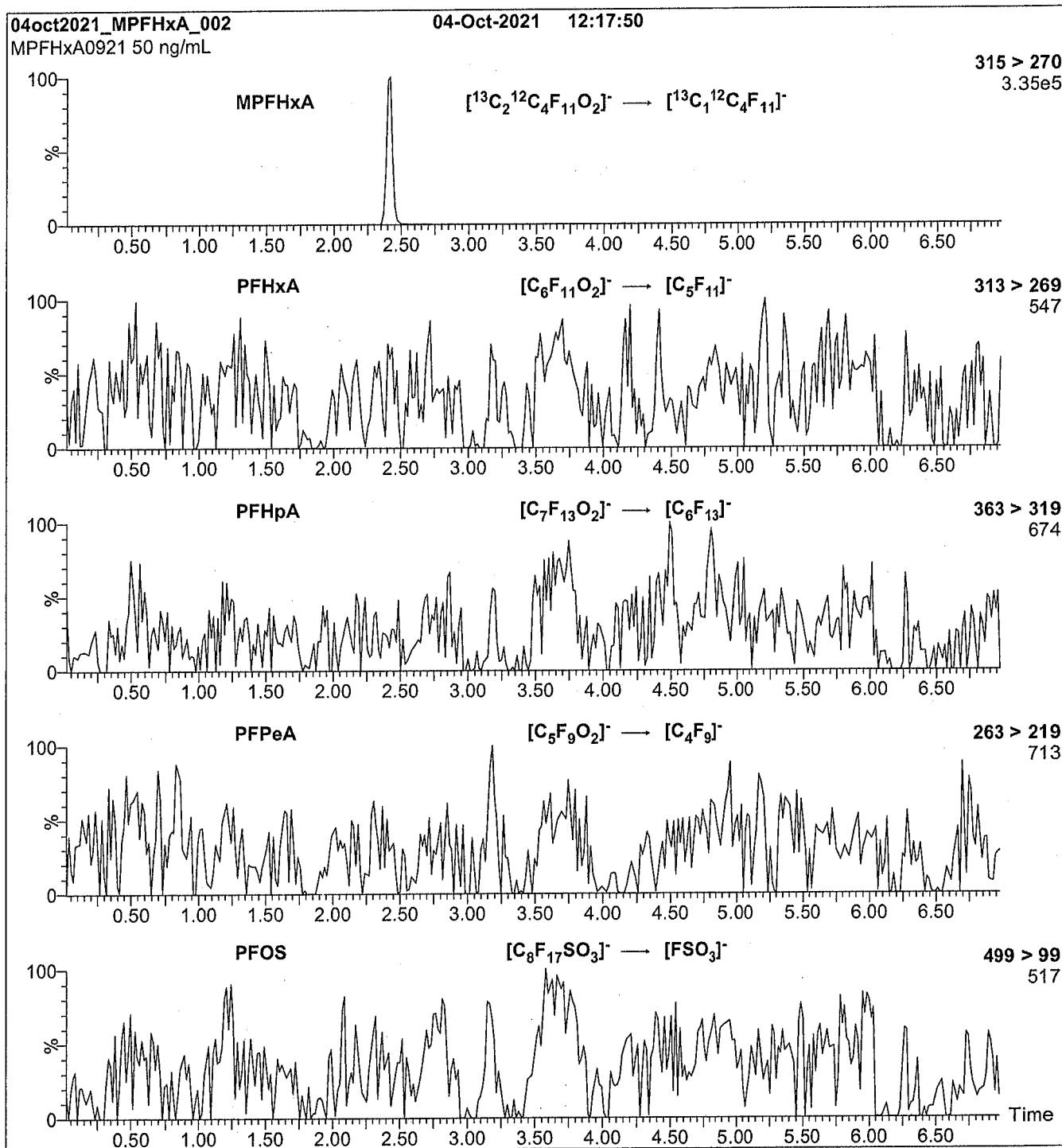
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 12 min

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
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

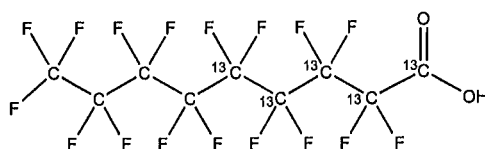
Analyte	Parent	CAS Number	Concentration	Units
13C2-PFHxA		13C2-PFHxA	50	ug/mL



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

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where x is expressed as a relative standard uncertainty of the individual parameter.

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LIMITED WARRANTY:

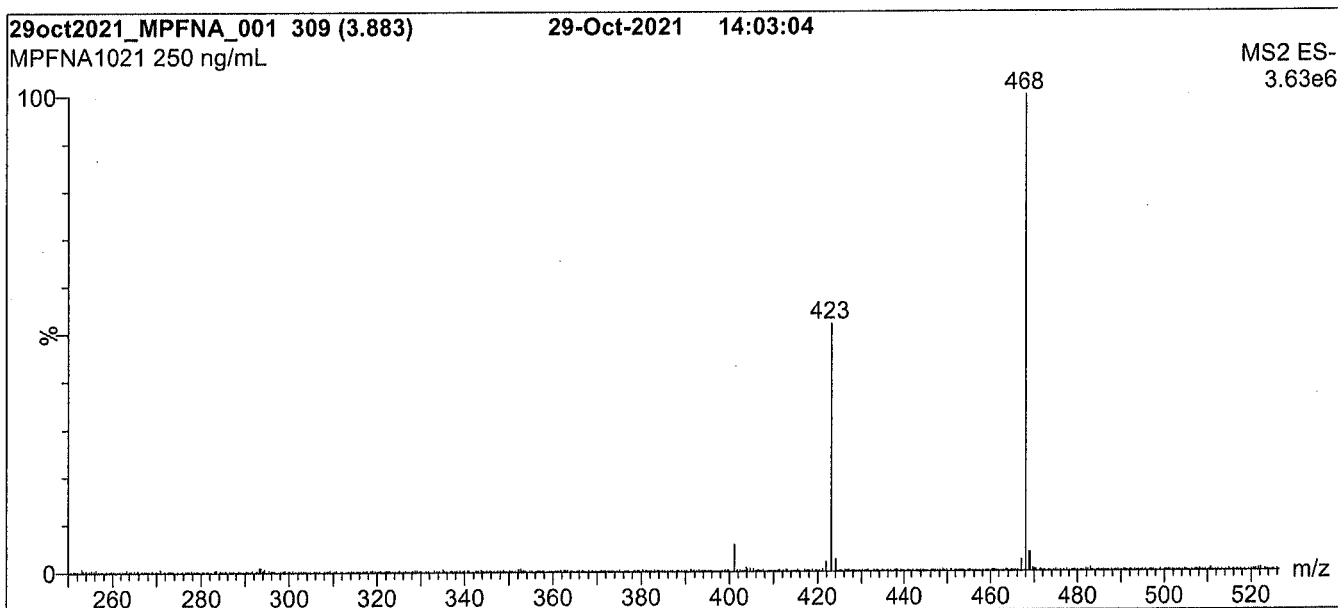
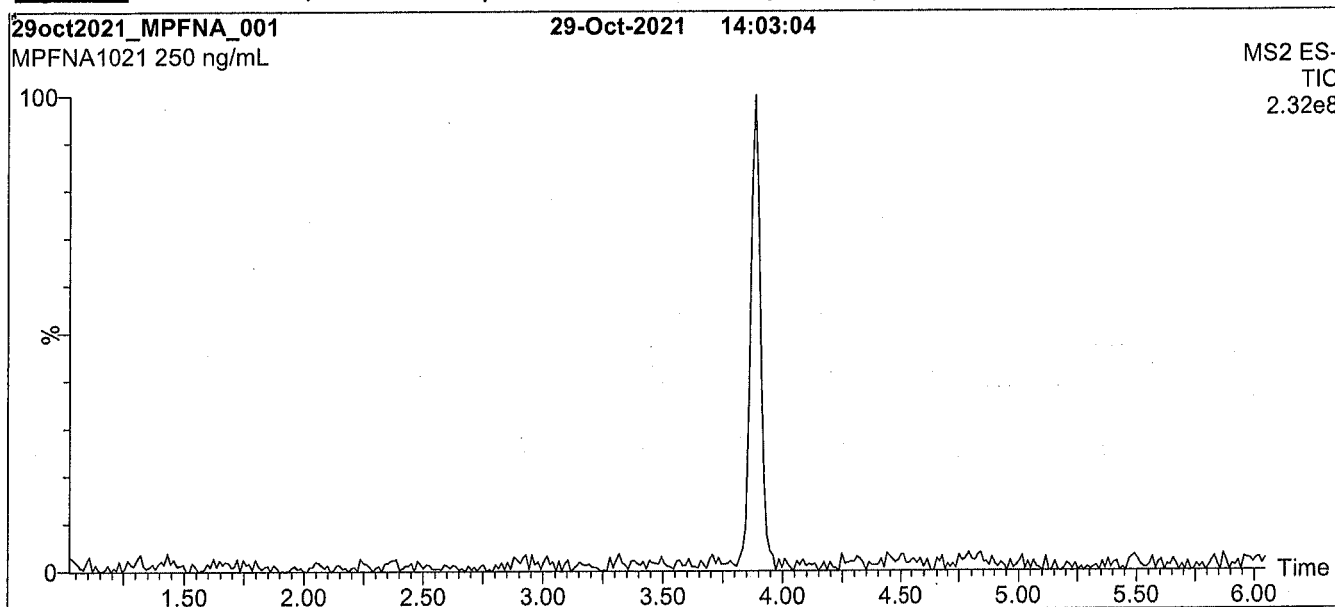
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Figure 1: MPFNA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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)

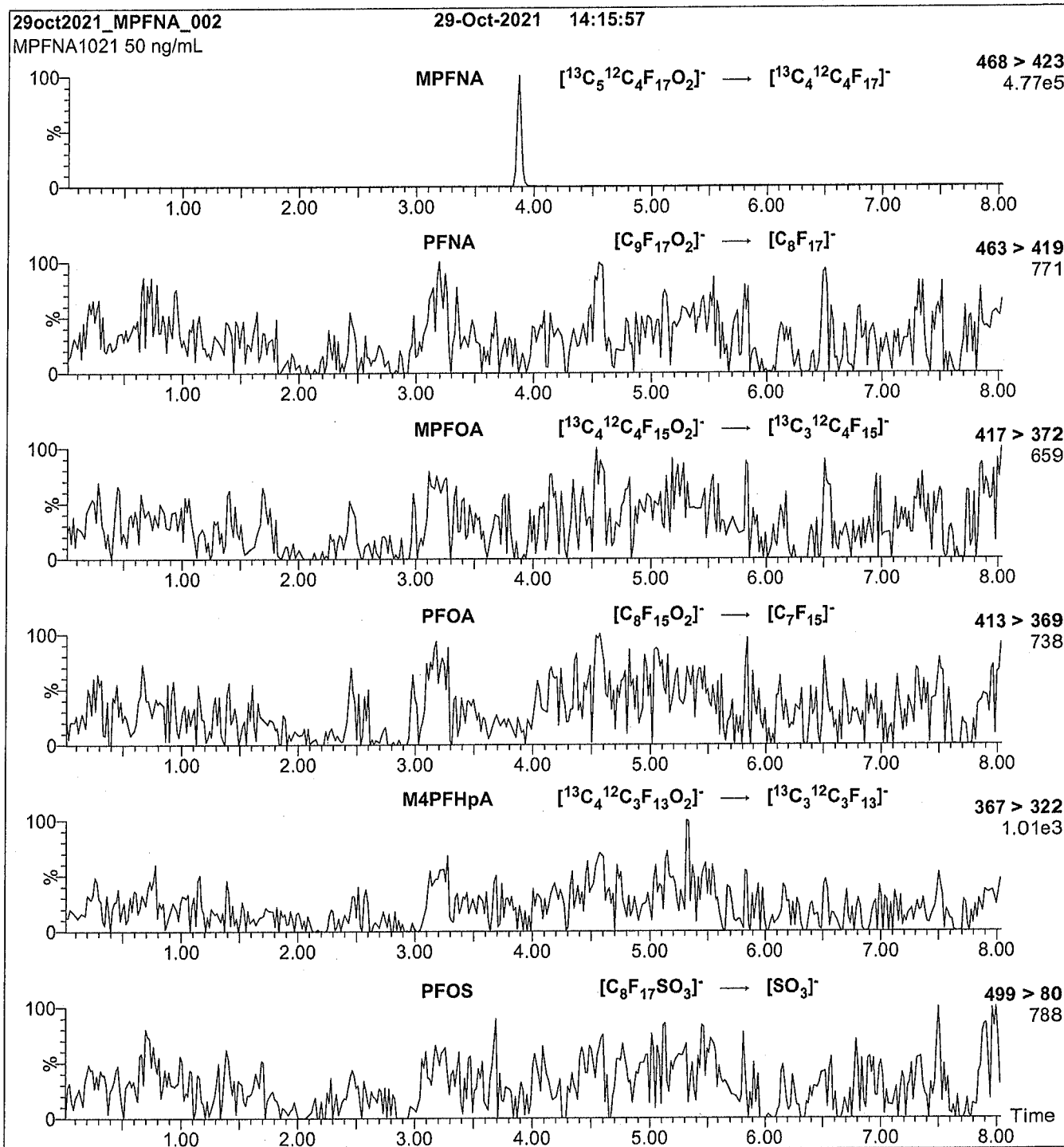
Source: Electrospray (negative)

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

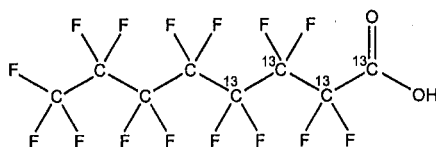
Analyte	Parent	CAS Number	Concentration	Units
13C5-PFNA		13C5-PFNA	50	ug/mL



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:  **Date:** 12/20/2021
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:

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Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

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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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LIMITED WARRANTY:

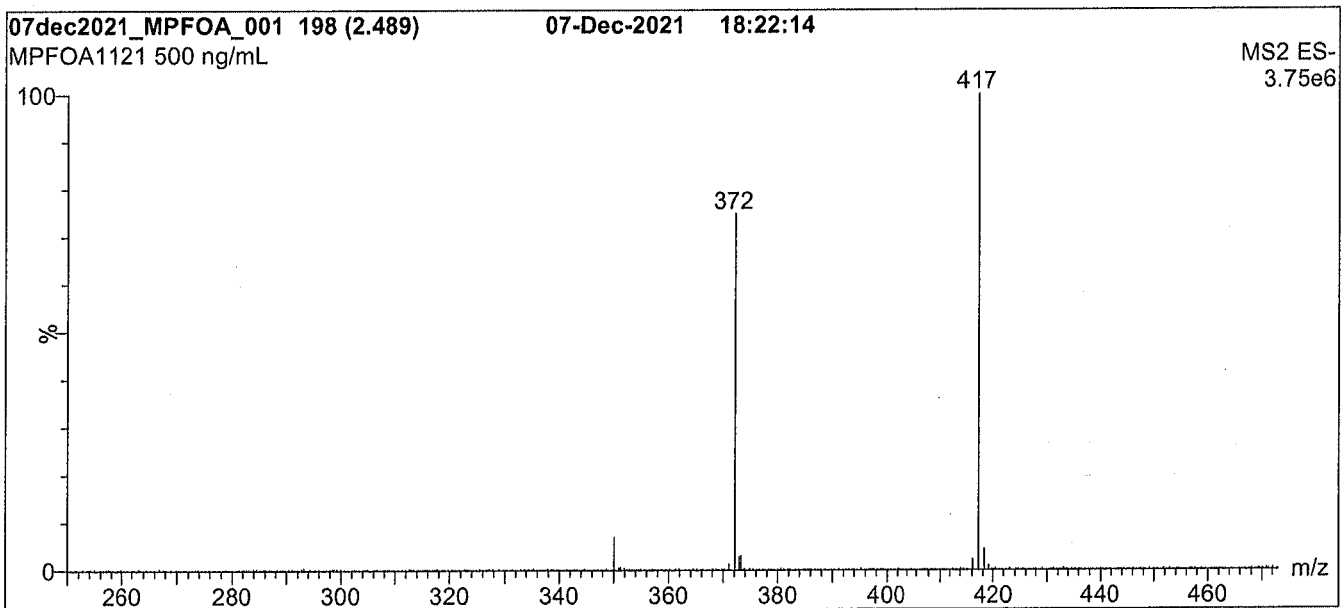
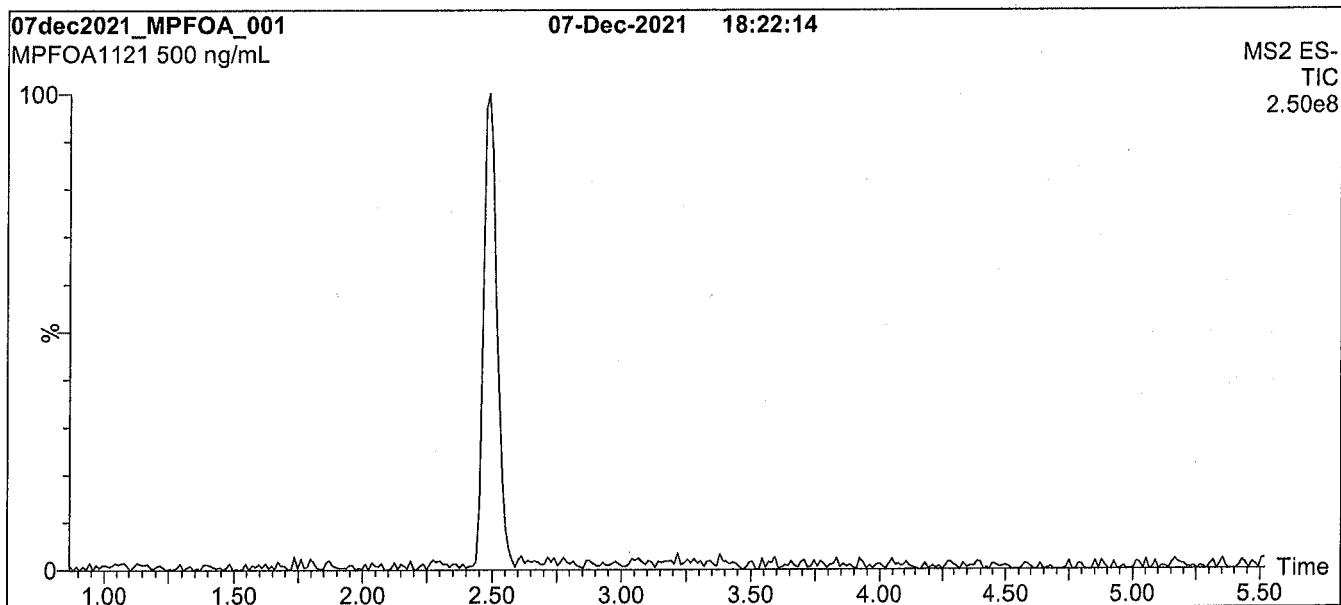
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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).



