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

March 03, 2023

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

RE: Red Hill AFFF Assessment Sampling
23B0155

Enclosed are the results of analyses for samples received by our laboratory on 2/22/2023. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Karen Volpendesta
Project Manager

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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.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23B0155-01	AF-HDMW225303-WGN01LF-2302W3	Water	02/21/2023 10:35	02/22/2023
23B0155-02	AF-RHMW10-WGN01LF-2302W3	Water	02/21/2023 12:45	02/22/2023
23B0155-03	AF-RHMW12A-WGN01LF-2302W3	Water	02/21/2023 10:58	02/22/2023
23B0155-04	AF-RHMW12A-WGFD01LF-2302W3	Water	02/21/2023 10:58	02/22/2023
23B0155-05	AF-RHMW16-WGN01LF-2302W3	Water	02/21/2023 14:55	02/22/2023

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Containers Received

Lab ID	Container Type	Count	Preservation Check
23B0155-01	500mL P	2	
23B0155-02	500mL P	2	
23B0155-03	500mL P	2	
23B0155-04	500mL P	2	
23B0155-05	500mL P	2	

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Sample Results

Sample: AF-HDMW225303-WGN01LF-2302W3
23B0155-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72 U	1.4	0.72	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEA	0.36 U	0.72	0.36	0.058	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXA	0.18 U	0.36	0.18	0.049	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPA	0.18 U	0.36	0.18	0.037	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNA	0.18 U	0.36	0.18	0.074	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDA	0.18 U	0.36	0.18	0.091	ng/L	02/24/23	1	EPA 1633	BCB0392
PFUnA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTRDA	0.27 U	0.36	0.27	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTEDA	0.18 U	0.36	0.18	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFBS	0.18 U	0.36	0.18	0.033	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEs	0.18 U	0.36	0.18	0.056	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXS	0.18 U	0.36	0.18	0.028	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPS	0.18 U	0.36	0.18	0.046	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOS	0.18 U	0.36	0.18	0.057	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDS	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
4:2FTS	0.72 U	1.4	0.72	0.26	ng/L	02/24/23	1	EPA 1633	BCB0392
6:2FTS	0.72 U	1.4	0.72	0.28	ng/L	02/24/23	1	EPA 1633	BCB0392
8:2FTS	0.72 U	1.4	0.72	0.074	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOSA	0.18 U	0.36	0.18	0.094	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSA	0.72 U	1.4	0.72	0.43	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSA	0.72 U	1.4	0.72	0.37	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSAA	0.18 U	0.36	0.18	0.095	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSAA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSE	1.1 U	1.4	1.1	0.91	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSE	1.1 U	1.4	1.1	0.94	ng/L	02/24/23	1	EPA 1633	BCB0392
HFPO-DA	0.36 U	0.72	0.36	0.16	ng/L	02/24/23	1	EPA 1633	BCB0392
ADONA	0.36 U	0.72	0.36	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFEESA	0.36 U	0.72	0.36	0.098	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMPA	0.36 U	0.72	0.36	0.048	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMBA	0.36 U	0.72	0.36	0.082	ng/L	02/24/23	1	EPA 1633	BCB0392
NFDHA	0.36 U	0.72	0.36	0.27	ng/L	02/24/23	1	EPA 1633	BCB0392
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
3:3FTCA	0.72 U	1.4	0.72	0.52	ng/L	02/24/23	1	EPA 1633	BCB0392
5:3FTCA	0.72 U	1.4	0.72	0.40	ng/L	02/24/23	1	EPA 1633	BCB0392
7:3FTCA	0.72 U	1.4	0.72	0.50	ng/L	02/24/23	1	EPA 1633	BCB0392
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Surrogate: 13C4-PFBA	91.3%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFPEA	98.9%		35-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFHXA	92.4%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C4-PFHPA	88.8%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	84.7%		60-140			02/24/23	1	EPA 1633	BCB0392

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Sample Results (Continued)

Sample: AF-HDMW225303-WGN01LF-2302W3 (Continued)
23B0155-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	86.1%		55-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C6-PFDA	94.1%		50-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C7-PFUnA	92.1%		30-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFDOA	93.0%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFTEDA	96.1%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFBS	106%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFHXS	94.3%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOS	87.1%		45-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-4:2FTS	116%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-6:2FTS	102%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-8:2FTS	93.7%		50-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	74.8%		30-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	40.3%		15-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	36.6%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	83.9%		45-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	86.5%		10-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D7-NMEFOSE	37.3%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: D9-NETFOSE	50.1%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-HFPO-DA	92.5%		25-160			02/24/23	1	EPA 1633	BCB0392