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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

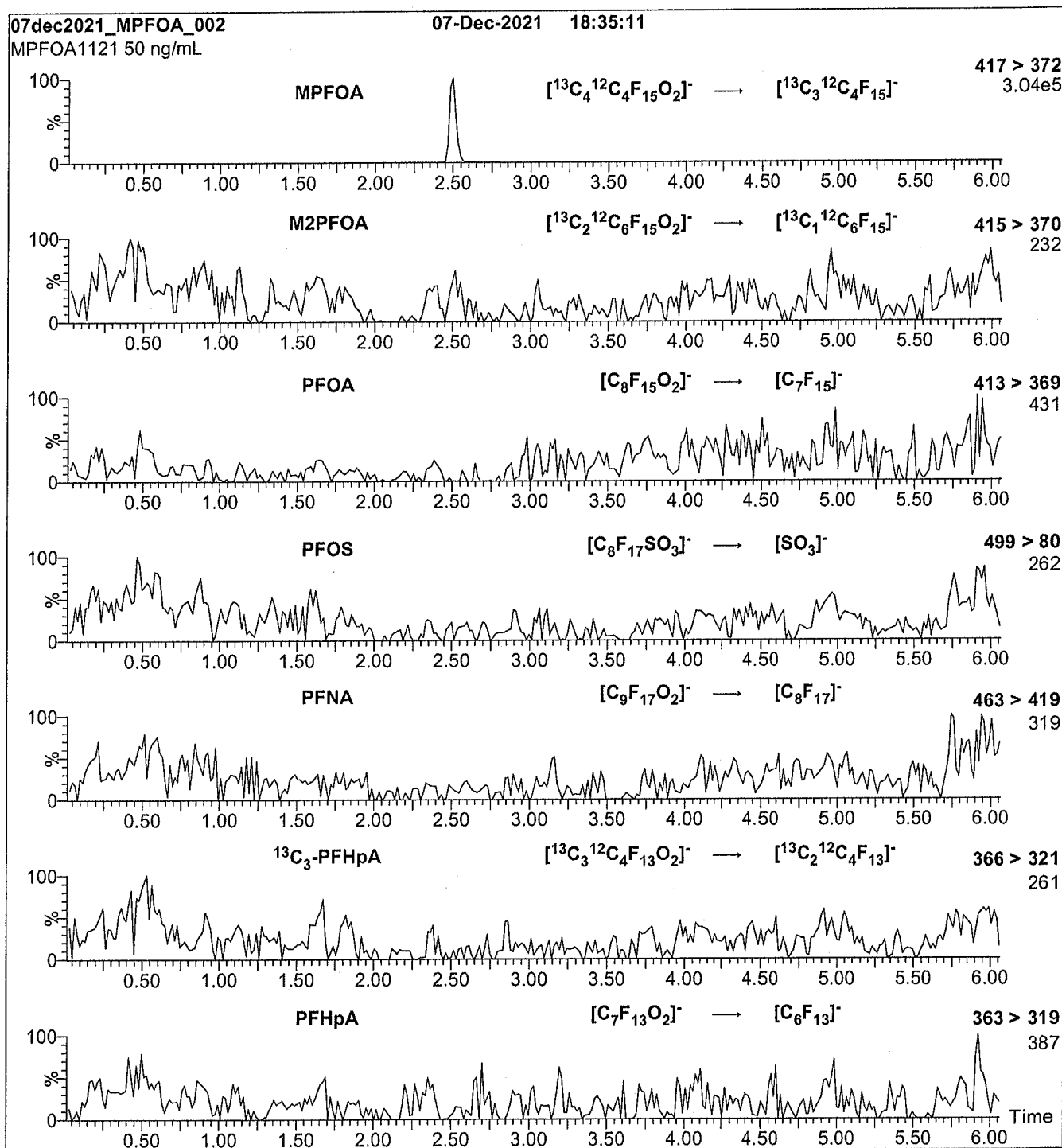
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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

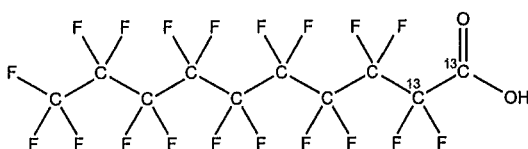


WELLINGTON LABORATORIES

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 12/13/2021
 (mm/dd/yyyy)

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LIMITED WARRANTY:

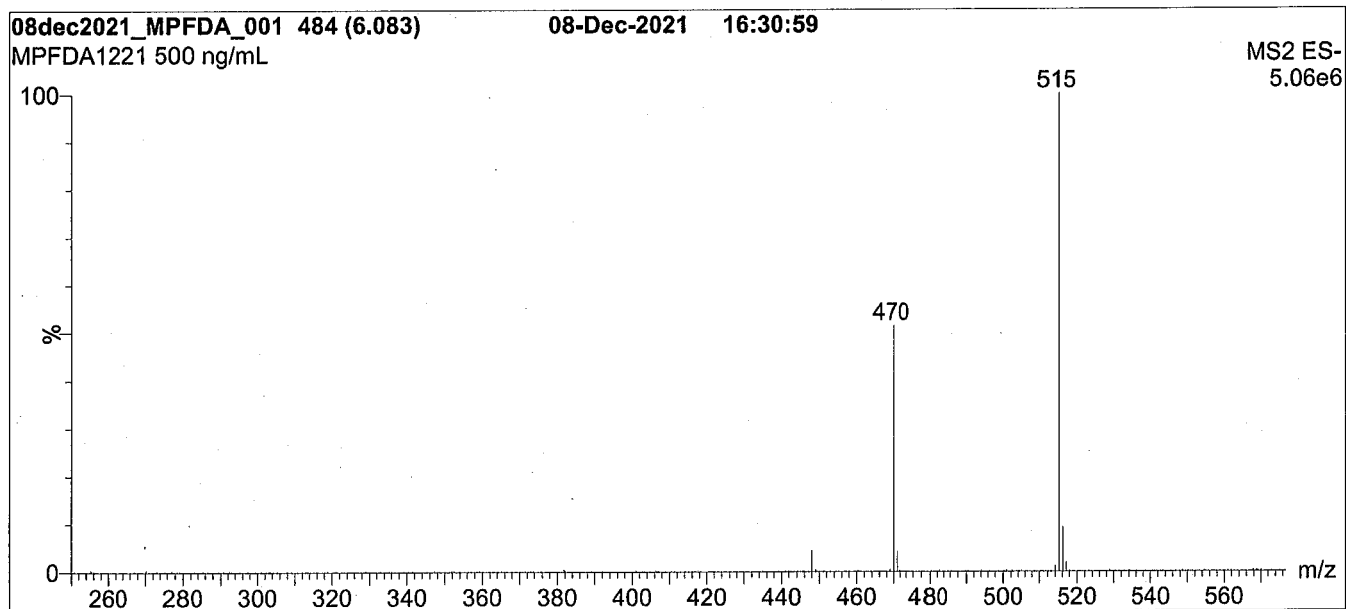
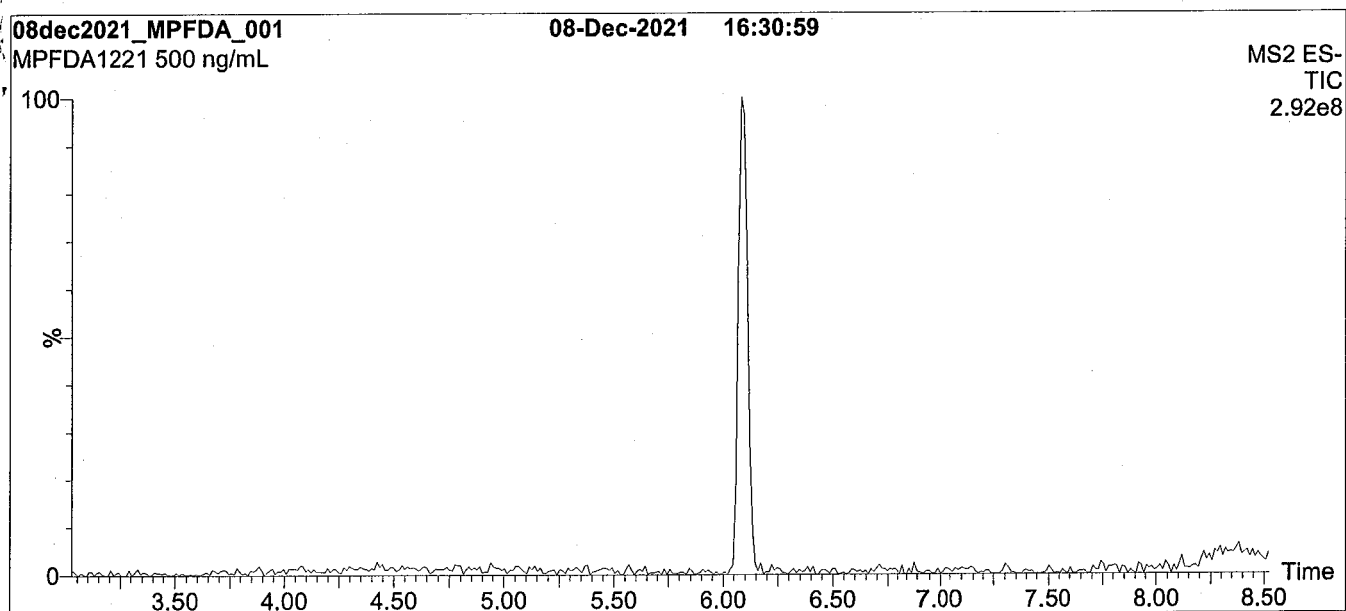
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Figure 1: MPFDA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

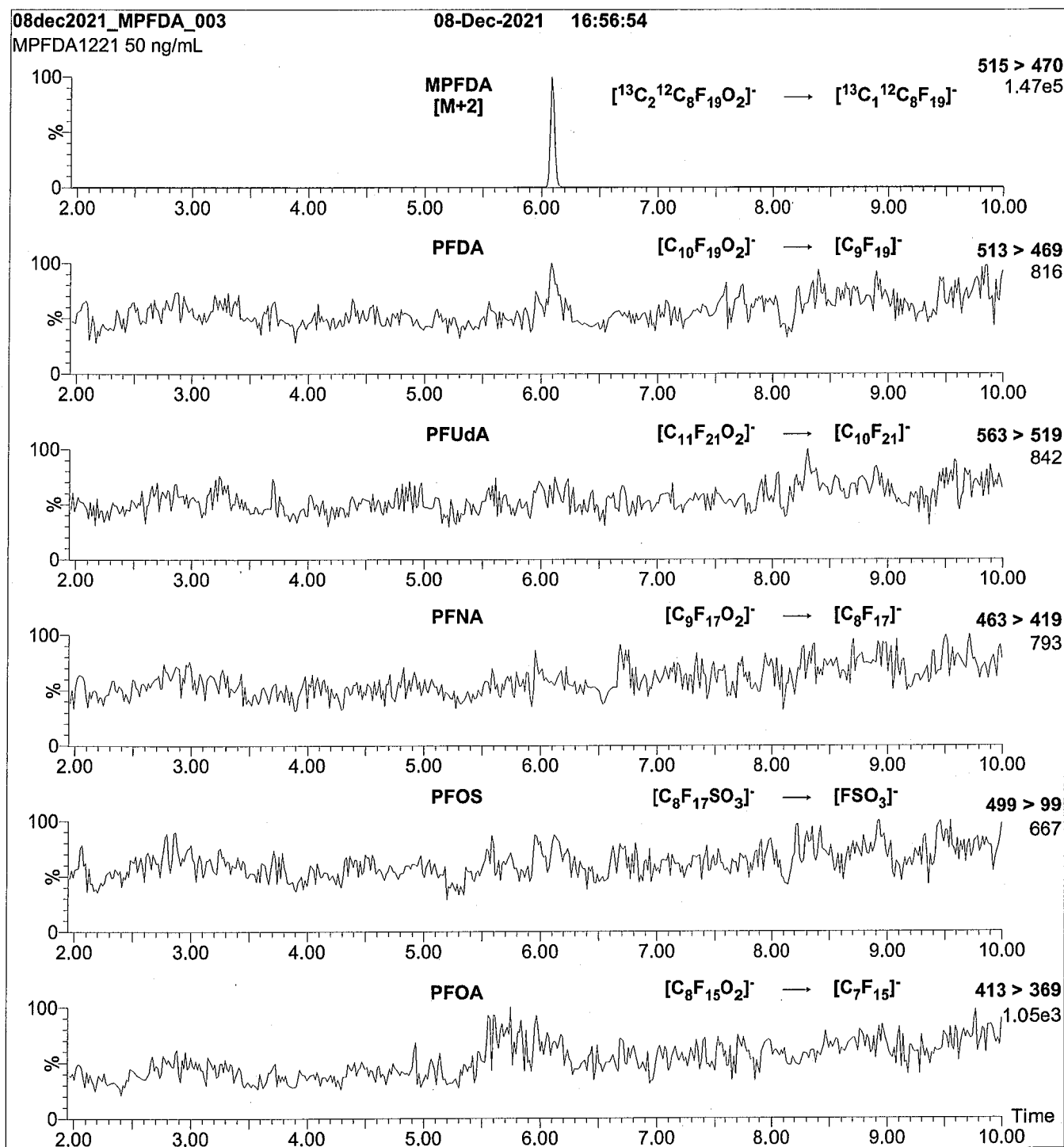
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

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

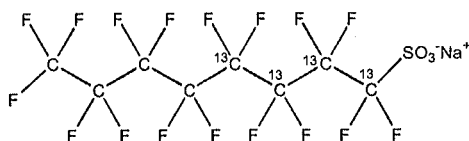


WELLINGTON LABORATORIES

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

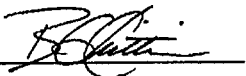
DOCUMENTATION/ DATA ATTACHED:

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)

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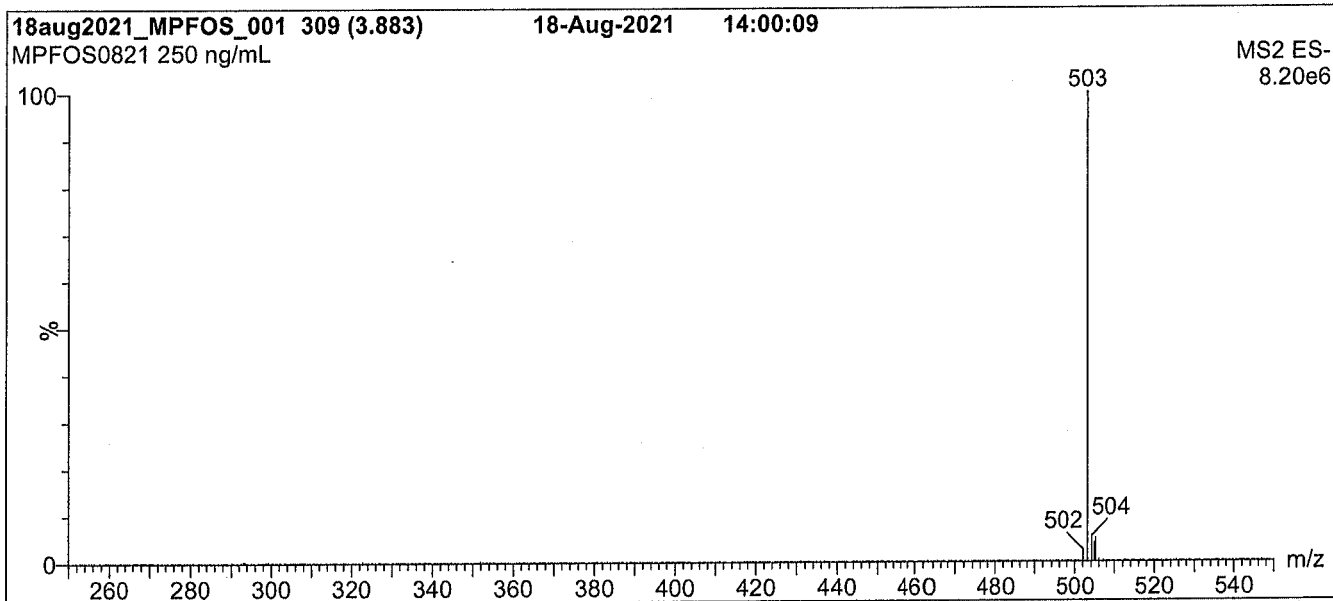
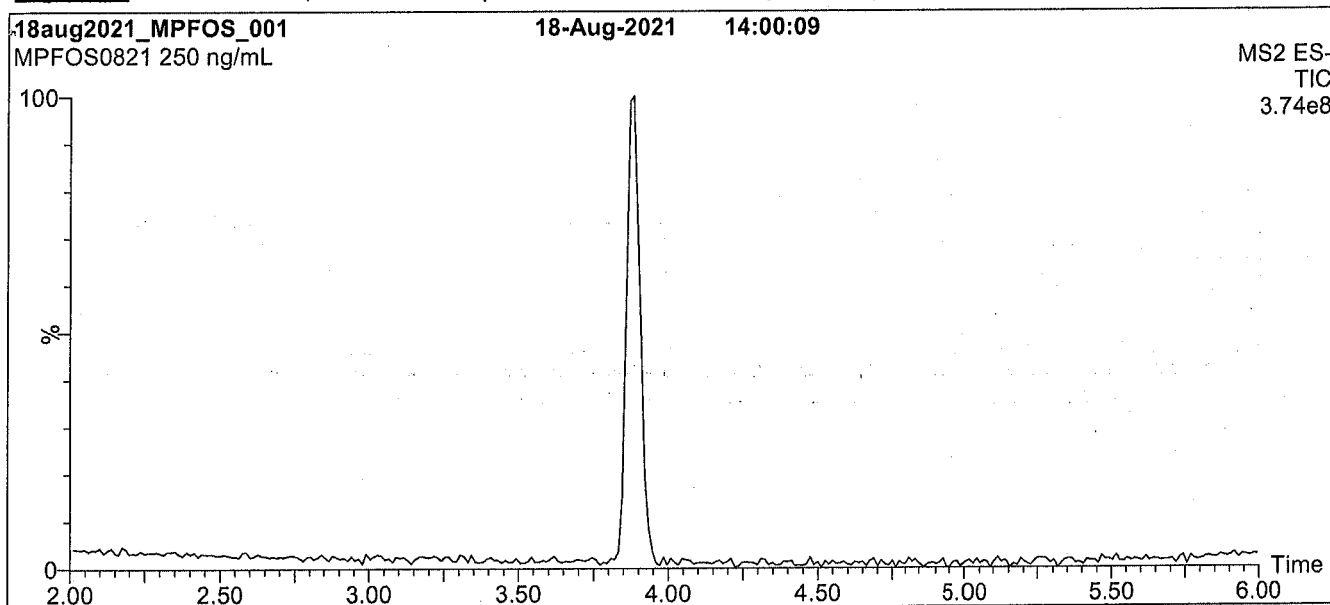
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Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

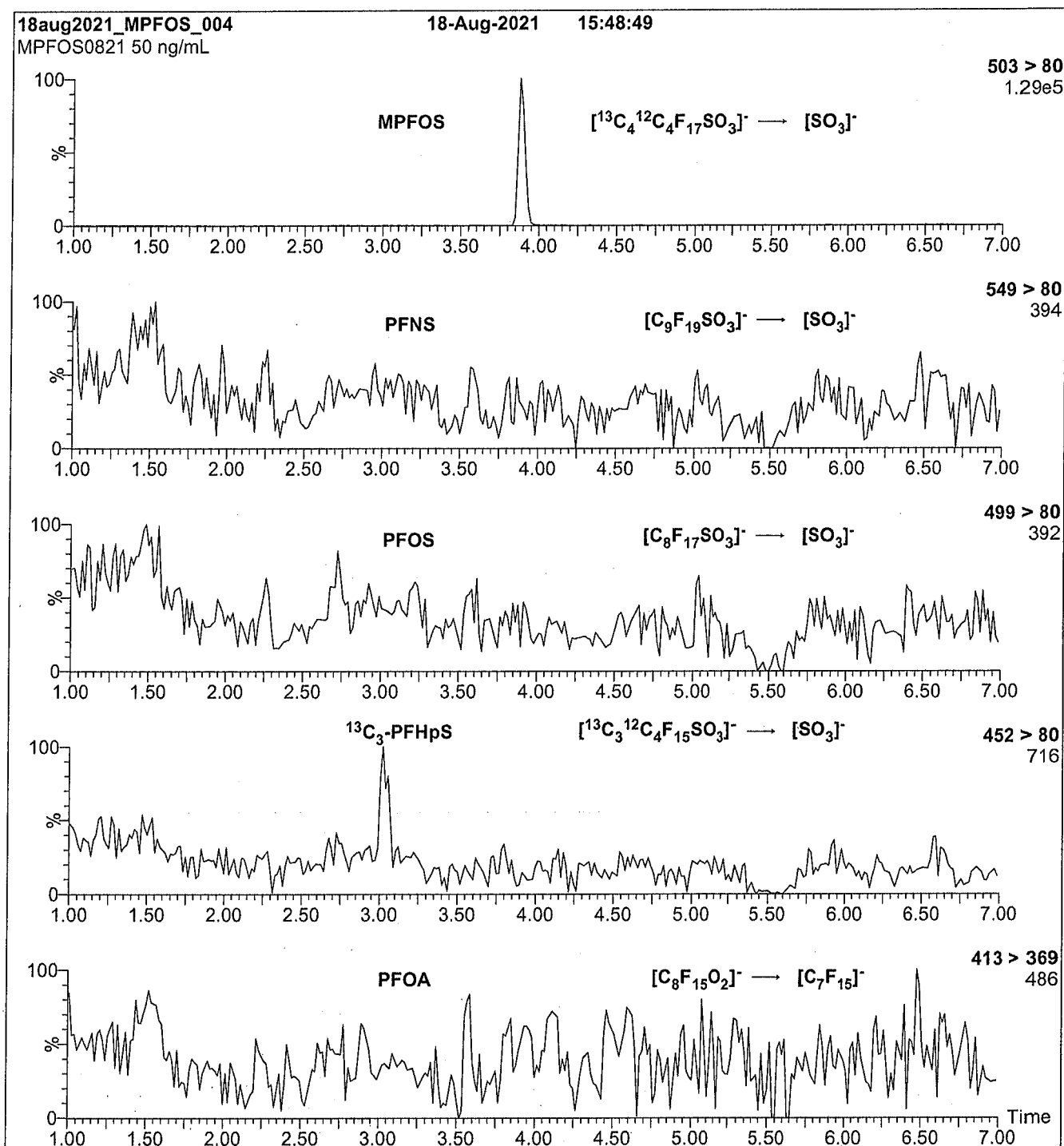
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

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

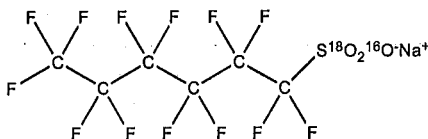


WELLINGTON LABORATORIES

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 (C₆F₁₃S¹⁸O₃) 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.