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

**Sample: AF-RHMW10-WGN01LF-2302W3
23B0155-02 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72 U	1.4	0.72	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEA	0.074 J	0.72	0.36	0.058	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXA	0.18 U	0.36	0.18	0.049	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPA	0.18 U	0.36	0.18	0.037	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNA	0.18 U	0.36	0.18	0.073	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDA	0.18 U	0.36	0.18	0.091	ng/L	02/24/23	1	EPA 1633	BCB0392
PFUnA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTRDA	0.27 U	0.36	0.27	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTEDA	0.18 U	0.36	0.18	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFBS	0.18 U	0.36	0.18	0.033	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEs	0.18 U	0.36	0.18	0.056	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXS	0.18 U	0.36	0.18	0.028	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPS	0.18 U	0.36	0.18	0.046	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOS	0.18 U	0.36	0.18	0.057	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDS	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
4:2FTS	0.72 U	1.4	0.72	0.26	ng/L	02/24/23	1	EPA 1633	BCB0392
6:2FTS	0.72 U	1.4	0.72	0.28	ng/L	02/24/23	1	EPA 1633	BCB0392
8:2FTS	0.72 U	1.4	0.72	0.073	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOSA	0.18 U	0.36	0.18	0.093	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSA	0.72 U	1.4	0.72	0.42	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSA	0.72 U	1.4	0.72	0.37	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSAA	0.18 U	0.36	0.18	0.095	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSAA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSE	1.1 U	1.4	1.1	0.90	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSE	1.1 U	1.4	1.1	0.94	ng/L	02/24/23	1	EPA 1633	BCB0392
HFPO-DA	0.36 U	0.72	0.36	0.16	ng/L	02/24/23	1	EPA 1633	BCB0392
ADONA	0.36 U	0.72	0.36	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFEESA	0.36 U	0.72	0.36	0.098	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMPA	0.36 U	0.72	0.36	0.048	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMBA	0.36 U	0.72	0.36	0.081	ng/L	02/24/23	1	EPA 1633	BCB0392
NFDHA	0.36 U	0.72	0.36	0.27	ng/L	02/24/23	1	EPA 1633	BCB0392
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
11CL-PF3OUDS	0.36 U	0.72	0.36	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
3:3FTCA	0.72 U	1.4	0.72	0.51	ng/L	02/24/23	1	EPA 1633	BCB0392
5:3FTCA	0.72 U	1.4	0.72	0.40	ng/L	02/24/23	1	EPA 1633	BCB0392
7:3FTCA	0.72 U	1.4	0.72	0.49	ng/L	02/24/23	1	EPA 1633	BCB0392
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Surrogate: 13C4-PFBA	90.2%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFPEA	91.9%		35-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFHXA	86.0%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C4-PFHPA	89.6%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	83.0%		60-140			02/24/23	1	EPA 1633	BCB0392

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

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Sample Results (Continued)

Sample: AF-RHMW10-WGN01LF-2302W3 (Continued) 23B0155-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	80.5%		55-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C6-PFDA	83.0%		50-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C7-PFUnA	80.1%		30-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFDOA	81.9%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFTEDA	88.0%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFBS	104%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFHXS	96.8%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOS	88.6%		45-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-4:2FTS	129%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-6:2FTS	119%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-8:2FTS	97.0%		50-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	76.4%		30-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	38.9%		15-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	35.2%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	90.2%		45-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	90.9%		10-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D7-NMEFOSE	40.4%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: D9-NETFOSE	54.0%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-HFPO-DA	93.0%		25-160			02/24/23	1	EPA 1633	BCB0392

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Project Manager: Watson Tanji

Reported: 03/03/2023 17:16

Sample Results (Continued)

**Sample: AF-RHMW12A-WGN01LF-2302W3
23B0155-03 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.8	1.5	0.73	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEA	5.4	0.73	0.37	0.059	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXA	1.6	0.37	0.18	0.050	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPA	0.40	0.37	0.18	0.037	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOA	0.18 U	0.37	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNA	0.18 U	0.37	0.18	0.075	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDA	0.18 U	0.37	0.18	0.093	ng/L	02/24/23	1	EPA 1633	BCB0392
PFUnA	0.18 U	0.37	0.18	0.15	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOA	0.18 U	0.37	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTRDA	0.27 U	0.37	0.27	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTEDA	0.18 U	0.37	0.18	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFBS	0.18 U	0.37	0.18	0.034	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEs	0.18 U	0.37	0.18	0.057	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXS	0.18 U	0.37	0.18	0.029	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPS	0.18 U	0.37	0.18	0.047	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOS	0.18 U	0.37	0.18	0.058	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNS	0.18 U	0.37	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDS	0.18 U	0.37	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOS	0.16 J IR1,	0.37	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
4:2FTS	0.73 U	1.5	0.73	0.27	ng/L	02/24/23	1	EPA 1633	BCB0392
6:2FTS	1.5	1.5	0.73	0.29	ng/L	02/24/23	1	EPA 1633	BCB0392
8:2FTS	0.73 U	1.5	0.73	0.075	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOSA	0.18 U	0.37	0.18	0.095	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSA	0.73 U	1.5	0.73	0.43	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSA	0.73 U	1.5	0.73	0.38	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSAA	0.18 U	0.37	0.18	0.097	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSAA	0.18 U	0.37	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSE	1.1 U	1.5	1.1	0.92	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSE	1.1 U	1.5	1.1	0.96	ng/L	02/24/23	1	EPA 1633	BCB0392
HFPO-DA	0.37 U	0.73	0.37	0.16	ng/L	02/24/23	1	EPA 1633	BCB0392
ADONA	0.37 U	0.73	0.37	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFEESA	0.37 U	0.73	0.37	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMPA	0.37 U	0.73	0.37	0.049	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMBA	0.37 U	0.73	0.37	0.083	ng/L	02/24/23	1	EPA 1633	BCB0392
NFDHA	0.37 U	0.73	0.37	0.28	ng/L	02/24/23	1	EPA 1633	BCB0392
9CL-PF3ONS	0.37 U	0.73	0.37	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
11CL-PF3OUDS	0.37 U	0.73	0.37	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
3:3FTCA	0.73 U	1.5	0.73	0.53	ng/L	02/24/23	1	EPA 1633	BCB0392
5:3FTCA	0.73 U	1.5	0.73	0.41	ng/L	02/24/23	1	EPA 1633	BCB0392
7:3FTCA	0.73 U	1.5	0.73	0.51	ng/L	02/24/23	1	EPA 1633	BCB0392
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Surrogate: 13C4-PFBA	86.8%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFPEA	105%		35-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFHXA	101%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C4-PFHPA	97.5%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	85.9%		60-140			02/24/23	1	EPA 1633	BCB0392