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Certified By: 
 B.G. Chittim, General Manager **Date:** 11/05/2021
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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:

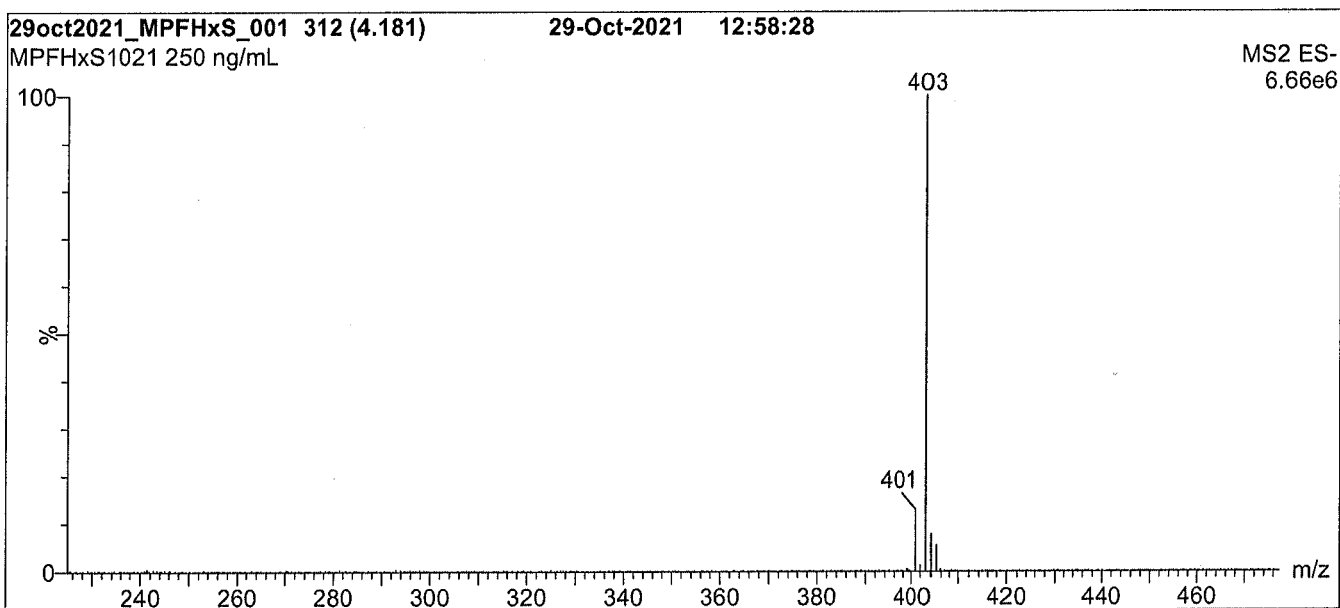
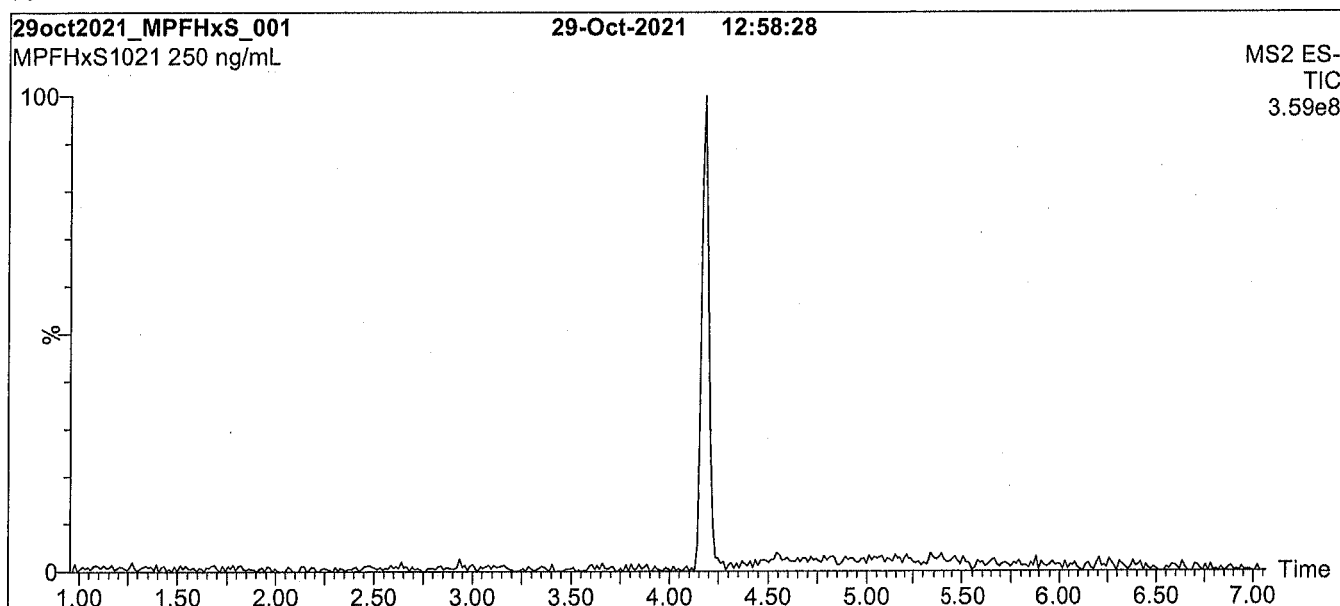
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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: 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

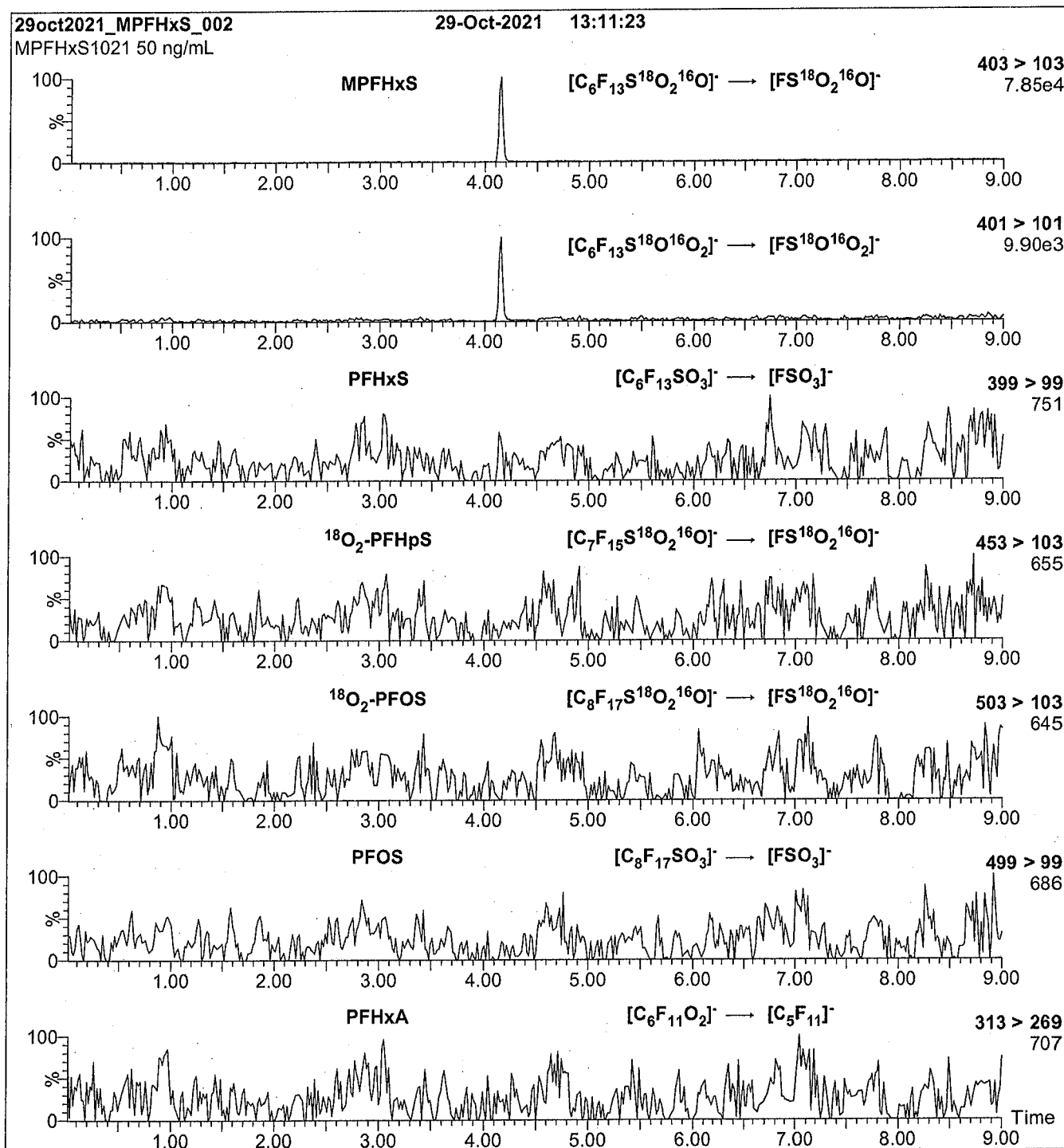
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

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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EMD Millipore Corporation | 28820 Single Oak Dr., Temecula, CA 92590

Technical Support NA +1-800-221-1975 | email: www.millipore.com/techservices | www.calbiochem.com

Technical Support All Other Countries - Contact Your Local Office

FOR RESEARCH USE ONLY.

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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
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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

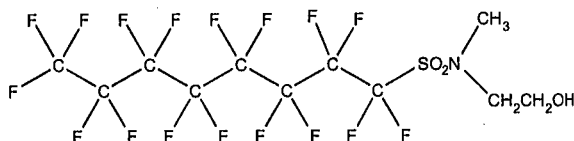


WELLINGTON LABORATORIES

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:

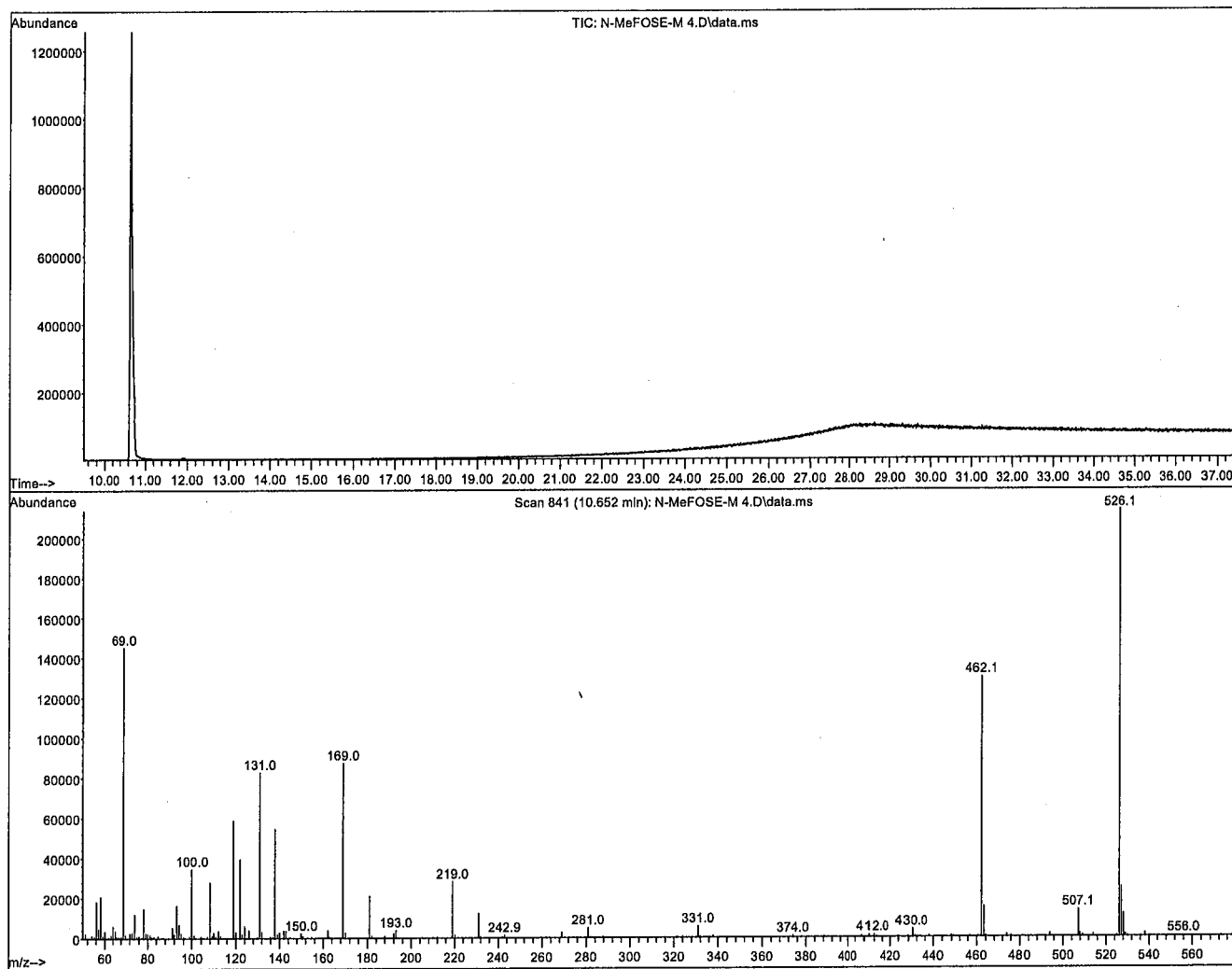
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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

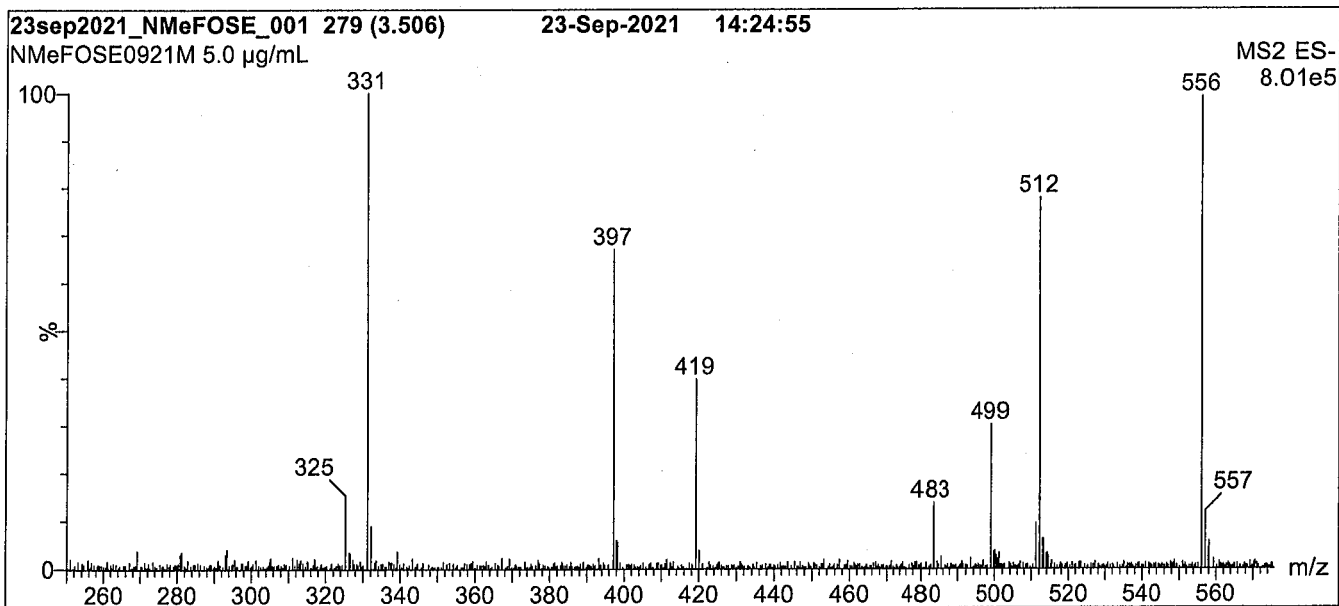
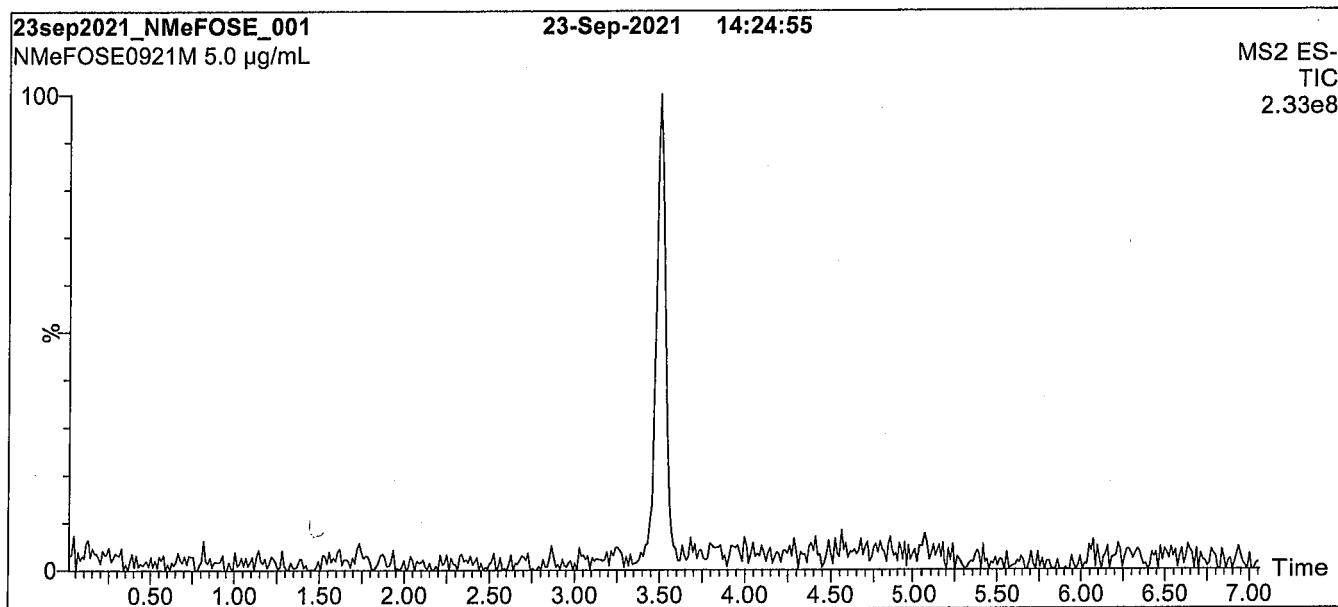
Flow: Constant at 1 mL/min

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)