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

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Sample Results (Continued)

Sample: AF-RHMW12A-WGN01LF-2302W3 (Continued)
23B0155-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	90.1%		55-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C6-PFDA	88.0%		50-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C7-PFUnA	83.2%		30-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFDOA	96.4%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFTEDA	98.6%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFBS	88.3%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFHXS	84.1%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOS	89.5%		45-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-4:2FTS	110%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-6:2FTS	97.1%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-8:2FTS	155%		50-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	73.8%		30-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	51.4%		15-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	46.4%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	87.0%		45-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	92.9%		10-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D7-NMEFOSE	47.6%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: D9-NETFOSE	60.6%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-HFPO-DA	104%		25-160			02/24/23	1	EPA 1633	BCB0392

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

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Sample Results (Continued)

**Sample: AF-RHMW12A-WGFD01LF-2302W3
23B0155-04 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.7	1.4	0.71	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEA	5.1	0.71	0.36	0.058	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXA	1.5	0.36	0.18	0.049	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPA	0.35 J	0.36	0.18	0.036	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNA	0.18 U	0.36	0.18	0.073	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDA	0.18 U	0.36	0.18	0.090	ng/L	02/24/23	1	EPA 1633	BCB0392
PFUnA	0.18 U	0.36	0.18	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTRDA	0.27 U	0.36	0.27	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTEDA	0.18 U	0.36	0.18	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFBS	0.18 U	0.36	0.18	0.033	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEs	0.18 U	0.36	0.18	0.056	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXS	0.18 U	0.36	0.18	0.028	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPS	0.18 U	0.36	0.18	0.046	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOS	0.18 U	0.36	0.18	0.057	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDS	0.18 U	0.36	0.18	0.13	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOS	0.18 U	0.36	0.18	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
4:2FTS	0.71 U	1.4	0.71	0.26	ng/L	02/24/23	1	EPA 1633	BCB0392
6:2FTS	1.5	1.4	0.71	0.28	ng/L	02/24/23	1	EPA 1633	BCB0392
8:2FTS	0.71 U	1.4	0.71	0.073	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOSA	0.18 U	0.36	0.18	0.093	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSA	0.71 U	1.4	0.71	0.42	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSA	0.71 U	1.4	0.71	0.37	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSAA	0.18 U	0.36	0.18	0.094	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSAA	0.18 U	0.36	0.18	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSE	1.1 U	1.4	1.1	0.90	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSE	1.1 U	1.4	1.1	0.93	ng/L	02/24/23	1	EPA 1633	BCB0392
HFPO-DA	0.36 U	0.71	0.36	0.16	ng/L	02/24/23	1	EPA 1633	BCB0392
ADONA	0.36 U	0.71	0.36	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFEESA	0.36 U	0.71	0.36	0.097	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMPA	0.36 U	0.71	0.36	0.048	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMBA	0.36 U	0.71	0.36	0.081	ng/L	02/24/23	1	EPA 1633	BCB0392
NFDHA	0.36 U	0.71	0.36	0.27	ng/L	02/24/23	1	EPA 1633	BCB0392
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	ng/L	02/24/23	1	EPA 1633	BCB0392
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
3:3FTCA	0.71 U	1.4	0.71	0.51	ng/L	02/24/23	1	EPA 1633	BCB0392
5:3FTCA	0.71 U	1.4	0.71	0.39	ng/L	02/24/23	1	EPA 1633	BCB0392
7:3FTCA	0.71 U	1.4	0.71	0.49	ng/L	02/24/23	1	EPA 1633	BCB0392
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Surrogate: 13C4-PFBA	91.4%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFPEA	103%		35-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFHXA	100%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C4-PFHPA	101%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	85.2%		60-140			02/24/23	1	EPA 1633	BCB0392

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Project Manager: Watson Tanji

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Sample Results (Continued)

Sample: AF-RHMW12A-WGFD01LF-2302W3 (Continued) 23B0155-04 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	88.1%		55-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C6-PFDA	91.3%		50-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C7-PFUnA	96.2%		30-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFDOA	99.0%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFTEDA	110%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFBS	97.6%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFHXS	90.7%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOS	95.9%		45-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-4:2FTS	108%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-6:2FTS	107%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-8:2FTS	157%		50-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	77.5%		30-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	55.8%		15-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	54.9%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	95.7%		45-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	110%		10-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D7-NMEFOSE	50.1%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: D9-NETFOSE	65.0%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-HFPO-DA	104%		25-160			02/24/23	1	EPA 1633	BCB0392

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

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Sample Results (Continued)