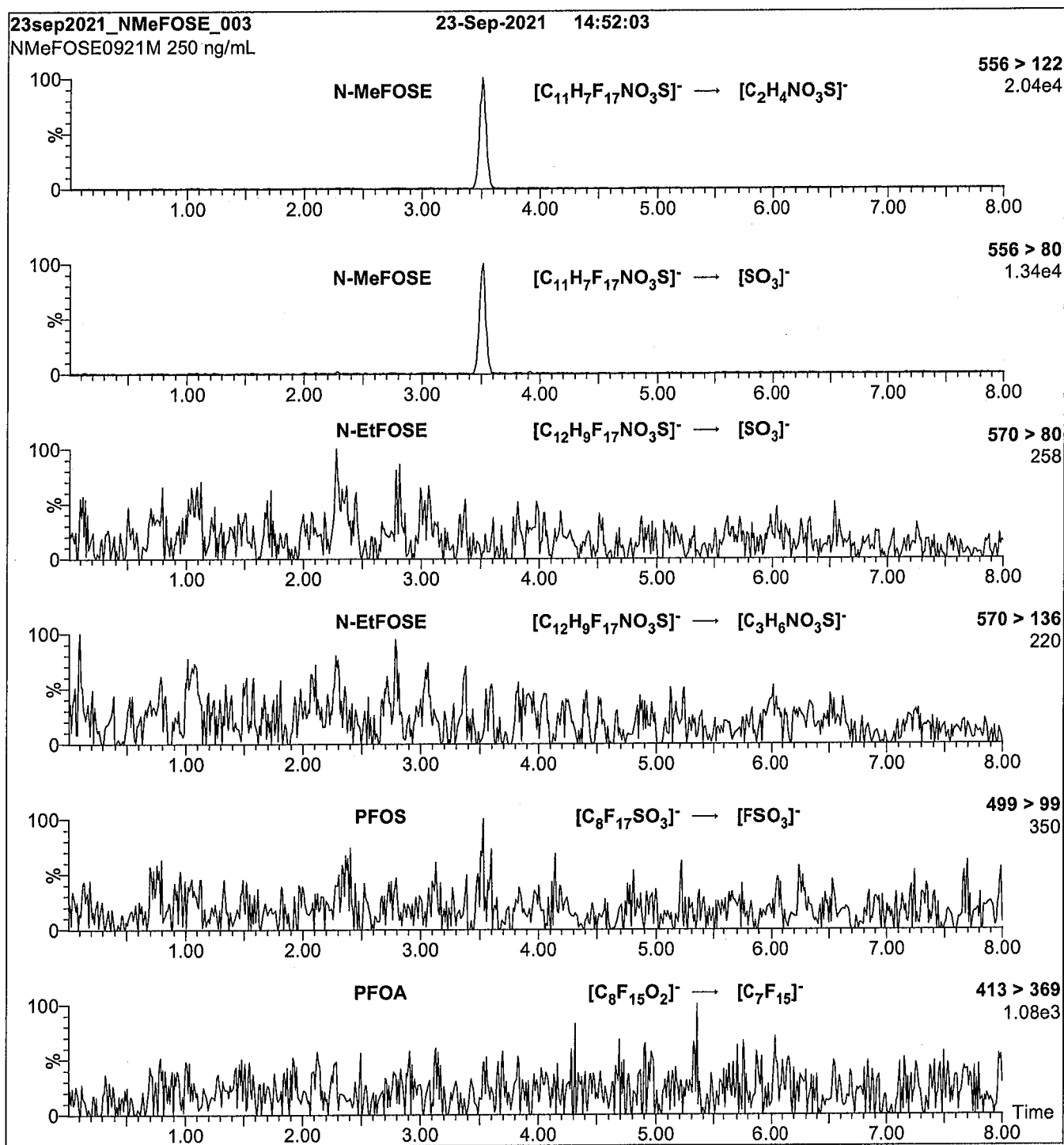
Source: Electrospray (negative)

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

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:

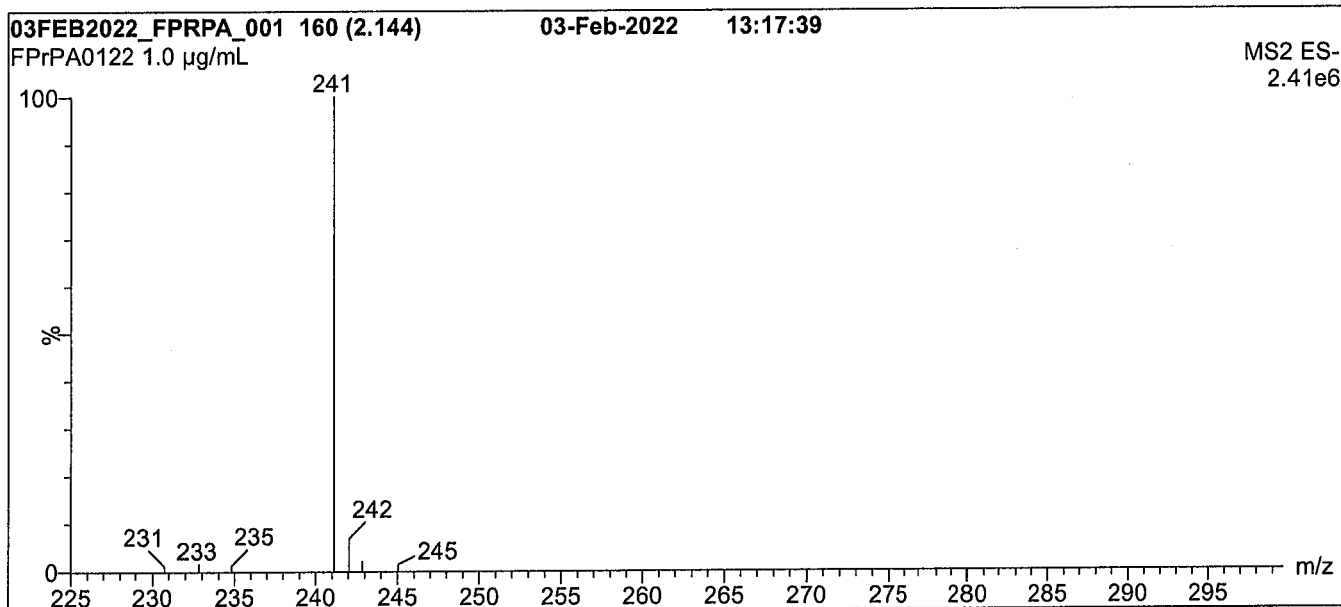
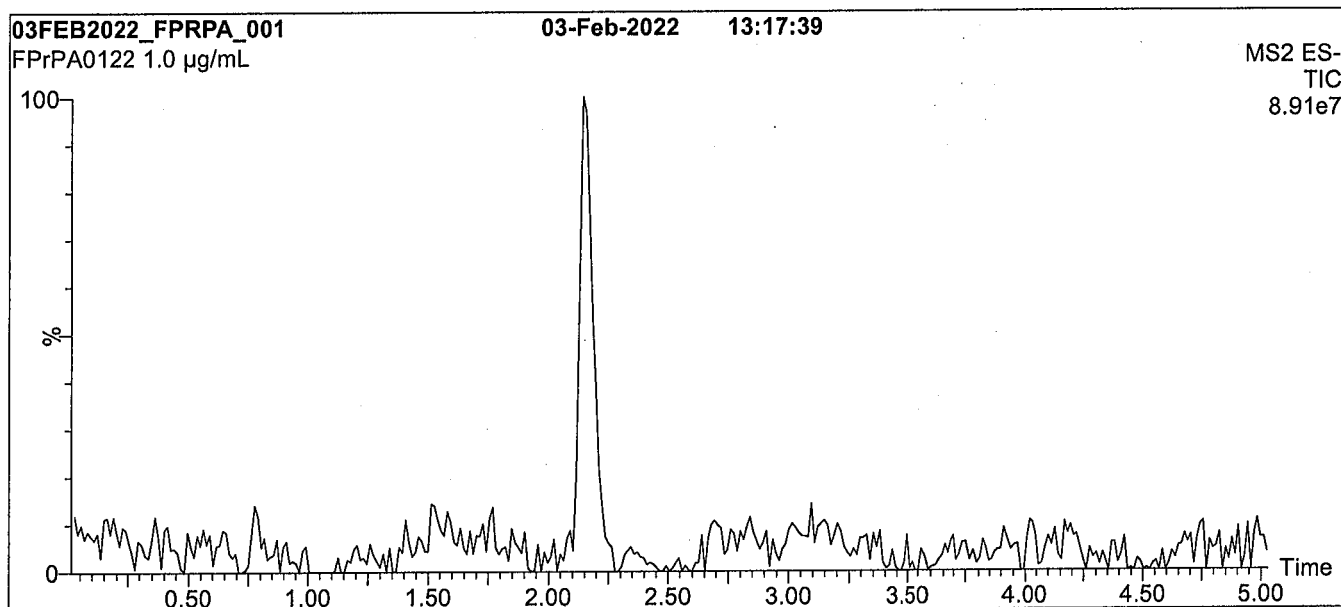
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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: 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

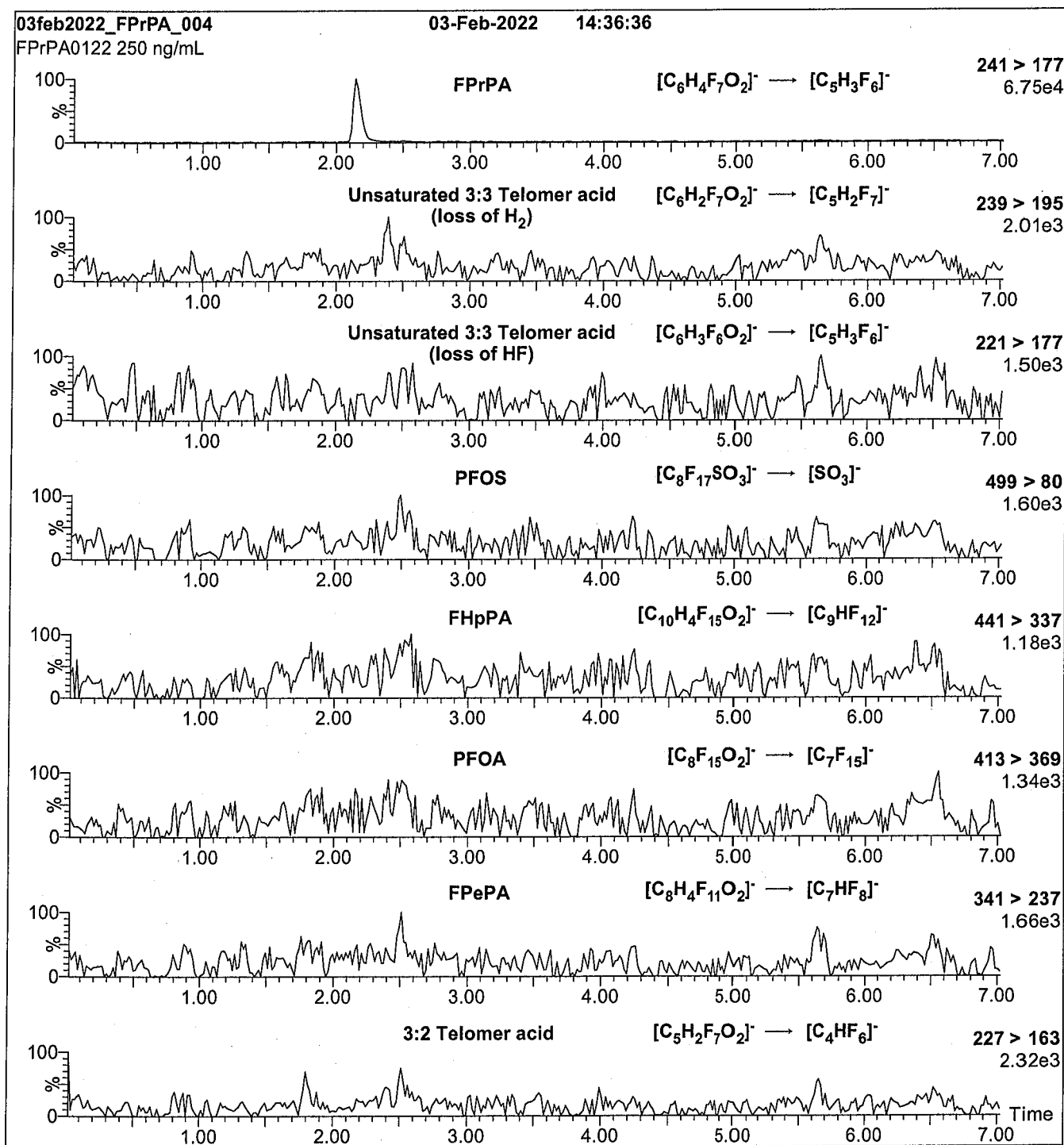
Mobile phase: Gradient
Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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

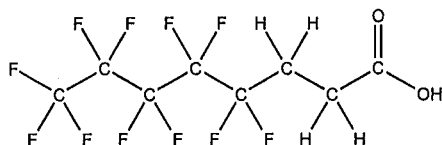


WELLINGTON LABORATORIES

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

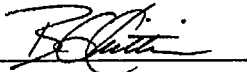
DOCUMENTATION/ DATA ATTACHED:

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:

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:

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LIMITED WARRANTY:

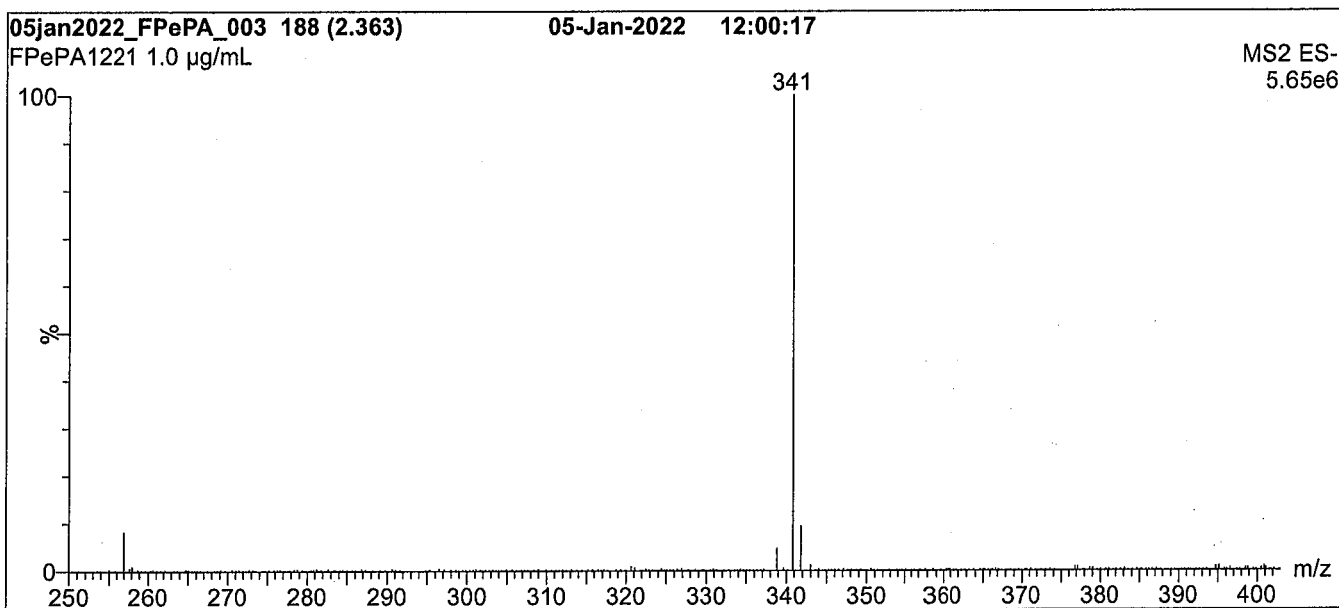
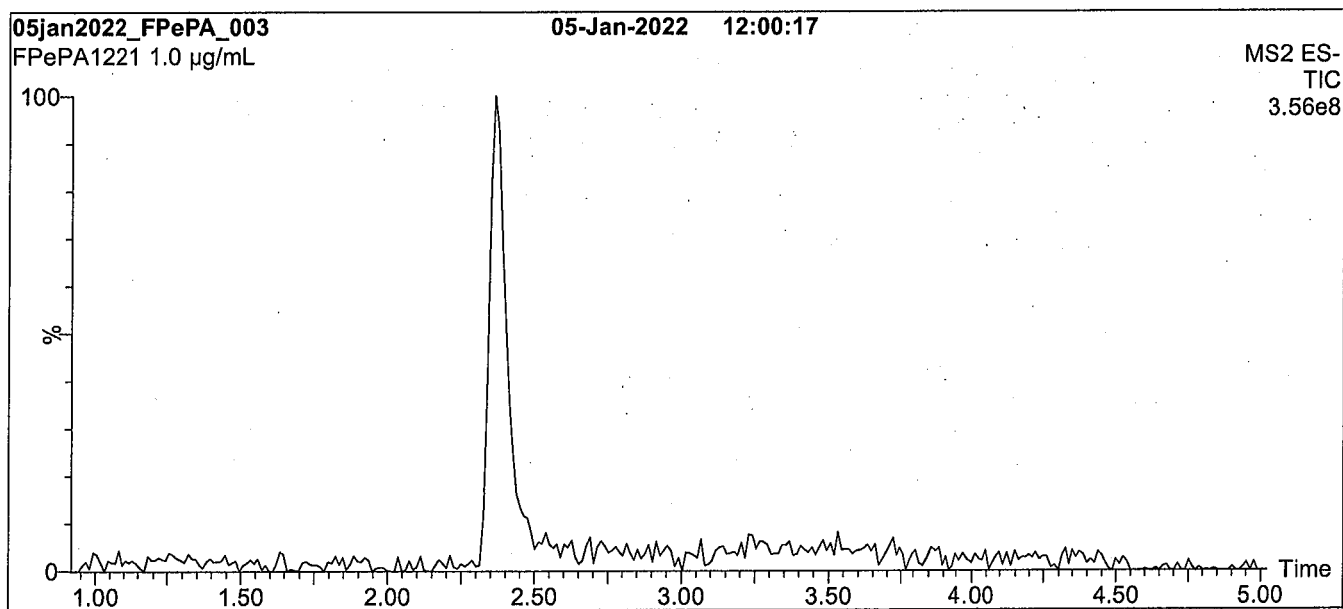
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QUALITY MANAGEMENT:

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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

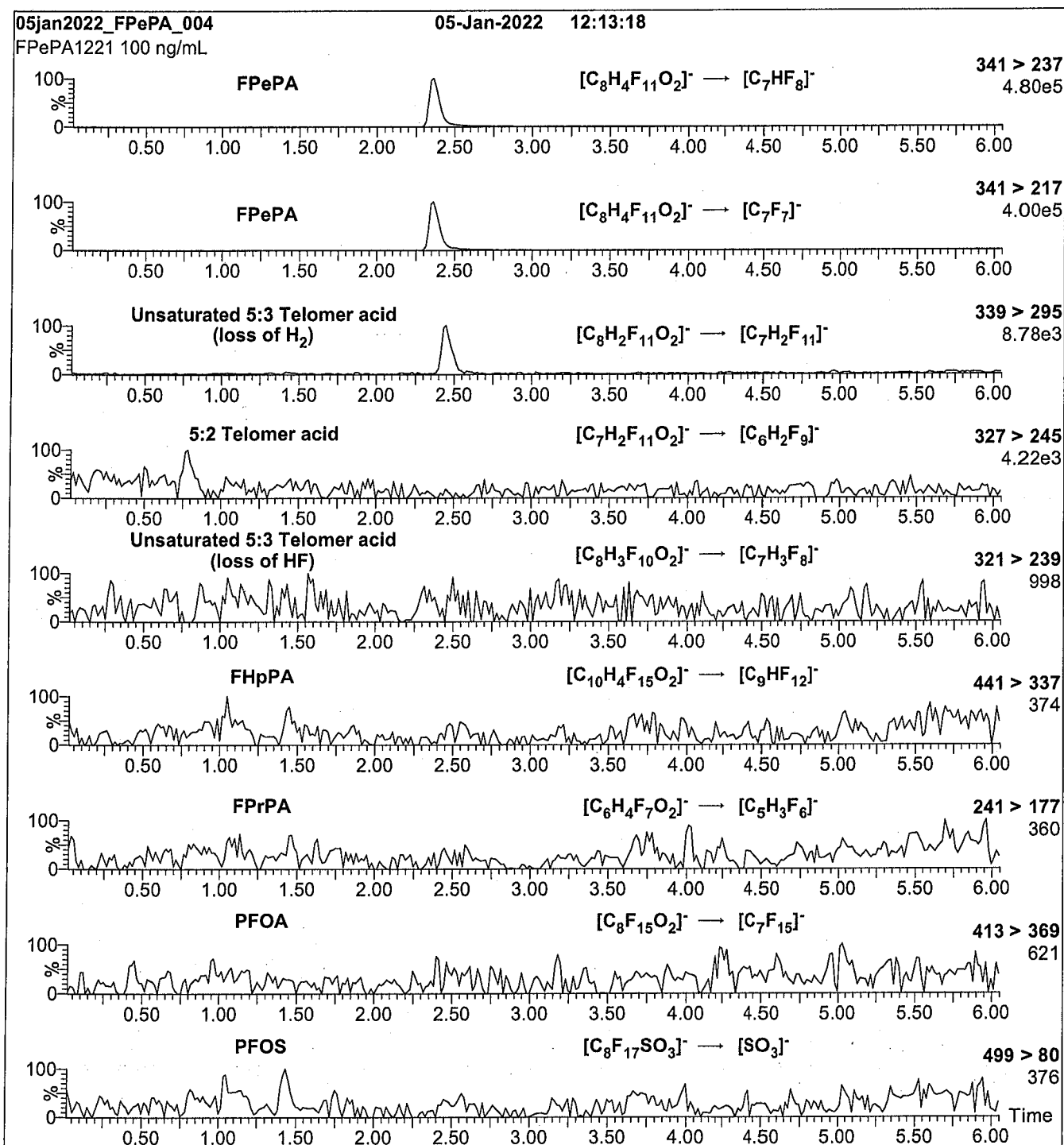
Mobile phase: Gradient
 Start: 45% H₂O / 55% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min and hold for
 3 min before returning to initial conditions in 0.75 min.
 Time: 12 min