**Sample: AF-RHMW16-WGN01LF-2302W3
23B0155-05 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.69 U	1.4	0.69	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEA	0.12 J	0.69	0.35	0.056	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXA	0.17 U IR2,	0.35	0.17	0.048	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPA	0.17 U	0.35	0.17	0.036	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOA	0.17 U	0.35	0.17	0.13	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNA	0.17 U	0.35	0.17	0.071	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDA	0.17 U	0.35	0.17	0.088	ng/L	02/24/23	1	EPA 1633	BCB0392
PFUnA	0.17 U	0.35	0.17	0.14	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOA	0.17 U	0.35	0.17	0.097	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTRDA	0.26 U	0.35	0.26	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
PFTEDA	0.17 U	0.35	0.17	0.17	ng/L	02/24/23	1	EPA 1633	BCB0392
PFBS	0.17 U	0.35	0.17	0.032	ng/L	02/24/23	1	EPA 1633	BCB0392
PFPEs	0.17 U	0.35	0.17	0.054	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHXS	0.17 U	0.35	0.17	0.028	ng/L	02/24/23	1	EPA 1633	BCB0392
PFHPS	0.17 U	0.35	0.17	0.045	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOS	0.17 U	0.35	0.17	0.055	ng/L	02/24/23	1	EPA 1633	BCB0392
PFNS	0.17 U	0.35	0.17	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDS	0.17 U	0.35	0.17	0.13	ng/L	02/24/23	1	EPA 1633	BCB0392
PFDOS	0.17 U	0.35	0.17	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
4:2FTS	0.69 U	1.4	0.69	0.25	ng/L	02/24/23	1	EPA 1633	BCB0392
6:2FTS	0.69 U	1.4	0.69	0.27	ng/L	02/24/23	1	EPA 1633	BCB0392
8:2FTS	0.69 U	1.4	0.69	0.071	ng/L	02/24/23	1	EPA 1633	BCB0392
PFOSA	0.17 U	0.35	0.17	0.090	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSA	0.69 U	1.4	0.69	0.41	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSA	0.69 U	1.4	0.69	0.36	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSAA	0.17 U	0.35	0.17	0.092	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSAA	0.17 U	0.35	0.17	0.10	ng/L	02/24/23	1	EPA 1633	BCB0392
NMeFOSE	1.0 U	1.4	1.0	0.88	ng/L	02/24/23	1	EPA 1633	BCB0392
NEtFOSE	1.0 U	1.4	1.0	0.91	ng/L	02/24/23	1	EPA 1633	BCB0392
HFPO-DA	0.35 U	0.69	0.35	0.15	ng/L	02/24/23	1	EPA 1633	BCB0392
ADONA	0.35 U	0.69	0.35	0.11	ng/L	02/24/23	1	EPA 1633	BCB0392
PFEESA	0.35 U	0.69	0.35	0.095	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMPA	0.35 U	0.69	0.35	0.047	ng/L	02/24/23	1	EPA 1633	BCB0392
PFMBA	0.35 U	0.69	0.35	0.079	ng/L	02/24/23	1	EPA 1633	BCB0392
NFDHA	0.35 U	0.69	0.35	0.26	ng/L	02/24/23	1	EPA 1633	BCB0392
9CL-PF3ONS	0.35 U	0.69	0.35	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
11CL-PF3OUDS	0.35 U	0.69	0.35	0.18	ng/L	02/24/23	1	EPA 1633	BCB0392
3:3FTCA	0.69 U	1.4	0.69	0.50	ng/L	02/24/23	1	EPA 1633	BCB0392
5:3FTCA	0.69 U	1.4	0.69	0.38	ng/L	02/24/23	1	EPA 1633	BCB0392
7:3FTCA	0.69 U	1.4	0.69	0.48	ng/L	02/24/23	1	EPA 1633	BCB0392
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Surrogate: 13C4-PFBA	90.9%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFPEA	101%		35-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C5-PFHXA	100%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C4-PFHPA	99.4%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	80.5%		60-140			02/24/23	1	EPA 1633	BCB0392

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

Sample: AF-RHMW16-WGN01LF-2302W3 (Continued)
23B0155-05 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	76.7%		55-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C6-PFDA	90.0%		50-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C7-PFUnA	83.4%		30-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFDOA	91.4%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-PFTEDA	94.3%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFBS	92.7%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-PFHXS	85.4%		55-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOS	91.8%		45-140			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-4:2FTS	107%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-6:2FTS	96.9%		60-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C2-8:2FTS	92.7%		50-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C8-PFOA	78.3%		30-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	42.5%		15-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	37.9%		10-130			02/24/23	1	EPA 1633	BCB0392
Surrogate: D3-NMEFOA	86.4%		45-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D5-NETFOA	95.6%		10-200			02/24/23	1	EPA 1633	BCB0392
Surrogate: D7-NMEFOSE	40.8%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: D9-NETFOSE	53.2%		10-150			02/24/23	1	EPA 1633	BCB0392
Surrogate: 13C3-HFPO-DA	99.6%		25-160			02/24/23	1	EPA 1633	BCB0392

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: 03/03/2023 17:16

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: BCB0392 - EPA 1633

Blank (BCB0392-BLK1)

Prepared: 02/22/23 15:43 Analyzed: 02/24/23 08:54

	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	0.20 U MI2,	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	32.3	32.0	101	10-130
13C5-PFPEA	16.3	16.0	102	35-150
13C5-PFHXA	7.84	8.00	98.0	55-150