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

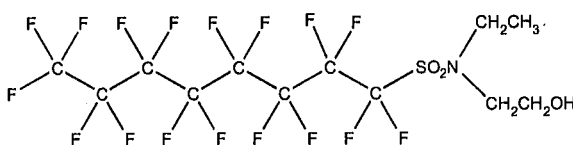
Analyte	Parent	CAS Number	Concentration	Units
5:3FTCA		914637-49-3	50	ug/mL



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:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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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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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

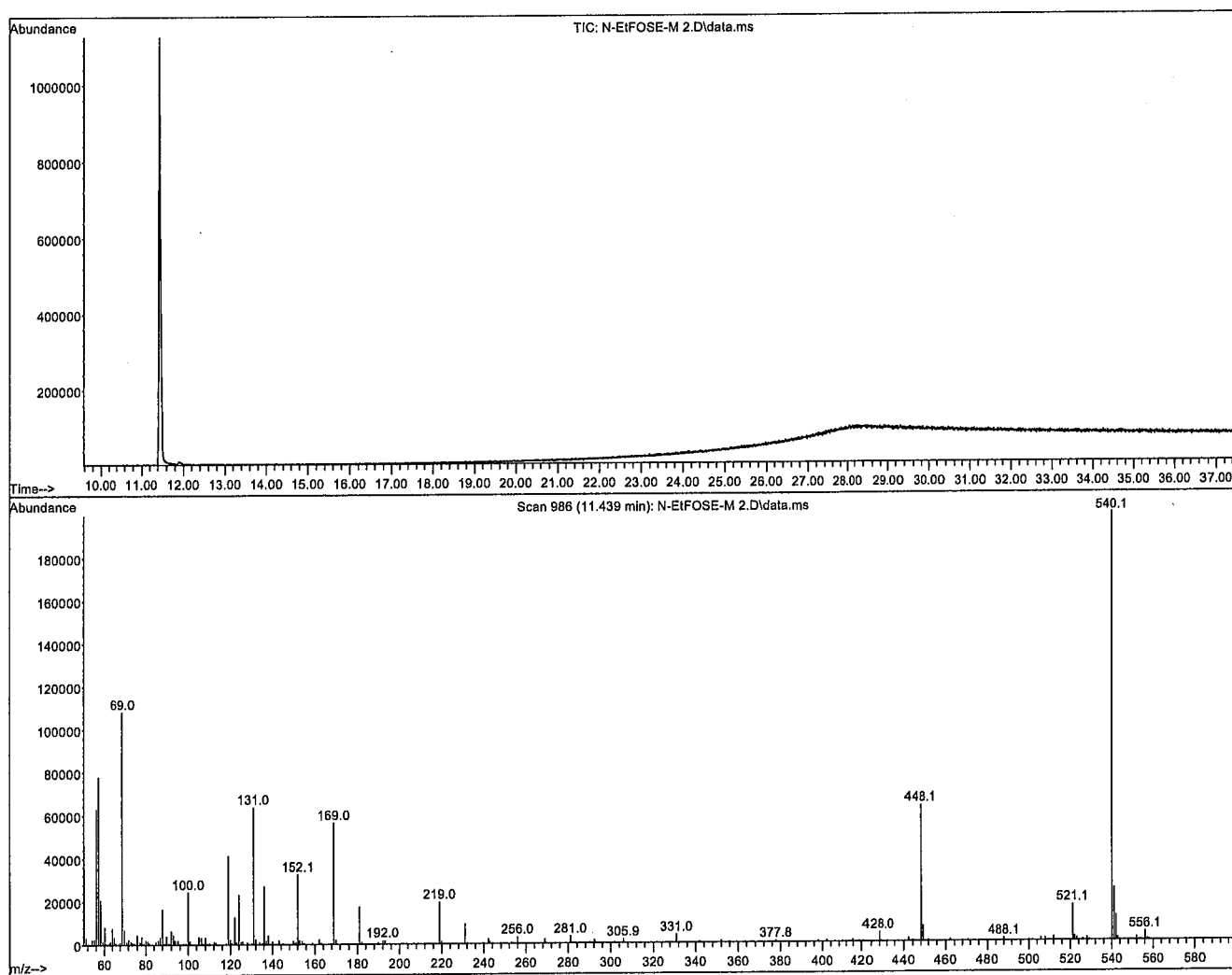
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QUALITY MANAGEMENT:

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Figure 1: N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Agilent 7890A HRGC
 Agilent 5975C MSD

Chromatographic Conditions:

Column: 30 m DB-5 (0.25 mm id, 0.25 μ m film thickness) Agilent J&W

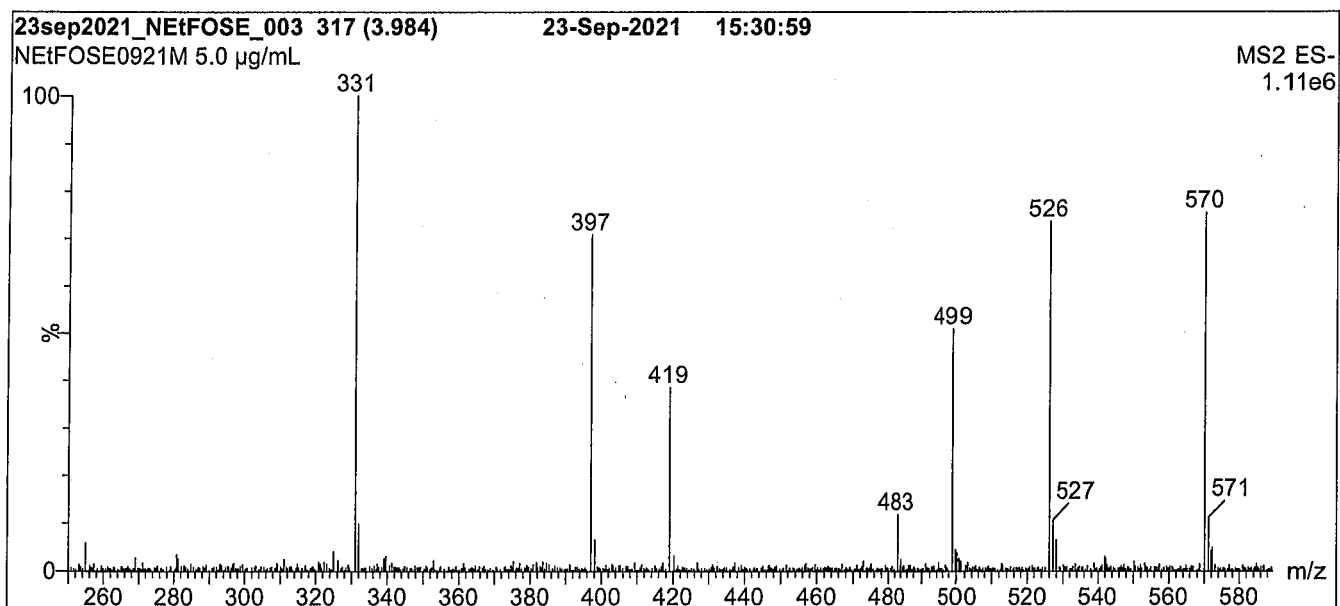
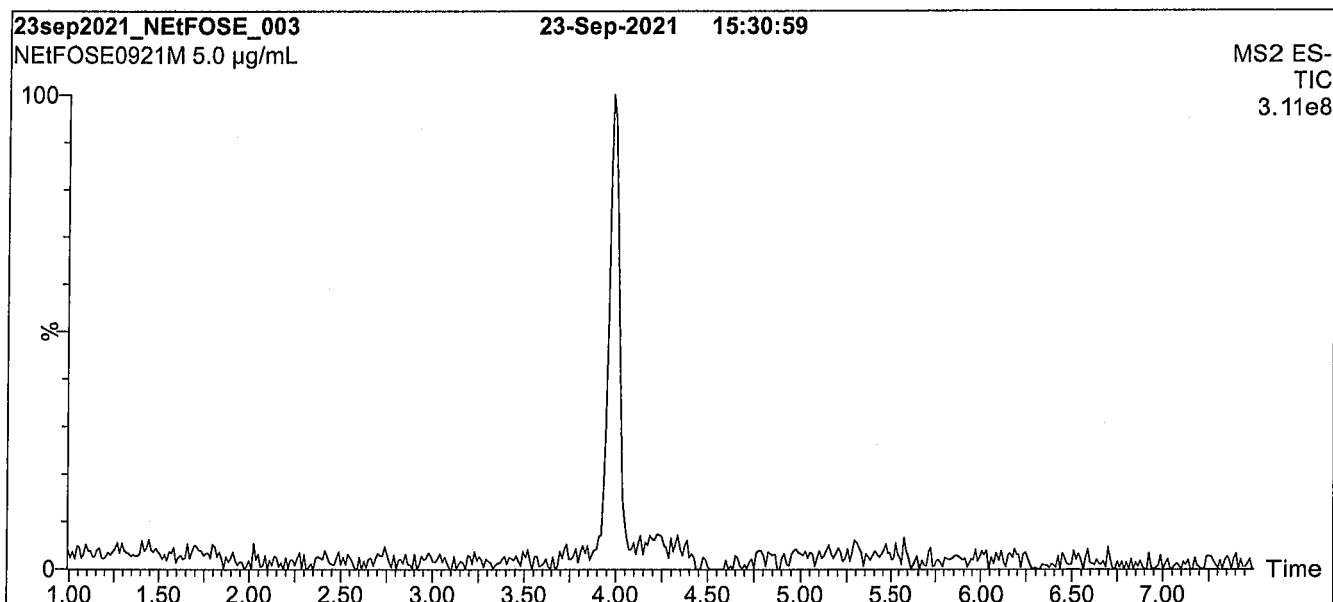
Flow: Constant at 1 mL/min

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

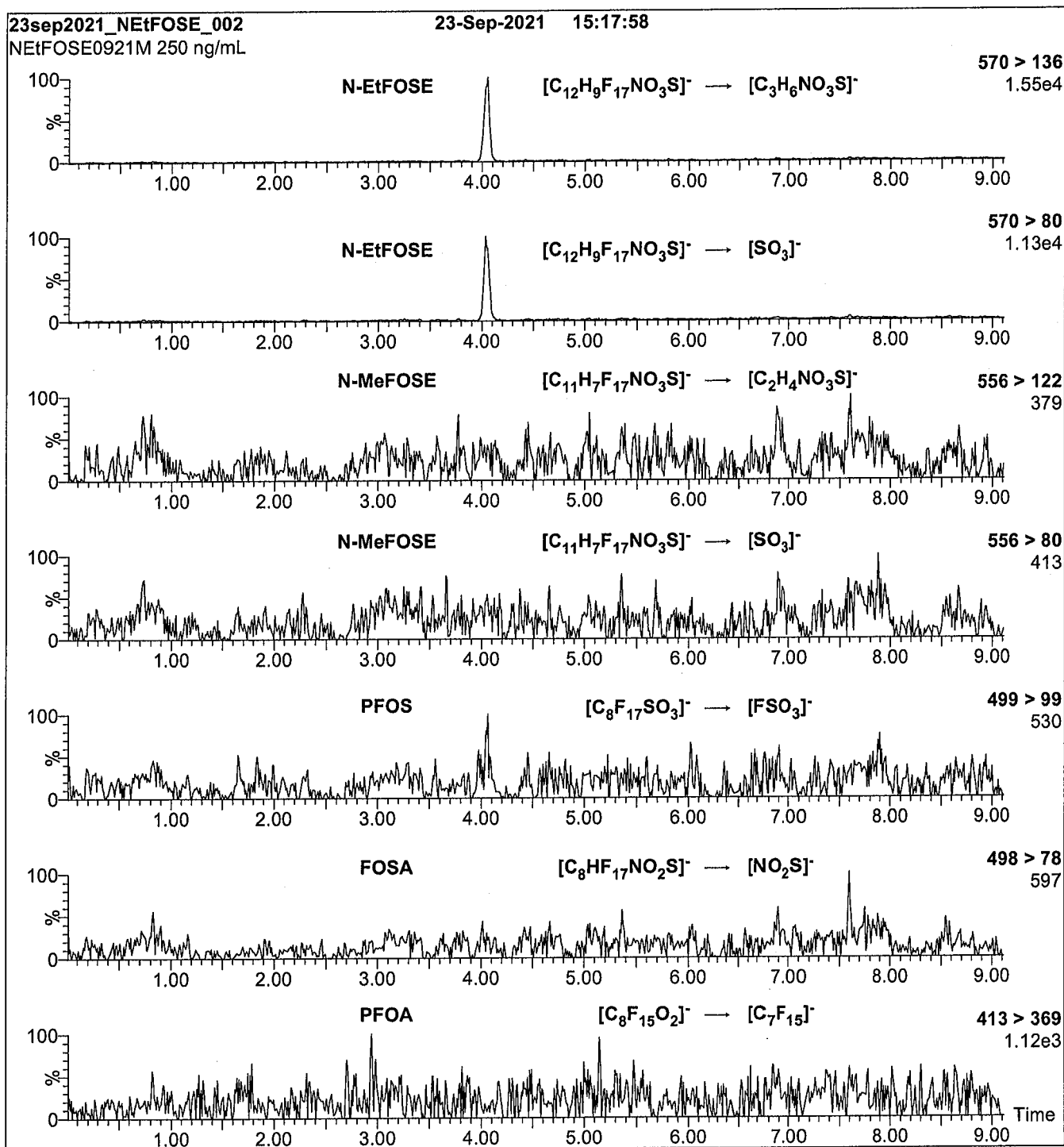
Mobile phase: Gradient
Start: 30% H₂O / 70% MeOH
Ramp to 90% organic over 8 min and hold for
1.5 min before returning to initial conditions in 1 min.
Time: 12 min

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:

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HANDLING:

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LIMITED WARRANTY:

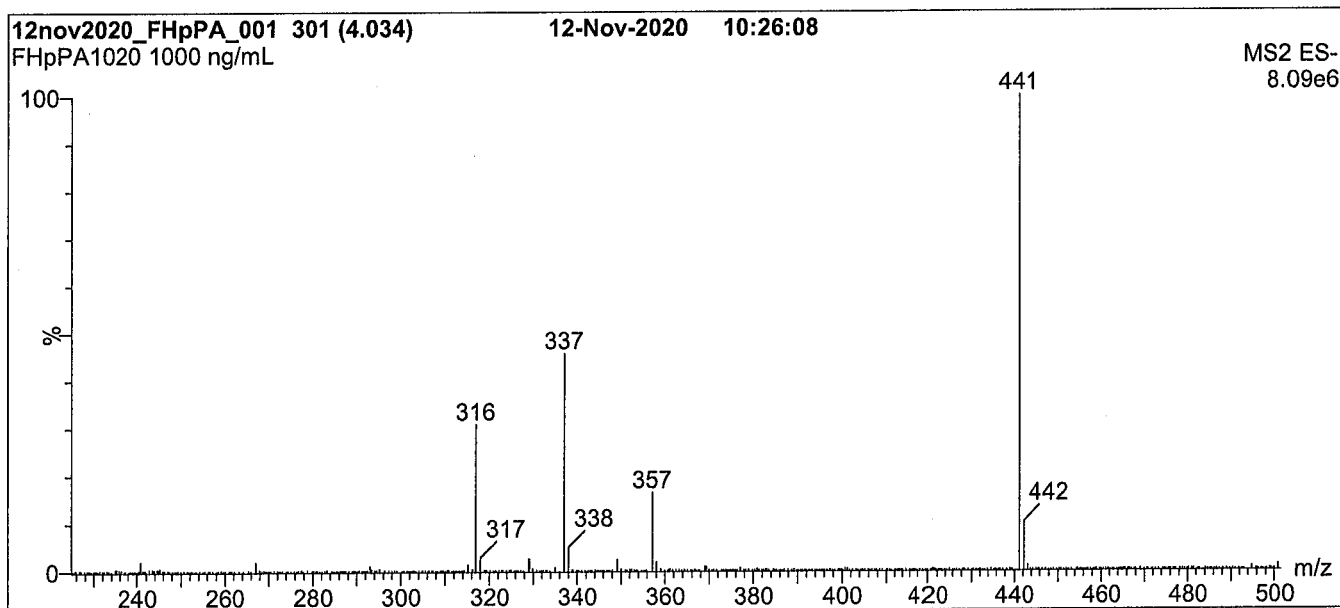
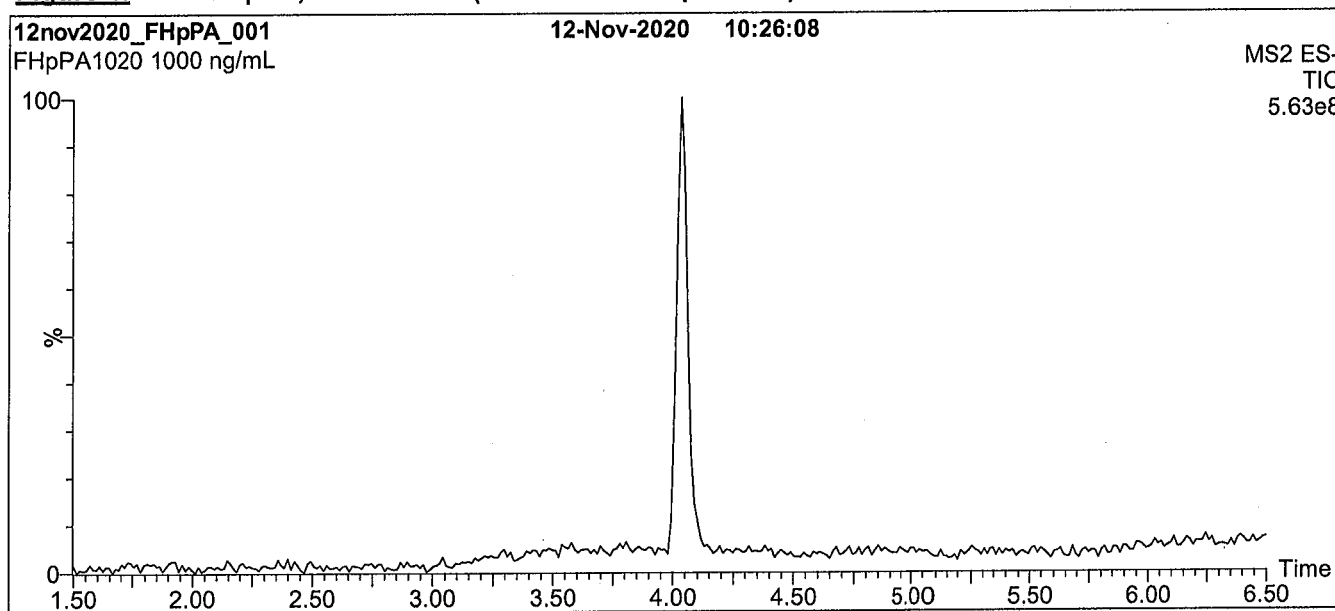
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Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

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)