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

Reported: 03/03/2023 17:16

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 (BCB0392-BLK1)						Prepared: 02/22/23 15:43 Analyzed: 02/24/23 08:54				
	ng/L									
Surrogates										
13C4-PFHPA	8.01				8.00		100	55-150		
13C8-PFOA	7.43				8.00		92.9	60-140		
13C9-PFNA	3.34				4.00		83.4	55-140		
13C6-PFDA	3.46				4.00		86.4	50-140		
13C7-PFUnA	3.62				4.00		90.4	30-140		
13C2-PFDOA	3.58				4.00		89.5	10-150		
13C2-PFTEDA	3.85				4.00		96.2	10-130		
13C3-PFBS	7.84				8.00		98.0	55-150		
13C3-PFHXS	7.55				8.00		94.4	55-150		
13C8-PFOS	7.11				8.00		88.8	45-140		
13C2-4:2FTS	17.7				16.0		110	60-200		
13C2-6:2FTS	15.6				16.0		97.6	60-200		
13C2-8:2FTS	13.9				16.0		86.6	50-200		
13C8-PFOA	6.02				8.00		75.3	30-130		
D3-NMEFOA	3.26				8.00		40.8	15-130		
D5-NETFOA	3.40				8.00		42.5	10-130		
D3-NMEFOSAA	12.5				16.0		78.0	45-200		
D5-NETFOSAA	13.2				16.0		82.2	10-200		
D7-NMEFOSE	34.3				80.0		42.9	10-150		
D9-NETFOSE	46.8				80.0		58.5	10-150		
13C3-HFPO-DA	31.7				32.0		99.1	25-160		

LCS (BCB0392-BS1)

Prepared: 02/22/23 15:43 Analyzed: 02/24/23 09:06

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
PFBA	17.6				16.0		110	58-148		
PFPEA	9.02				8.00		113	54-152		
PFHXA	4.34				4.00		108	55-152		
PFHPA	4.01				4.00		100	54-154		
PFOA	4.39				4.00		110	52-161		
PFNA	4.82				4.00		121	59-149		
PFDA	4.65				4.00		116	52-147		
PFUnA	4.47				4.00		112	48-159		
PFDOA	4.44				4.00		111	64-142		
PFTRDA	4.81				4.00		120	49-148		
PFTEDA	4.42				4.00		110	47-161		
PFBS	3.46				3.54		97.6	62-144		
PFPEA	4.00				3.76		106	59-151		
PFHXS	3.75				3.66		102	57-146		
PFHPS	4.42				3.82		116	55-152		
PFOS	4.40				3.72		118	58-149		
PFNS	4.07				3.84		106	52-148		
PFDS	4.01				3.86		104	51-147		
PFDOS	3.78				3.88		97.4	36-145		
4:2FTS	19.2				15.0		128	67-146		
6:2FTS	16.8				15.2		110	61-151		
8:2FTS	19.1				15.4		124	63-152		
PFOSA	4.97				4.00		124	61-148		

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

Reported: 03/03/2023 17:16

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 (BCB0392-BS1)						Prepared: 02/22/23 15:43 Analyzed: 02/24/23 09:06				
	ng/L									
NMeFOSA	17.0				16.0		106	63-145		
NETFOSA	19.2				16.0		120	65-139		
NMeFOSAA	4.80				4.00		120	58-144		
NETFOSAA	4.04				4.00		101	59-146		
NMeFOSE	18.3				16.0		115	71-136		
NETFOSE	17.8				16.0		111	69-137		
HFPO-DA	8.67				8.00		108	63-144		
ADONA	8.80				7.56		116	68-146		
PFEESA	8.60				7.12		121	56-151		
PFMPA	9.50				8.00		119	51-145		
PFMBA	8.50				8.00		106	55-148		
NFDHA	9.38				8.00		117	48-161		
9CL-PF3ONS	7.98				7.48		107	56-156		
11CL-PF3OUDS	8.23				7.56		109	46-156		
3:3FTCA	19.2				16.0		120	62-129		
5:3FTCA	16.4				16.0		103	63-134		
7:3FTCA	17.3				16.0		108	50-138		
Surrogates										
13C4-PFBA	30.8				32.0		96.3	10-130		
13C5-PFPEA	15.7				16.0		98.4	35-150		
13C5-PFHXA	7.25				8.00		90.6	55-150		
13C4-PFHFA	7.76				8.00		97.0	55-150		
13C8-PFOA	8.10				8.00		101	60-140		
13C9-PFNA	4.03				4.00		101	55-140		
13C6-PFDA	3.58				4.00		89.6	50-140		
13C7-PFUa	3.33				4.00		83.3	30-140		
13C2-PFDOA	3.66				4.00		91.5	10-150		
13C2-PFTEDA	4.10				4.00		102	10-130		
13C3-PFBS	7.83				8.00		97.9	55-150		
13C3-PFHXS	7.27				8.00		90.9	55-150		
13C8-PFOS	7.13				8.00		89.1	45-140		
13C2-4:2FTS	16.1				16.0		100	60-200		
13C2-6:2FTS	15.2				16.0		94.7	60-200		
13C2-8:2FTS	13.4				16.0		83.7	50-200		
13C8-PFOA	6.00				8.00		75.0	30-130		
D3-NMEFOSA	3.19				8.00		39.9	15-130		
D5-NETFOSA	3.15				8.00		39.4	10-130		
D3-NMEFOSAA	13.3				16.0		83.2	45-200		
D5-NETFOSAA	13.5				16.0		84.5	10-200		
D7-NMEFOSE	37.4				80.0		46.7	10-150		
D9-NETFOSSE	49.2				80.0		61.5	10-150		
13C3-HFPO-DA	29.6				32.0		92.6	25-160		