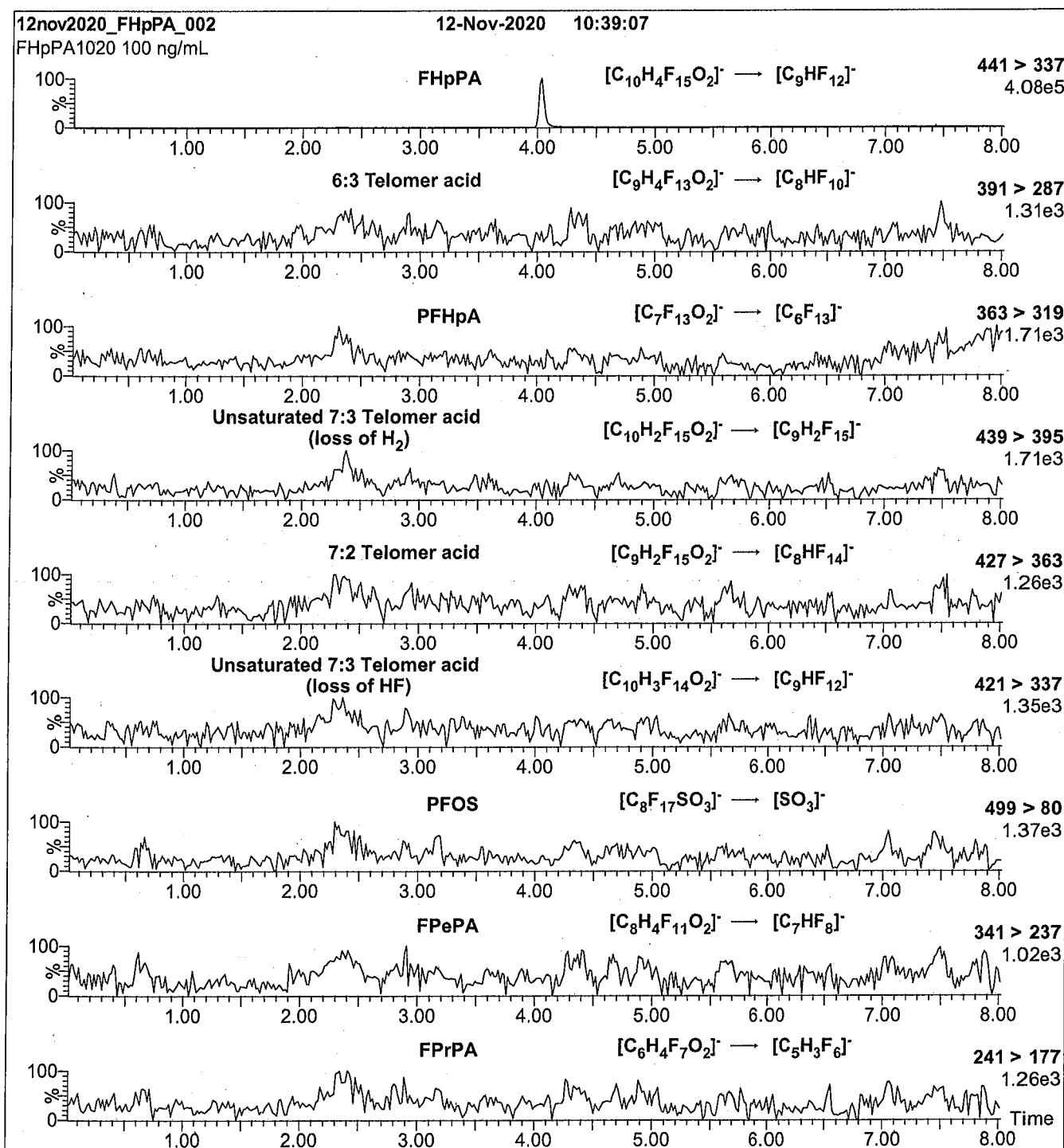
Source: Electrospray (negative)

Capillary Voltage (kV) = 0.50

Cone Voltage (V) = 28.50

Desolvation Temperature ($^{\circ}$ 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#:
Final Volume (mls):	1	Department:	PFAS (Lot# A1020)
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

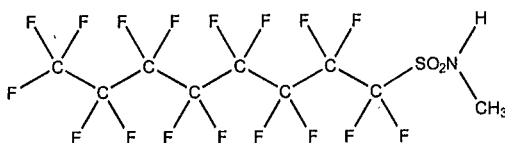
Analyte	Parent	CAS Number	Concentration	Units
7:3FTCA		812-70-4	50	ug/mL



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: C₉H₄F₁₇NO₂S **MOLECULAR WEIGHT:** 513.17
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/03/2021
EXPIRY DATE: (mm/dd/yyyy) 08/03/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____

B.G. Chittim, General Manager

Date: 08/04/2021
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 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:

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LIMITED WARRANTY:

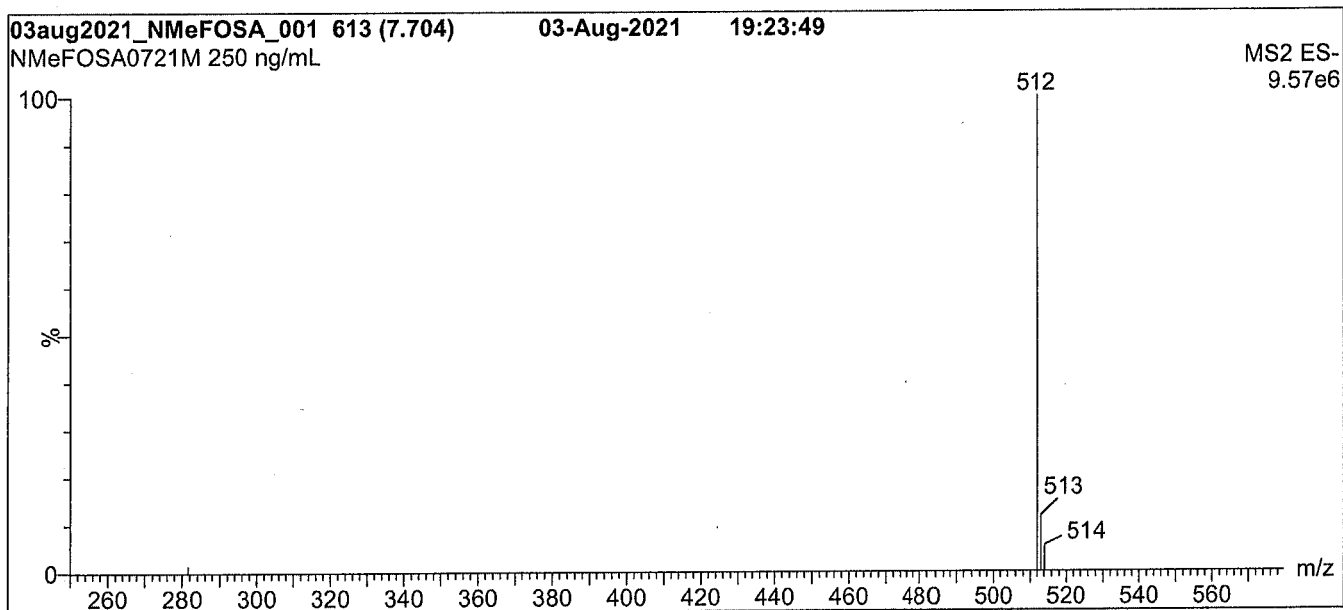
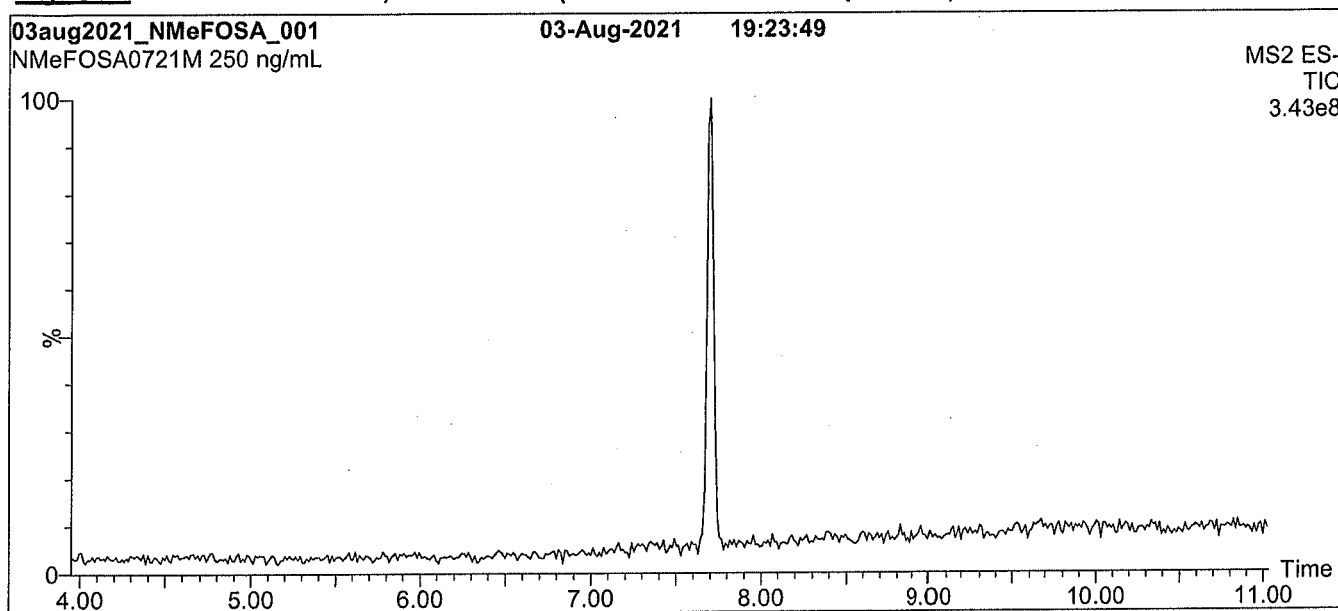
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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).



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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

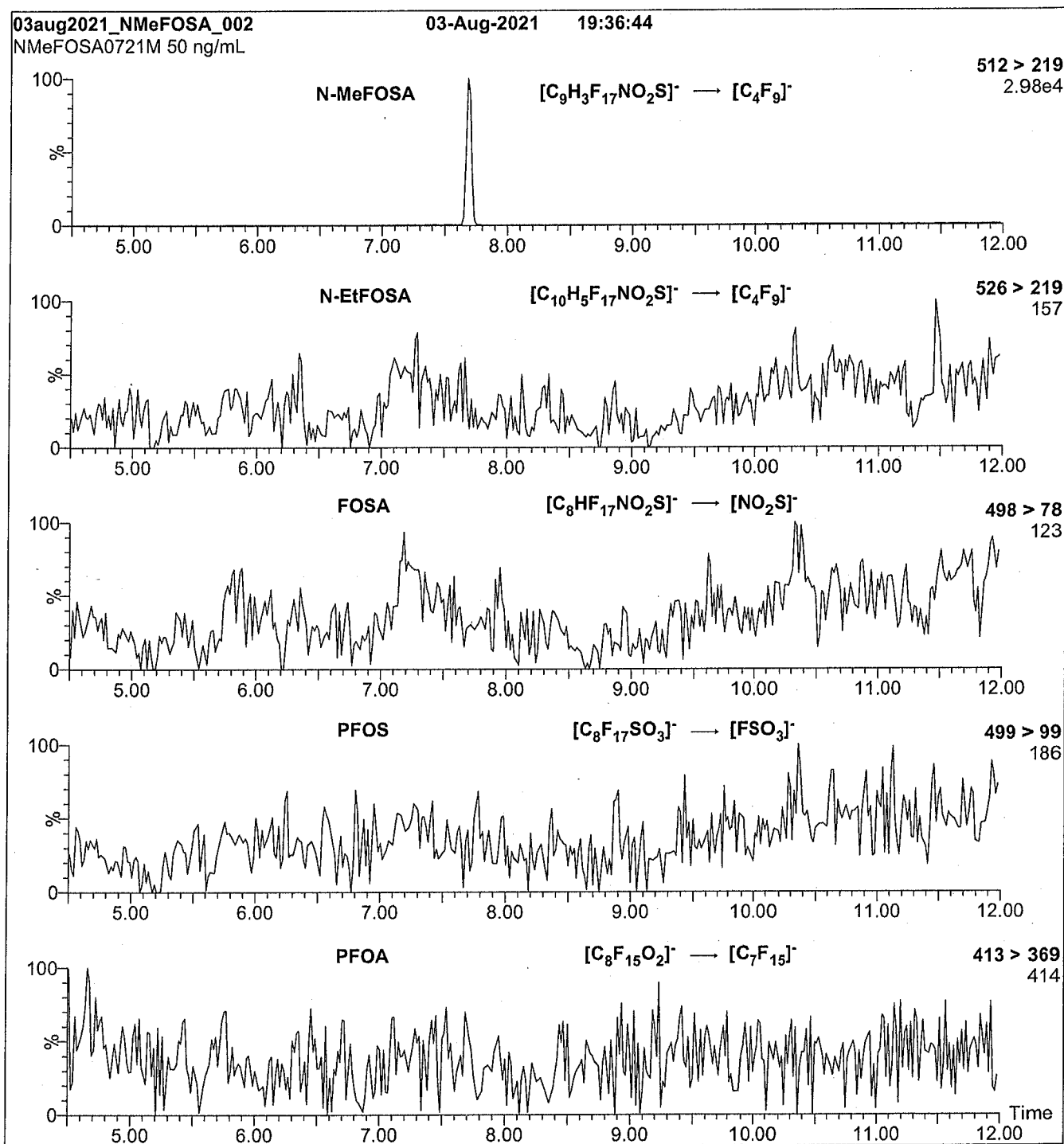
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

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

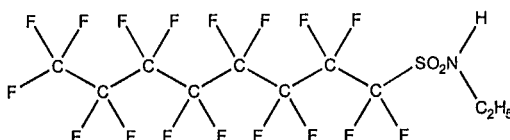
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL



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: $C_{10}H_6F_{17}NO_2S$ **MOLECULAR WEIGHT:** 527.20
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/12/2021
EXPIRY DATE: (mm/dd/yyyy) 08/12/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

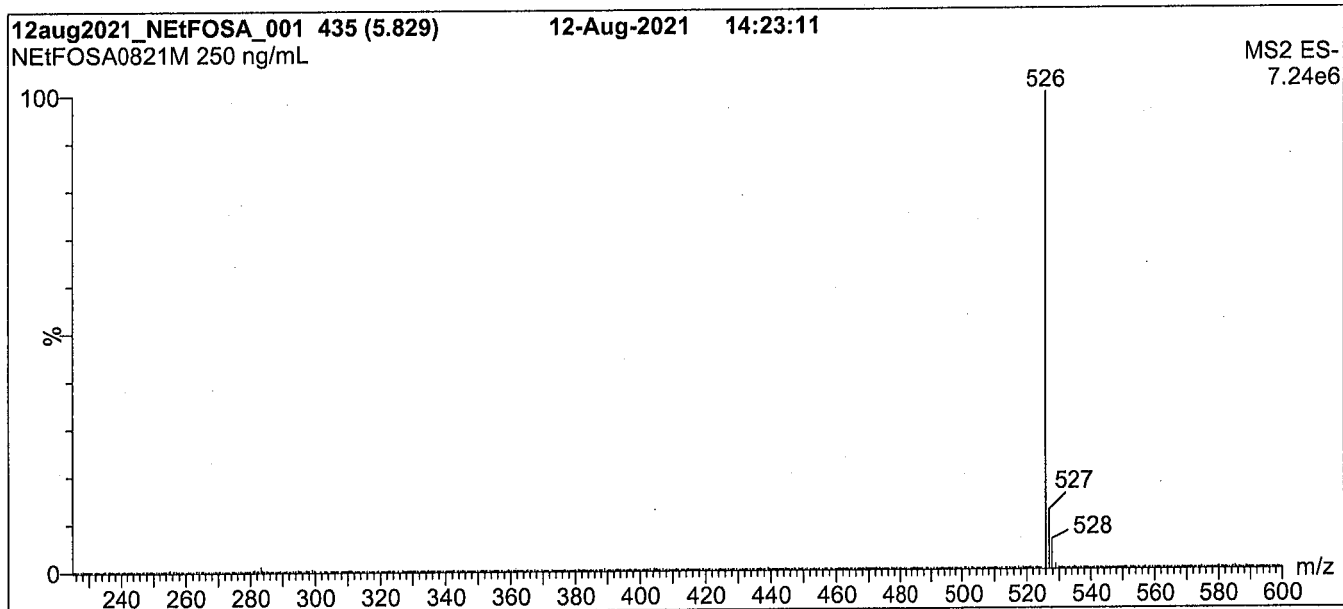
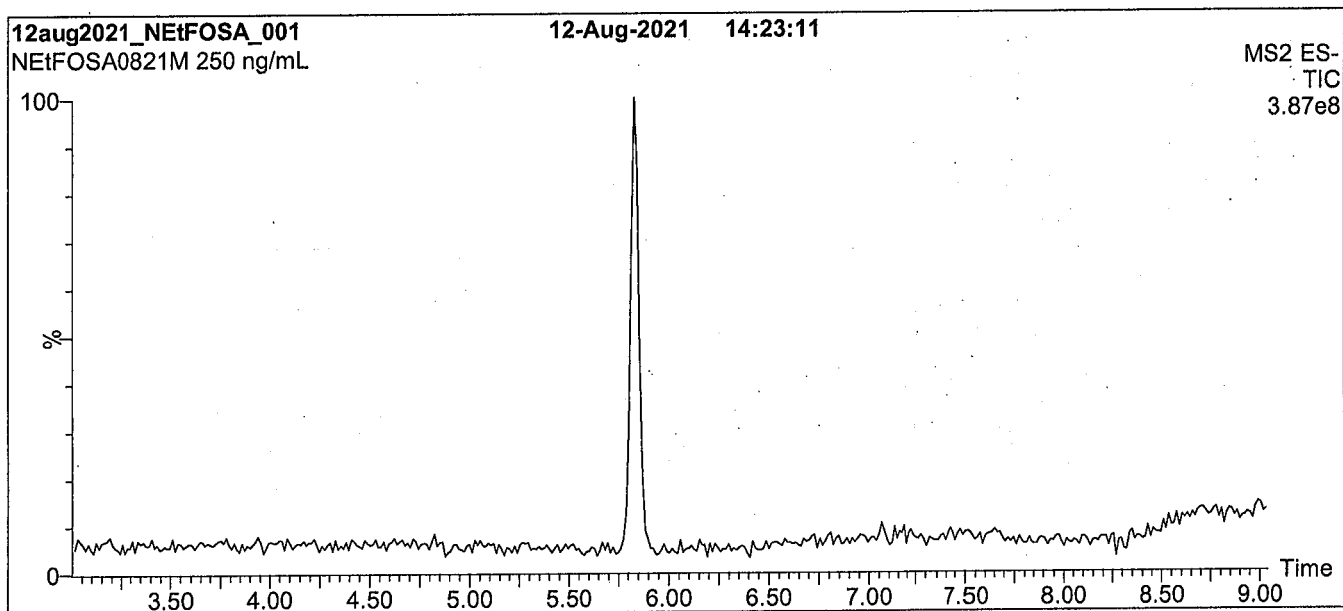
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____

B.G. Chittim, General Manager

Date: 08/16/2021
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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#:
Final Volume (mls):	1	Department:	NETFOSA0821M)
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

Analyte	Parent	CAS Number	Concentration	Units
NETFOSA		4151-50-2	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF 22F0058

**Native Replacement PFAS
Solution/Mixture**

PRODUCT CODE: PFAC-MXF
LOT NUMBER: PFACMXF0122
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2022
LAST TESTED: (mm/dd/yyyy) 01/11/2022
EXPIRY DATE: (mm/dd/yyyy) 01/11/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
 Figure 1: LC/MS Data (SIR)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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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, 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:

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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:

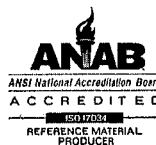
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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Table A: PFAC-MXF; Components and Concentrations (ng/mL; \pm 5% in Methanol/Water (<1%))