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

Reported: 03/03/2023 17:16

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 (BCB0392-MRL1)						Prepared: 02/22/23 15:43 Analyzed: 02/24/23 09:19				
	ng/L									
PFBA	1.86				1.60		116	44-157		
PFPEA	0.933				0.800		117	57-148		
PFHXA	0.493				0.400		123	62-149		
PFHPA	0.467				0.400		117	56-150		
PFOA	0.565				0.400		141	57-161		
PFNA	0.473				0.400		118	53-157		
PFDA	0.425				0.400		106	43-158		
PFUnA	0.402				0.400		100	50-155		
PFDOA	0.480				0.400		120	60-141		
PFTRDA	0.417				0.400		104	52-140		
PFTEDA	0.462				0.400		116	52-156		
PFBS	0.354 J				0.354		100	63-145		
PFPEs	0.401				0.376		107	58-144		
PFHXS	0.480				0.366		131	44-158		
PFHPS	0.534				0.382		140	51-150		
PFOS	0.552				0.372		148	43-162		
PFNS	0.459				0.384		120	46-151		
PFDS	0.442				0.386		115	50-144		
PFDOS	0.433				0.388		112	30-138		
4:2FTS	1.71				1.50		114	52-158		
6:2FTS	1.75				1.52		115	48-158		
8:2FTS	1.85				1.54		121	46-165		
PFOSA	0.504				0.400		126	47-163		
NMeFOSA	1.96				1.60		123	54-155		
NETFOSA	1.92				1.60		120	49-156		
NMeFOSAA	0.550				0.400		138	32-160		
NETFOSAA	0.567				0.400		142	51-154		
NMeFOSE	1.89				1.60		118	56-151		
NETFOSE	1.87				1.60		117	60-147		
HFPO-DA	0.889				0.800		111	58-154		
ADONA	0.883				0.756		117	61-148		
PFEESA	0.774 J				0.712		109	56-144		
PFMPA	0.960				0.800		120	48-150		
PFMBA	0.912				0.800		114	49-154		
NFDHA	0.869				0.800		109	47-160		
9CL-PF3ONS	0.992				0.748		133	44-167		
11CL-PF3OUDS	0.835				0.756		110	36-158		
3:3FTCA	2.19				1.60		137	32-161		
5:3FTCA	1.74				1.60		109	39-156		
7:3FTCA	1.54 J				1.60		96.4	36-149		
Surrogates										
13C4-PFBA	30.4				32.0		95.0	10-130		
13C5-PFPEA	16.0				16.0		100	35-150		
13C5-PFHXA	7.82				8.00		97.7	55-150		
13C4-PFHPA	7.64				8.00		95.5	55-150		
13C8-PFOA	7.52				8.00		94.0	60-140		
13C9-PFNA	4.16				4.00		104	55-140		

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Reported: 03/03/2023 17:16

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 (BCB0392-MRL1)						Prepared: 02/22/23 15:43 Analyzed: 02/24/23 09:19				
	ng/L									
Surrogates										
13C6-PFDA	3.87				4.00		96.8	50-140		
13C7-PFUnA	3.74				4.00		93.5	30-140		
13C2-PFDOA	4.26				4.00		107	10-150		
13C2-PFTEDA	4.20				4.00		105	10-130		
13C3-PFBS	8.31				8.00		104	55-150		
13C3-PFHXS	7.86				8.00		98.2	55-150		
13C8-PFOS	7.25				8.00		90.6	45-140		
13C2-4:2FTS	18.7				16.0		117	60-200		
13C2-6:2FTS	17.4				16.0		109	60-200		
13C2-8:2FTS	14.0				16.0		87.5	50-200		
13C8-PFOA	6.51				8.00		81.3	30-130		
D3-NMEFOA	3.93				8.00		49.1	15-130		
D5-NETFOA	4.12				8.00		51.5	10-130		
D3-NMEFOSAA	15.2				16.0		94.9	45-200		
D5-NETFOSAA	16.3				16.0		102	10-200		
D7-NMEFOSE	41.0				80.0		51.3	10-150		
D9-NETFOSE	53.7				80.0		67.1	10-150		
13C3-HFPO-DA	31.0				32.0		96.9	25-160		

AECOM Honolulu
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Honolulu, HI 96813

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

Reported: 03/03/2023 17:16

Notes and Definitions

Item	Definition
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
MI2	Manual integration, non-target peak interference
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.



WORK ORDER

23B0155

Printed: 03/03/2023 5:16 pm

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling
Project Manager: Karen Volpendesta
PO Number: 60697810

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

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

Date Received: 02/22/2023 02:10 PM
 Date Due: 03/01/2023 (5.00 day TAT)

Logged In By: Megan Salata
 Received By: Megan Salata

Analysis	Comments
----------	----------

23B0155-01 AF-HDMW225303-WGN01LF-2302W3 [Water] Sampled 2/21/2023 10:35:00AM	
1633 NONE	"Report relevant surrogates"
23B0155-02 AF-RHMW10-WGN01LF-2302W3 [Water] Sampled 2/21/2023 12:45:00PM	
1633 NONE	"Report relevant surrogates"
23B0155-03 AF-RHMW12A-WGN01LF-2302W3 [Water] Sampled 2/21/2023 10:58:00AM	
1633 NONE	"Report relevant surrogates"
23B0155-04 AF-RHMW12A-WGFD01LF-2302W3 [Water] Sampled 2/21/2023 10:58:00AM	
1633 NONE	"Report relevant surrogates"
23B0155-05 AF-RHMW16-WGN01LF-2302W3 [Water] Sampled 2/21/2023 2:55:00PM	
1633 NONE	"Report relevant surrogates"

23B0155 Sample Receipt Log

Default Cooler

Samples Received at: **-1.3°C**

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

2300155



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

ELECTRONIC CHAIN OF CUSTODY RECORD
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 2302W3AFAL04