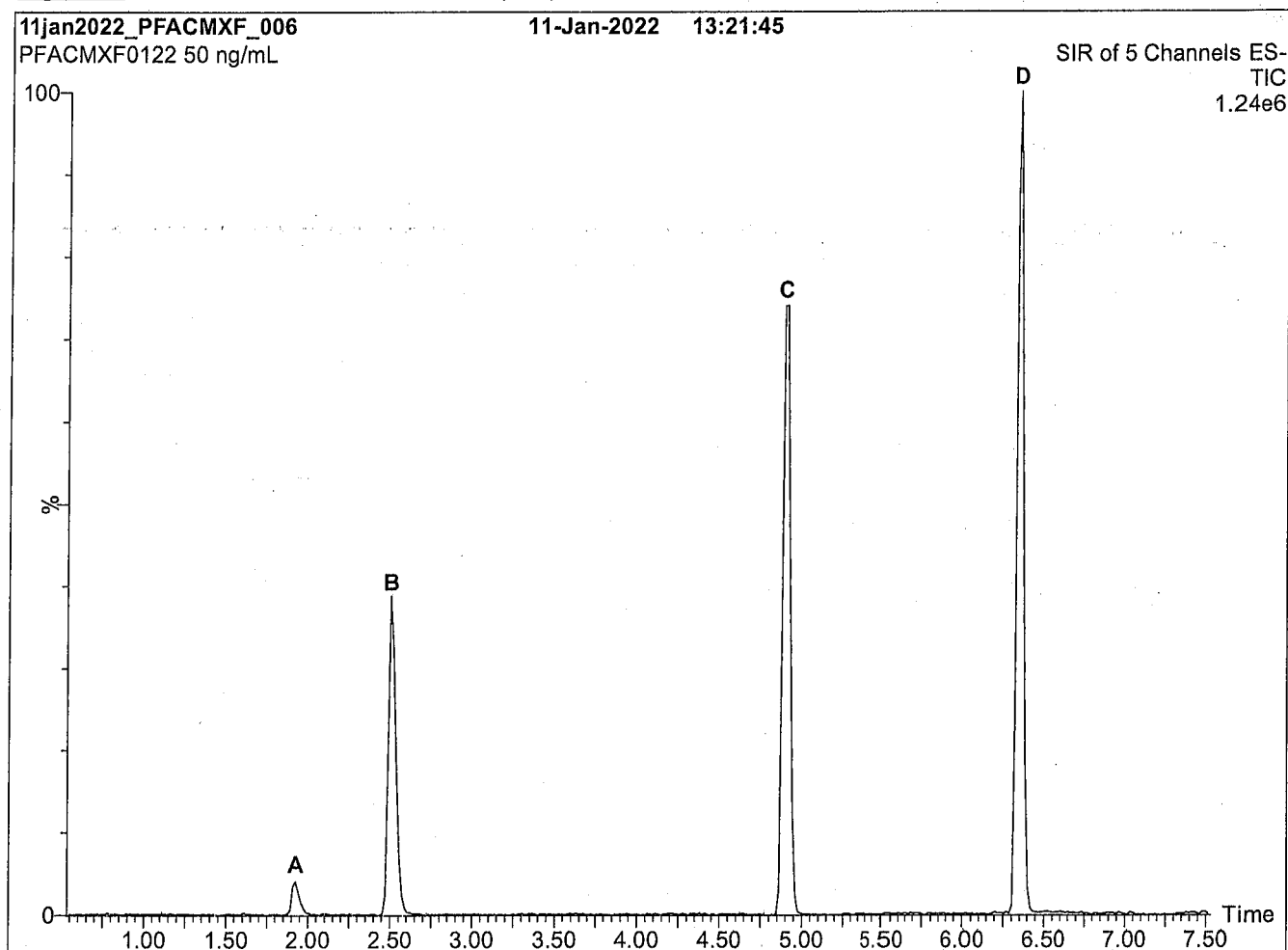
Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafuoro-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

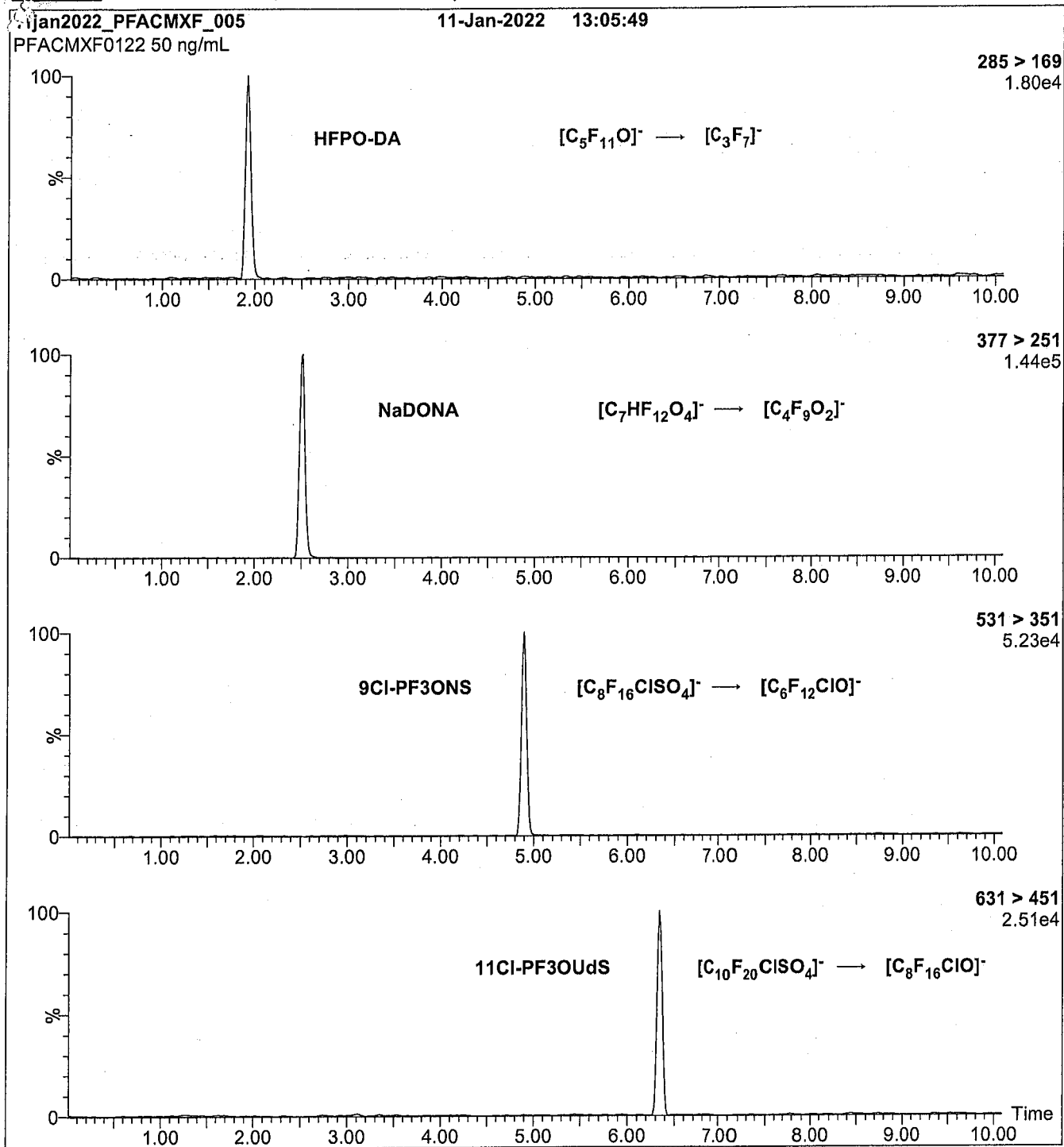
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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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$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

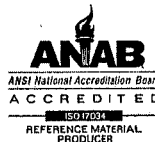
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Table A: PFAC-MXH; Components and Concentrations
($\mu\text{g/mL}$, $\pm 5\%$ in methanol / isopropanol (2%) / water (<1%))

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 perfluorohexanedisulfonate ^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 perfluorooctanedisulfonate ^d	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: Σ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonanedisulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decanedisulfonate	L-PFDS	1.00	0.965	24
Sodium perfluoro-1-dodecanedisulfonate	L-PFDoS	1.00	0.970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4.00	3.75	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4.00	3.80	10
Sodium 1H,1H,2H,2H-perfluorodecanedisulfonate	8:2FTS	4.00	3.84	16

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

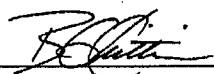
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^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	$\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	0.2	
7	Other Unidentified Isomers		1.1	

* Percent of total N-methylperfluorooctanesulfonamidoacetic 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	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}(\text{SO}_3^-\text{K}^+) \\ \\ \text{CF}_3 \end{array}$	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	0.2	
7	Other Unidentified Isomers		0.5	

* Percent of total perfluorohexanesulfonate isomers only.

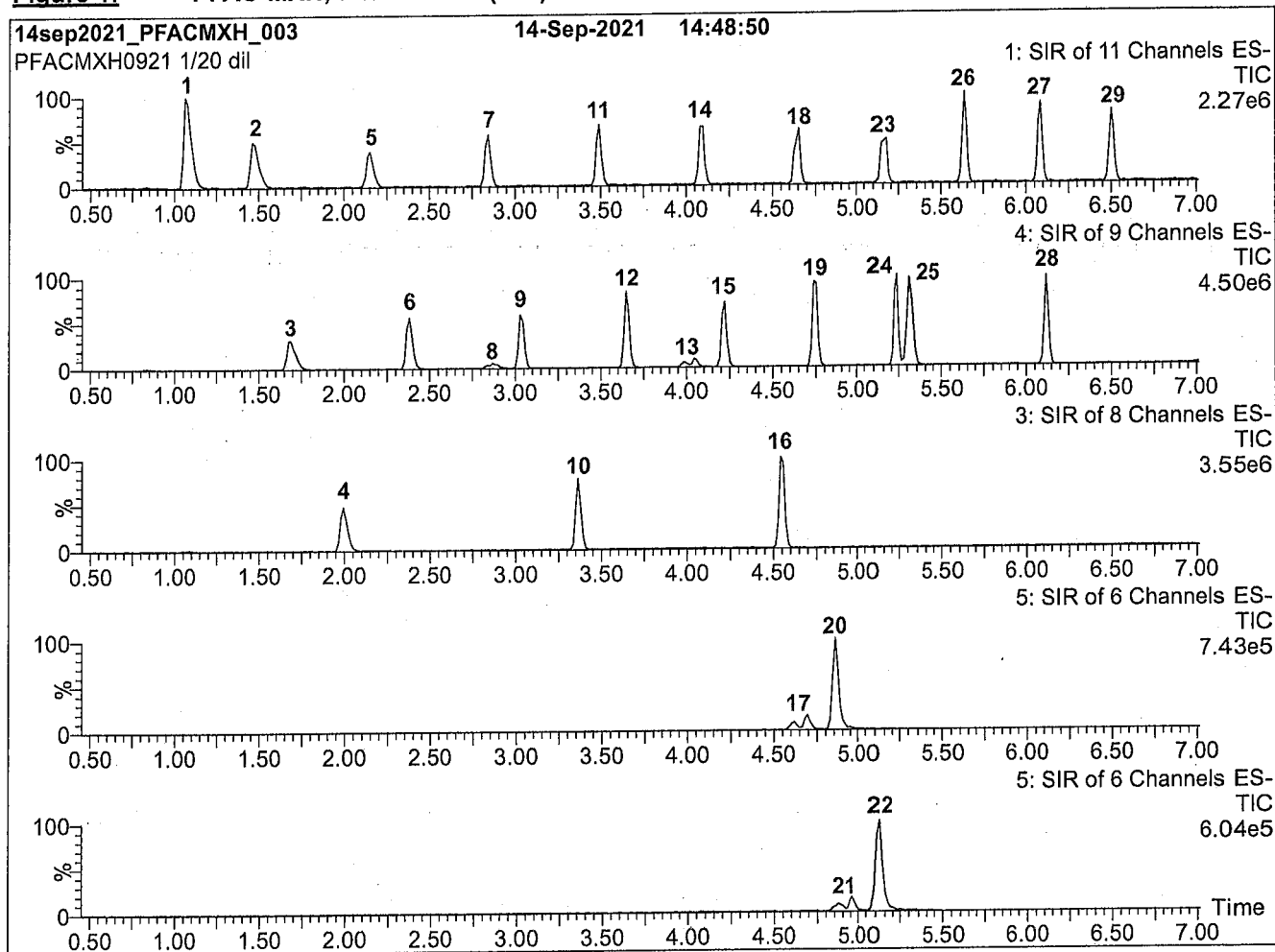
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Table E: PFOSK; Isomeric Components and Percent Composition (by 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

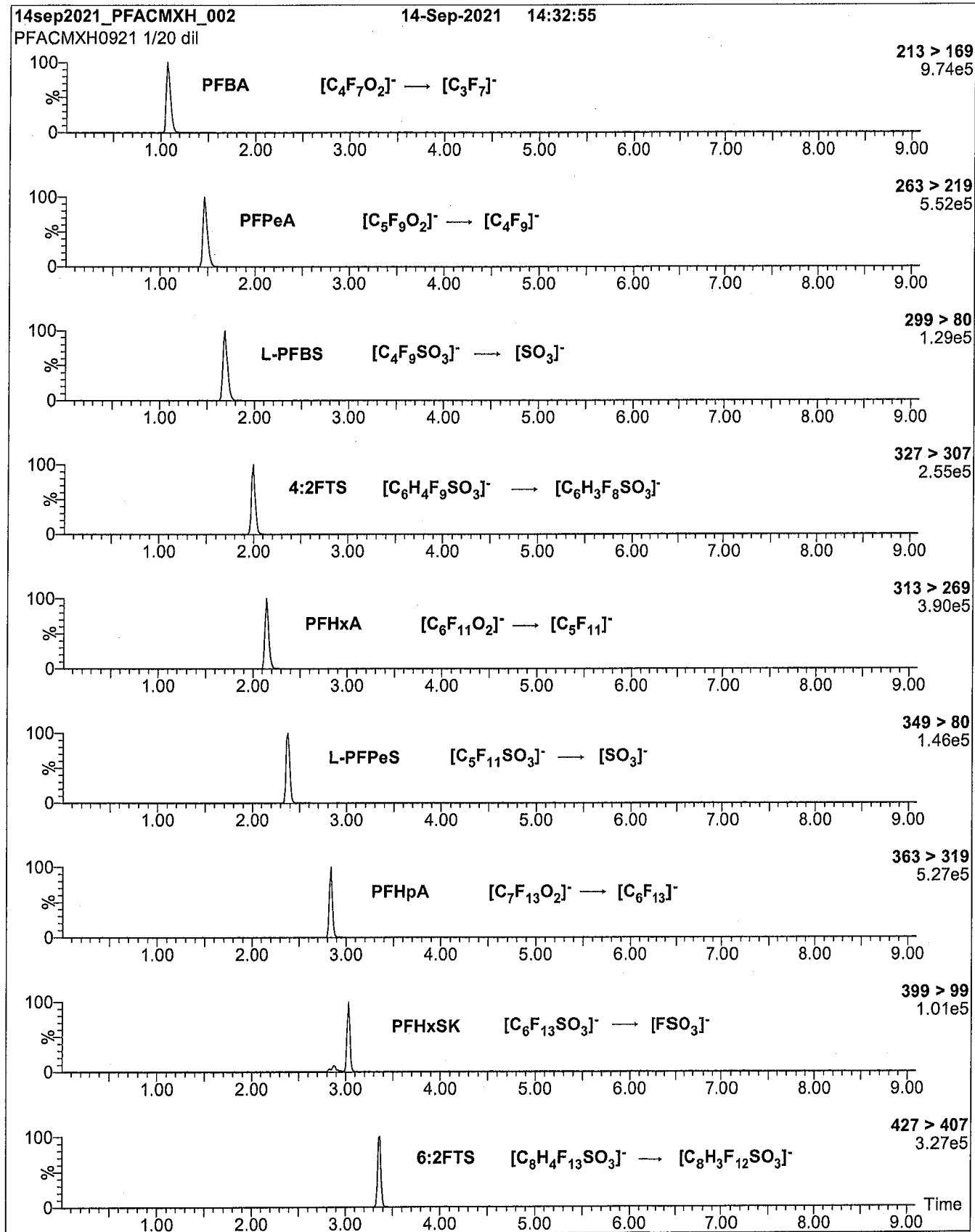
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

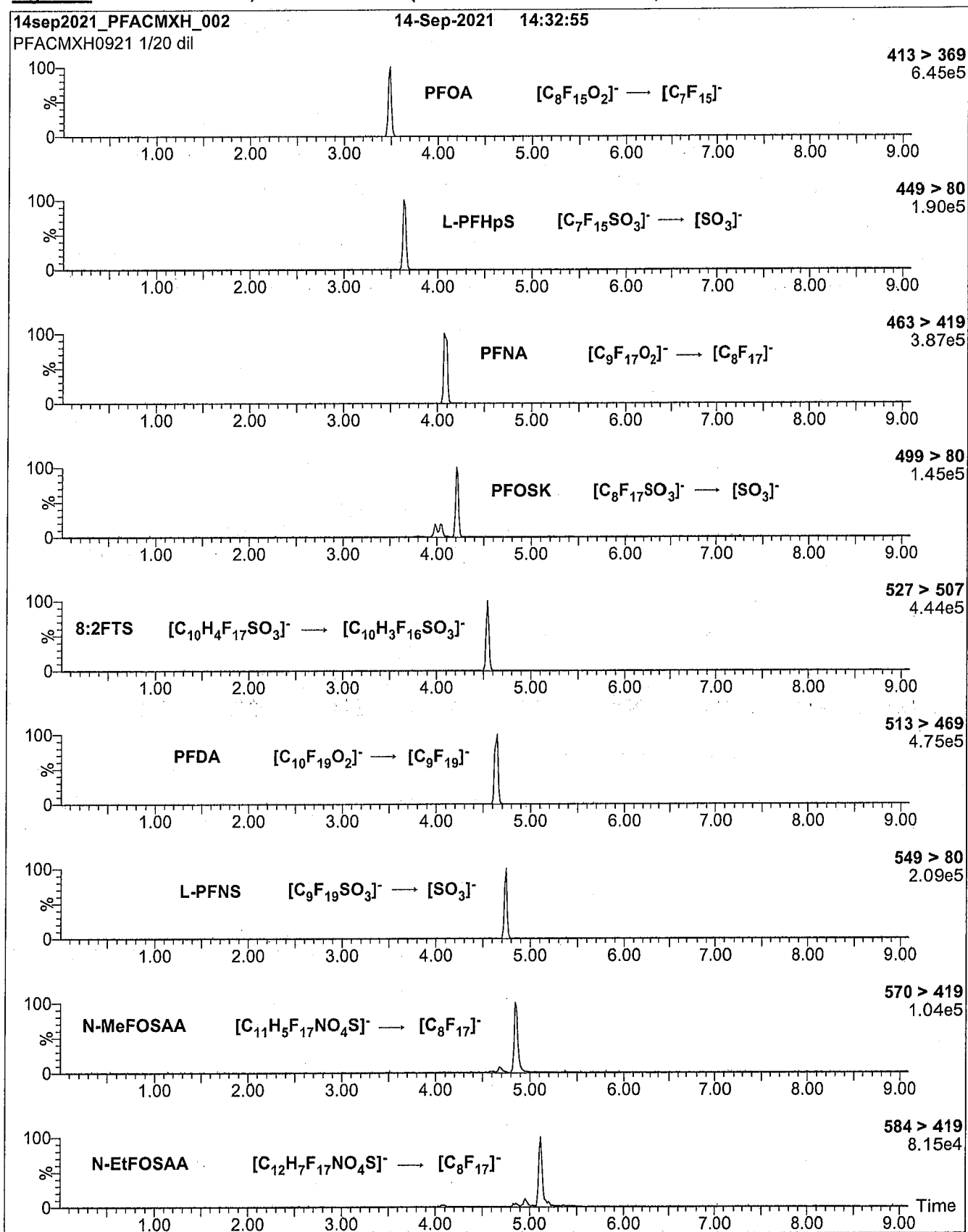
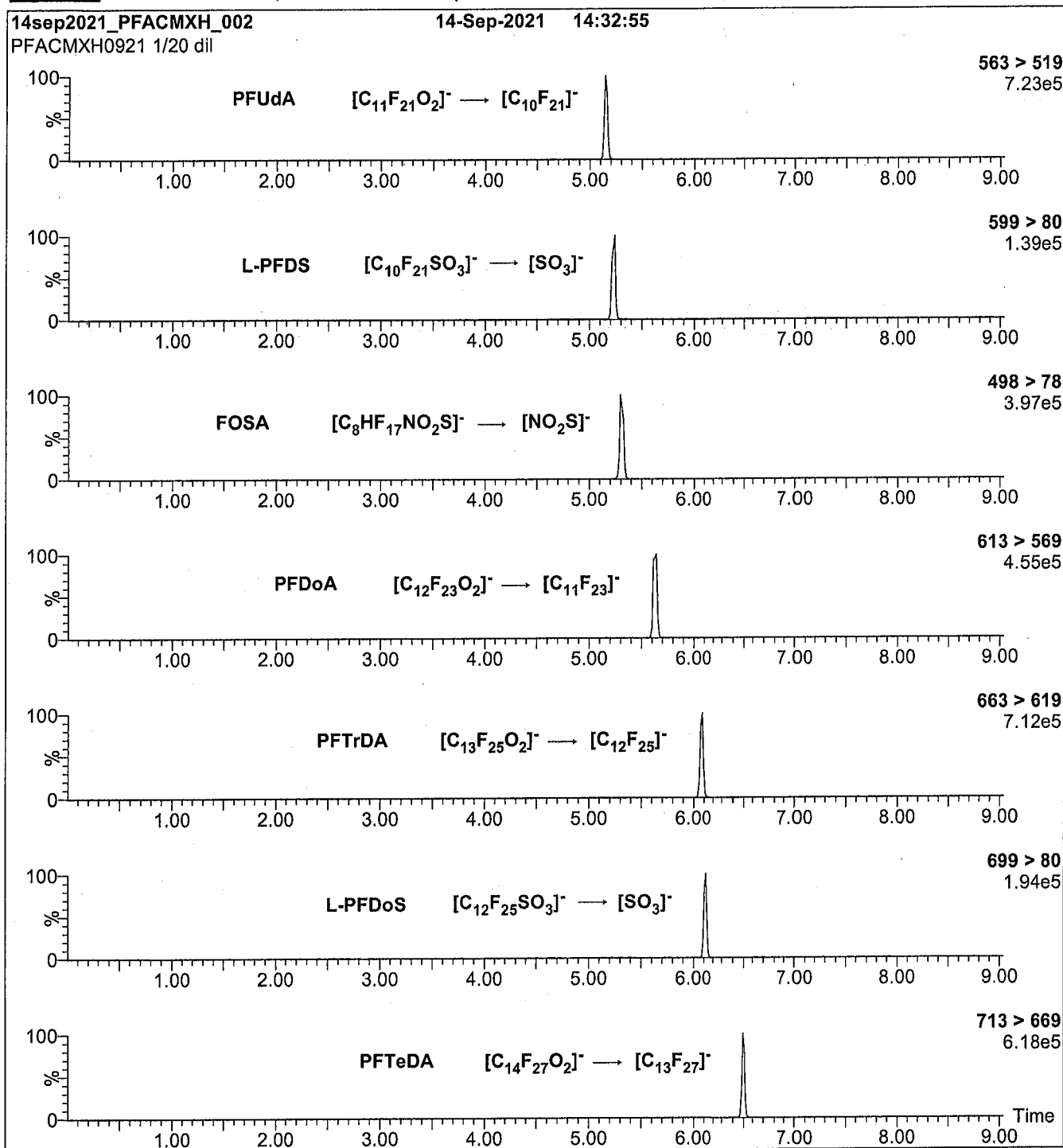
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

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:	Lizbeth Andres
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:33 by DAG

Analyte	Parent	CAS Number	Concentration	Units
4:2FTS		757124-72-4	3.75	ug/mL
6:2FTS		27619-97-2	3.8	ug/mL
8:2FTS		39108-34-4	3.84	ug/mL
NETFOSAA		2991-50-6	1	ug/mL
NMeFOSAA		2355-31-9	1	ug/mL
PFBA		375-22-4	4	ug/mL
PFBS		375-73-5	0.887	ug/mL
PFDA		335-76-2	1	ug/mL
PFDOA		307-55-1	1	ug/mL
PFDOS		79780-39-5	0.97	ug/mL
PFDS		335-77-3	0.965	ug/mL
PFHPA		375-85-9	1	ug/mL
PFHPS		375-92-8	0.953	ug/mL
PFHXA		307-24-4	1	ug/mL
PFHXS		355-46-4	0.914	ug/mL
PFNA		375-95-1	1	ug/mL
PFNS		68259-12-1	0.962	ug/mL
PFOA		335-67-1	1	ug/mL
PFOS		1763-23-1	0.928	ug/mL
PFOSA		754-91-6	1	ug/mL
PFPEA		2706-90-3	2	ug/mL
PFPEs		630402-22-1	0.941	ug/mL
PFTEDA		376-06-7	1	ug/mL
PFTRDA		72629-94-8	1	ug/mL
PFUnA		2058-94-8	1	ug/mL

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**PFAC-MXG** 22F0061**Native Perfluoroalkyl Ether Carboxylic
Acids and Sulfonate Solution/Mixture**

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).