Report to: **AECOM** Invoice to: **AECOM** PLEASE PRINT
 Company Name: **1001 Bishop St ste1600** Phone: _____
 Address: **Honolulu, HI 96813** Fax: _____
 Attn: **Watson Tanji / Katie Abbott**
 Email: **mark.kromis@aecom.com/katie.abbott@aecom.com**

Company Name: **AECOM** Phone: _____
 Address: _____ Fax: _____
 Attn: **Sheree Smith**
 Email: **USAPimaging@aecom.com**

Project Name/Number	Sampler (Print)	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			Analysis Requested/Method Number	Date Shipped:
						Aq	Sed.	Soil		
CTO N6274223F0104 / 60697810	Andy Young <i>ayj</i>	2/21/23	1035	HST	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PFAS EPA Draft 1633	Carrier: United
Purchase Order Number	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil	Analysis Requested/Method Number	Date Shipped:
AF-HDMW225303-WGN01LF-2302W3	HDMW2253-03	2/21/23	1035	HST	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PFAS EPA Draft 1633	Carrier: United
Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil	Analysis Requested/Method Number	Date Shipped:
AF-HDMW225303-WGN01LF-2302W3	HDMW2253-03	2/21/23	1035	HST	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PFAS EPA Draft 1633	Carrier: United
Comments: EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW Waybill No. 216-1182-3873										

Turnaround Requested: Check one
 Standard 2-3 wk 3 days 24/48 Hrs. Other: **5 day TAT**

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

Relinquished by: *Andy Young* Date: 2/21/23 Time: 1515
 Received by: *Ken Young* Date: 2/21/23 Time: 1630

Relinquished by: _____ Date: _____ Time: _____
 Received by: _____ Date: 2/22/23 Time: 1410

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



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

ELECTRONIC CHAIN OF CUSTODY RECORD
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 2302W3AFAL03

Report to: **AECOM** Invoice to: **AECOM** PLEASE PRINT
 Company Name: **1001 Bishop St ste1600** Phone: _____
 Address: **Honolulu, HI 96813** Fax: _____
 Attn: **Watson Tanji / Katie Abbott**
 Email: **watson.tanji@aecom.com/katie.abott@aecom.com**

Project Name/Number	Sampler (Print)	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			Analysis Requested/Method Number	Date Shipped:
						Aq	Sed.	Soil		
CTO N6274223F0104 / 60697810	MIRANDA DEGARMO	2/21/23	1245	HST	2				PFAS EPA Draft 1633	Carrier: United
	Miranda Degarmo									Waybill No. 216 118 23873
										Comments: EDMS upload database_JBPHE
										EDMS Coverage: AFFF Assessment Sampling GW
AF-RHMMW10-WGN01LF-2302W3	RHMW10									

Shuttle Temperature: _____

Turnaround Requested: Check one
 Standard 2-3 wk One week 3 days 24/48 Hrs. Other: **5 day TAT**

Relinquished by sampler: **Miranda Degarmo** Date: **2/21/23** Time: **1515**
 Relinquished by: **Katie Tanji** Date: **2/21/23** Time: **1630**

Received by: **Katie Tanji** Date: **2/22/23** Time: **1410**

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

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



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

ELECTRONIC CHAIN OF CUSTODY RECORD
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C.

AFALOS
2302W3AP105
02/24/22

Report to: **AECOM**
Company Name: **AECOM**
Address: **1001 Bishop St ste1600**
Honolulu, HI 96813
Attn: **Watson Tanji / Katie Abbott**
Email: **watson.tanji@aecom.com/katie.abbott@aecom.com**

Invoice to: **AECOM**
Company Name: **AECOM**
Address: _____
Attn: **Sheree Smith**
Email: **USAPimaging@aecom.com**

PLEASE PRINT
Date Shipped: _____
Carrier: **UnFed**
Waybill No: **016 1823873**
Comments: **EDMS upload database: JBPHE**
EDMS Coverage: AFFF Assessment
Sampling: GW

Project Name/Number CTO N6274223F0104 / 60697810	Sampler (Print) GABRIEL ALUW	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix		Analysis Requested/Method Number	Date Shipped:
						Aq	Soil		
AF-RHMW12A-WGN01LF-2302W3	RED HILL DAKAWA 02.21.23	1058	HST	2	PFAS EPA Draft 1633	<input checked="" type="checkbox"/>			
AF-RHMW12A-WGFD01LF-2302W3	RED HILL DAKAWA 02.21.23	1058	HST	2		<input checked="" type="checkbox"/>			

Shuttle Temperature: _____

Turnaround Requested: Check one
 Standard 2-3 wk
 3 days
 24/48 Hrs. Other: **5 day TAT**

Relinquished by sampler: **GABRIEL ALUW**
 Date: **02.21.23** Time: **1613**
 Relinquished by: _____
 Date: _____ Time: _____

Received by: _____
 Date: **2/21/23** Time: **1630**
 Received at lab by: _____
 Date: **2/22/23** Time: **410**

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

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



APPL, Inc.
 908 N Temperance Ave
 Clovis, CA 93611
 www.applinc.com

ELECTRONIC CHAIN OF CUSTODY RECORD
 Phone: (559) 275-2175
 Fax: (559) 275-4422
 coc@applinc.com

C.O.C. 2302W3APL06 aw 2/2/23

AECOM
 1001 Bishop St ste 1600
 Honolulu, HI 96813
 Watson Tanji / Katie Abbott
 watson.tanji@aecom.com/katie.abbott@aecom.com