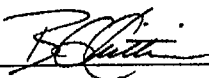
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: PFAC-MXG; Components and Concentrations (ng/mL; \pm 5% in methanol/water (<1%))

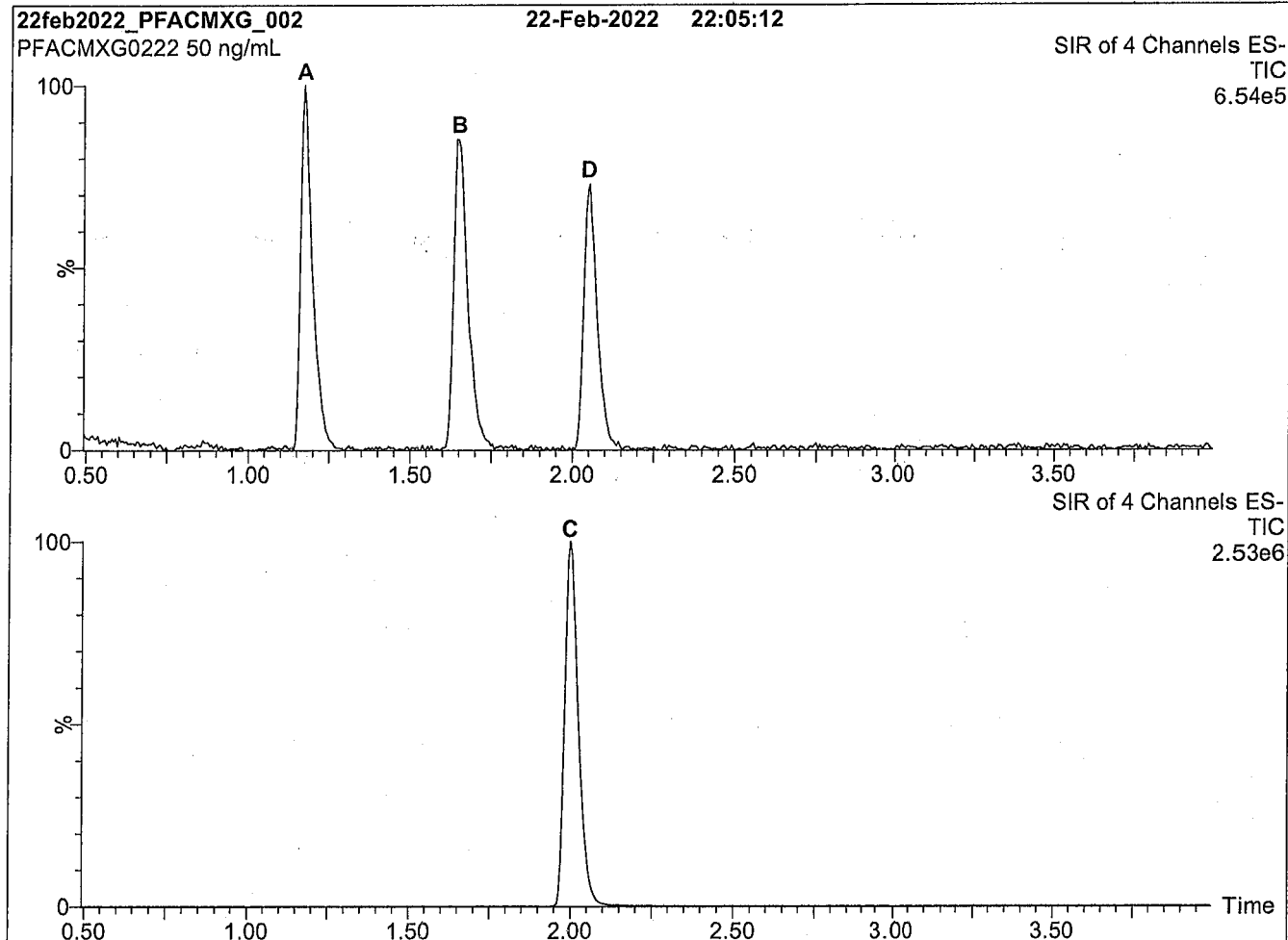
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 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

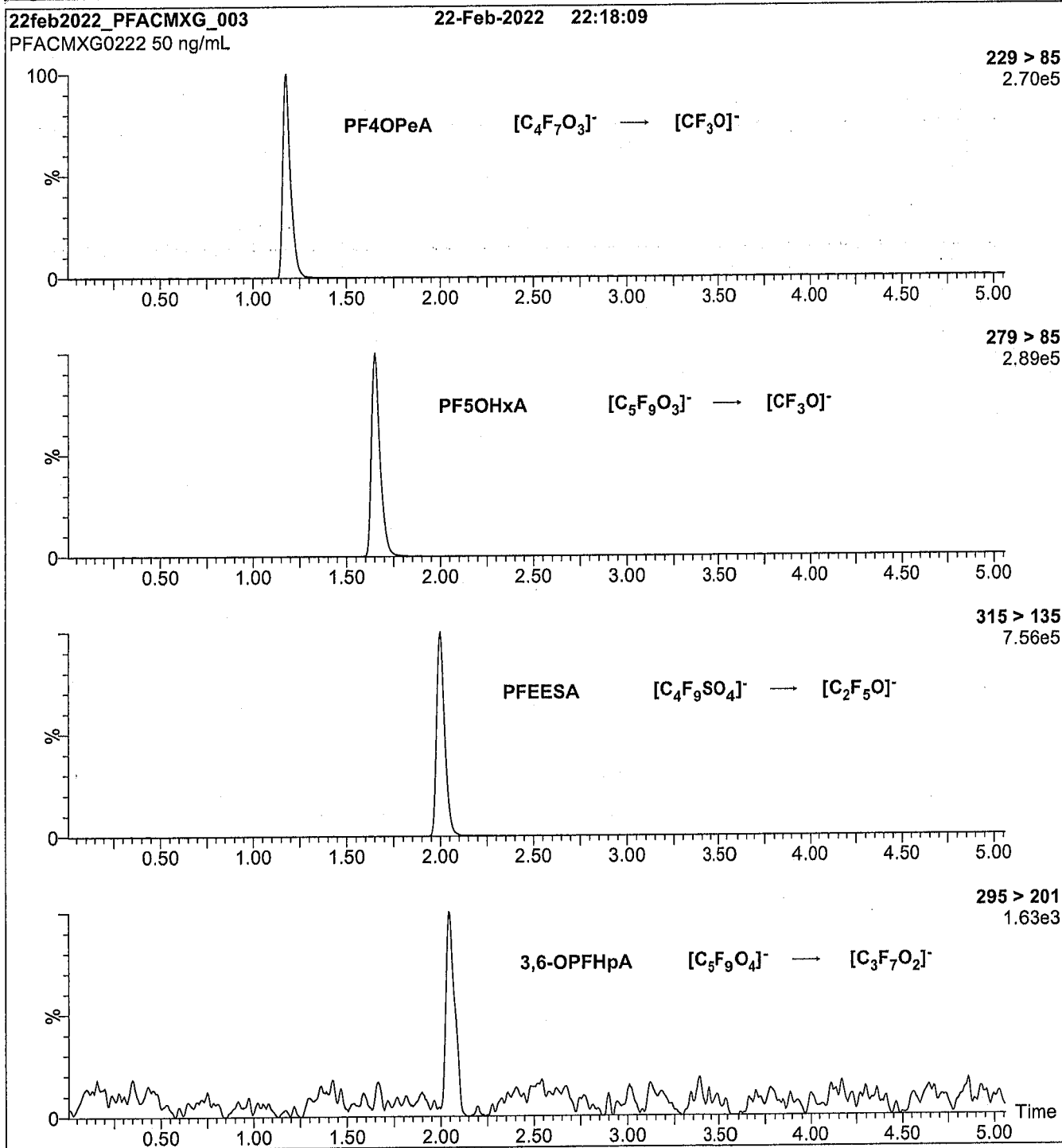
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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

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: $C_8F_{16}O_2NH_4$
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

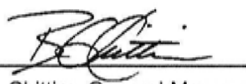
DOCUMENTATION/ DATA ATTACHED:

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		0.50
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
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) ₂ 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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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSA

N-Methylperfluorooctanesulfonamide
Isomeric Mix

<u>PRODUCT CODE:</u>	br-NMeFOSA
<u>LOT NUMBER:</u>	brNMeFOSA0822
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/18/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	08/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	08/23/2027
<u>RECOMMENDED STORAGE:</u>	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 ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	N-Methylperfluoro-1-octanesulfonamide	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NH}\begin{array}{c} \\ \text{CH}_3 \end{array}$	72.3
2	N-Methylperfluoro-3-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NH}\begin{array}{c} \\ \text{CH}_3 \end{array}$	2.1
3	N-Methylperfluoro-4-methyl-1-heptanesulfonamide	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NH}\begin{array}{c} \\ \text{CH}_3 \end{array}$	2.6
4	N-Methylperfluoro-5-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NH}\begin{array}{c} \\ \text{CH}_3 \end{array}$	6.7
5	N-Methylperfluoro-6-methyl-1-heptanesulfonamide	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NH}\begin{array}{c} \\ \text{CH}_3 \end{array}$	16.2
6	N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamide	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NH} \\ \\ \text{CF}_3 \end{array} \begin{array}{c} \\ \text{CH}_3 \end{array}$	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-NETFOA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NETFOA0922)
Final Volume (mls):	1	Department:	PPAS
Vials:	1	Last Edit:	10/18/2022 13:38 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NETFOA		4151-50-2	50	ug/mL



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CERTIFICATE OF ANALYSIS
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	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NH} \\ \\ \text{CH}_2\text{CH}_3 \end{array}$	73.8
2	N-Ethylperfluoro-1-methyl-1-heptanesulfonamide**	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_5\text{CFSO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	0.1
3	N-Ethylperfluoro-3-methyl-1-heptanesulfonamide	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	2.3
4	N-Ethylperfluoro-4-methyl-1-heptanesulfonamide	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	2.6
5	N-Ethylperfluoro-5-methyl-1-heptanesulfonamide	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	6.2
6	N-Ethylperfluoro-6-methyl-1-heptanesulfonamide	$\begin{array}{c} \text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	14.8
7	N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamide	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	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:	
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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CERTIFICATE OF ANALYSIS
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

22K0180

Description:	PFAS - MIX MXF 2 ug/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFASMXF0122)
Vials:	1	Last Edit:	11/08/2022 13:30 by ABK

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

Analytical Standard Record

22K0181

Description:	PFAS - MIX MXG 2 ug/mL	Expires:	02/22/2027
Standard Type:	Analyte Spike	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFASMXG0222)
Vials:	1	Last Edit:	11/08/2022 13:31 by ABK

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

22K0182

Description:	PFAS - MIX MXH 1 ug/mL	Expires:	08/08/2027
Standard Type:	Analyte Spike	Prepared:	08/05/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFAS ^{CMXH0822})
Vials:	1	Last Edit:	11/08/2022 13:35 by ABK

Analyte	Parent	CAS Number	Concentration	Units
4:2FTS		757124-72-4	3.75	ug/mL
6:2FTS		27619-97-2	3.8	ug/mL
8:2FTS		39108-34-4	3.84	ug/mL
NETFOSAA		2991-50-6	1	ug/mL
NMeFOSAA		2355-31-9	1	ug/mL
PFBA		375-22-4	4	ug/mL
PFBS		375-73-5	0.887	ug/mL
PFDA		335-76-2	1	ug/mL
PFDOA		307-55-1	1	ug/mL
PFDOS		79780-39-5	0.97	ug/mL
PFDS		335-77-3	0.965	ug/mL
PFHPA		375-85-9	1	ug/mL
PFHPS		375-92-8	0.953	ug/mL
PFHXA		307-24-4	1	ug/mL
PFHXS		355-46-4	0.914	ug/mL
PFNA		375-95-1	1	ug/mL
PFNS		68259-12-1	0.962	ug/mL
PFOA		335-67-1	1	ug/mL
PFOS		1763-23-1	0.928	ug/mL
PFOSA		754-91-6	1	ug/mL
PFPEA		2706-90-3	2	ug/mL
PFPEs		630402-22-1	0.941	ug/mL
PFTEDA		376-06-7	1	ug/mL
PFTRDA		72629-94-8	1	ug/mL
PFUnA		2058-94-8	1	ug/mL

Analytical Standard Record

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

23A0182

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:	01/11/2023 14:42 by PAF
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



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CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

**Mass-Labelled PFAS Extraction
Standard Solution/Mixture**

PRODUCT CODE: MPFAC-HIF-ES
LOT NUMBER: MPFACHIFES1022
SOLVENT(S): Methanol/Isopropanol (1%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 10/28/2022
LAST TESTED: (mm/dd/yyyy) 11/23/2022
EXPIRY DATE: (mm/dd/yyyy) 11/23/2025
RECOMMENDED STORAGE: 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

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Table A: MPFAC-HIF-ES; Components and Concentrations
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(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	MPFD _o A	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

23A0182

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:	01/11/2023 15:58 by PAF
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

Analytical Standard Record

23A0371

Description: PFAS - MIX 1633 200ng/mL
 Standard Type: Analyte Spike
 Solvent: MeOH 62244
 Final Volume (mL): 5
 Vials: 1

Expires: 07/18/2023
 Prepared: 01/19/2023
 Prepared By: Dipti Gokal
 Department: PFAS
 Last Edit: 01/19/2023 14:21 by HGH

Analyte	Parent	CAS Number	Concentration	Units
3:3FTCA	21L0004	113507-82-7	0.8	ug/mL
5:3FTCA	21L0005	914637-49-3	0.8	ug/mL
7:3FTCA	21L0007	812-70-4	0.8	ug/mL
NMeFOSA	22J0301	31506-32-8	0.8	ug/mL
NEtFOSA	22J0302	4151-50-2	0.8	ug/mL
NMeFOSE	22J0303	24448-09-7	0.8	ug/mL
NEtFOSE	22J0304	1691-99-2	0.8	ug/mL
11CL-PF3OUDS	22K0180	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22K0180	756426-58-1	0.374	ug/mL
ADONA	22K0180	919005-14-4	0.378	ug/mL
HFPO-DA	22K0180	13252-13-6	0.4	ug/mL
NFDHA	22K0181	151772-58-6	0.4	ug/mL
PFEESA	22K0181	113507-82-7	0.356	ug/mL
PFMBA	22K0181	863090-89-5	0.4	ug/mL
PFMPA	22K0181	377-73-1	0.4	ug/mL
4:2FTS	22K0182	757124-72-4	0.75	ug/mL
6:2FTS	22K0182	27619-97-2	0.76	ug/mL
8:2FTS	22K0182	39108-34-4	0.768	ug/mL
NEtFOSAA	22K0182	2991-50-6	0.2	ug/mL
NMeFOSAA	22K0182	2355-31-9	0.2	ug/mL
PFBA	22K0182	375-22-4	0.8	ug/mL
PFBS	22K0182	375-73-5	0.177	ug/mL
PFDA	22K0182	335-76-2	0.2	ug/mL
PFDOA	22K0182	307-55-1	0.2	ug/mL
PFDOS	22K0182	79780-39-5	0.194	ug/mL
PFDS	22K0182	335-77-3	0.193	ug/mL
PFHPA	22K0182	375-85-9	0.2	ug/mL
PFHPS	22K0182	375-92-8	0.191	ug/mL
PFHXA	22K0182	307-24-4	0.2	ug/mL
PFHXS	22K0182	355-46-4	0.183	ug/mL
PFNA	22K0182	375-95-1	0.2	ug/mL
PFNS	22K0182	68259-12-1	0.192	ug/mL
PFOA	22K0182	335-67-1	0.2	ug/mL
PFOS	22K0182	1763-23-1	0.186	ug/mL
PFOSA	22K0182	754-91-6	0.2	ug/mL
PFPEA	22K0182	2706-90-3	0.4	ug/mL
PFPEs	22K0182	630402-22-1	0.188	ug/mL
PFTEDA	22K0182	376-06-7	0.2	ug/mL
PFTRDA	22K0182	72629-94-8	0.2	ug/mL
PFUnA	22K0182	2058-94-8	0.2	ug/mL

Analytical Standard Record

23A0371

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
21L0004	PFAS - SAS 3:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPrPA1020	11/12/2025	10/31/2022 14:39	by DAG	0.08
21L0005	PFAS - SAS 5:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPePA1120	11/11/2025	10/31/2022 14:41	by DAG	0.08
21L0007	PFAS - SAS 7:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FHpPA1020	11/12/2025	10/31/2022 14:42	by DAG	0.08
22J0301	br-NMeFOSA	08/23/2022	Wellington Laboratories	beNMeFOSA0822	08/23/2027	10/18/2022 13:37	by HGH	0.08
22J0302	br-NEtFOSA	10/07/2022	Wellington Laboratories	beNEtFOSA0922	10/07/2027	10/18/2022 13:38	by HGH	0.08
22J0303	br-NMeFOSE	10/07/2022	Wellington Laboratories	beNMeFOSE0922	10/07/2027	10/26/2022 10:16	by HGH	0.08
22J0304	br-NEtFOSE	10/07/2022	Wellington Laboratories	beNEtFOSE1022	10/07/2027	10/18/2022 13:43	by HGH	0.08
22K0180	PFAS - MIX MXF 2 ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	11/08/2022 16:39	by DAG	1
22K0181	PFAS - MIX MXG 2 ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	11/08/2022 16:39	by DAG	1
22K0182	PFAS - MIX MXH 1 ug/mL	08/05/2022	Wellington Laboratories	PFACMXH0822	08/08/2027	11/08/2022 16:38	by DAG	1

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-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.

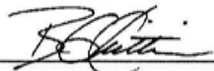
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Table A: MPFAC-HIF-ES; Components and Concentrations
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(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)