AECOM
 1001 Bishop St ste 1600
 Honolulu, HI 96813
 Watson Tanji / Katie Abbott
 watson.tanji@aecom.com/katie.abbott@aecom.com

Report to: **AECOM**
 Company Name: **AECOM**
 Address: _____
 Attn: **Sheree Smith**
 Email: **USAPimaging@aecom.com**

Invoice to: _____
 Company Name: **AECOM**
 Address: _____
 Attn: _____
 Email: _____

Project Name/Number: CTO N6274223F0104 / 60697810
 Purchase Order Number: _____
 Sample Identification: AF-RHMW16-WGN01LF-2302W3

Sampler (Print): **GABRIEL AUGEN**
 Sampler (Signature): *[Signature]*
 Location: **Ref Hill BHPH016**
 Date Collected: **02-21-23**
 Time Collected: **1455**
 Time Zone: **HST 2**

No. of Containers: **2**

Matrix: **Soil**

Analysis Requested/Method Number: **PFAS EPA Draft 1633**

Date Shipped: _____
 Carrier: **United**
 Waybill No.: **AW 11823873**
 Comments: **EDMS upload database: JBPHE**
EDMS Coverage: AFFF Assessment
Sampling GW

Shuttle Temperature: _____
 Turnaround Requested: Standard 2-3 wk One week 3 days 24/48 Hrs. Other: **5 day TAT**

Relinquished by sampler: **GABRIEL AUGEN**
 Date: **02-21-23**
 Time: **1613**

Relinquished by: **1 Kenyon**
 Date: **2/22/23**
 Time: **1410**

Sample Disposal: Return to client Disposal by Lab (30-day retention)
 Received by: _____
 Date: **2/22/23**
 Time: **1630**

Received at lab by: *[Signature]*
 Date: **2/22/23**
 Time: **1410**

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

CUSTODY SEAL
AECOM (808)-521-3051

Initials: KY Date 2/21/23

PFAS

SAMPLE DATA

FORM I ANALYSIS DATA SHEET

AF-HDMW225303-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-01
		File ID:	S2023-02-23B (57)
Sampled:	02/21/23 10:35	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 10:24
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	556.46 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

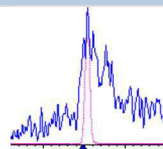
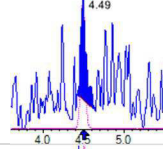
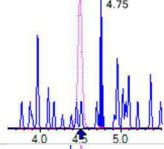
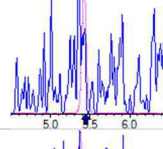
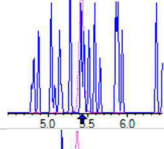
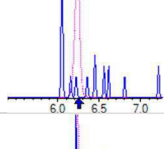
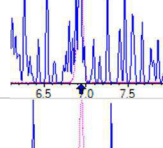
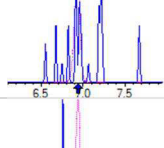
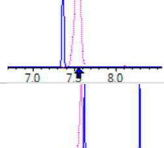
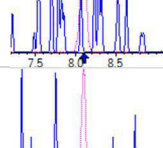
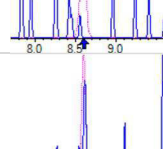
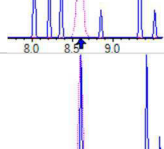
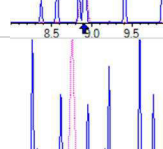
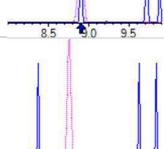
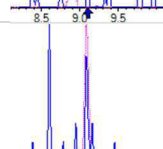
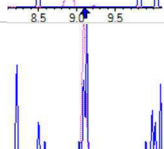
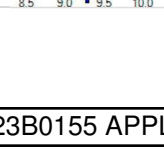
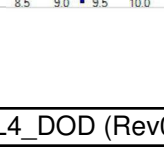
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.36 U	0.72	0.36	0.058	
PFHXA	0.18 U	0.36	0.18	0.049	
PFHPA	0.18 U	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPEs	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.18 U	0.36	0.18	0.057	
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	0.72 U	1.4	0.72	0.26	
6:2FTS	0.72 U	1.4	0.72	0.28	
8:2FTS	0.72 U	1.4	0.72	0.074	
PFOSA	0.18 U	0.36	0.18	0.094	
NMeFOSA	0.72 U	1.4	0.72	0.43	
NEtFOSA	0.72 U	1.4	0.72	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.095	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.91	
NEtFOSE	1.1 U	1.4	1.1	0.94	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I ANALYSIS DATA SHEET

AF-HDMW225303-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-01
		File ID:	S2023-02-23B (57)
Sampled:	02/21/23 10:35	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 10:24
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	556.46 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.048	
PFMBA	0.36 U	0.72	0.36	0.082	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	
5:3FTCA	0.72 U	1.4	0.72	0.40	
7:3FTCA	0.72 U	1.4	0.72	0.50	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(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) 4318 (263.0 / 69.0) 499	(4.49, 1.00) (0.00, N/A, -15.8)	11.1 19.7	0.1155 1078.7 958.7	0.0090	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (57)
 Acquired: 2023/02/24 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (57)
 Acquired: 2023/02/24 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] 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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (57)
 Acquired: 2023/02/24 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] 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) 291630	(3.54, N/A) (N/A, 0.06, N/A)	1803.1	N/A	1.3020 [1.0000]	130.2% { 106.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 536143	(5.42, N/A) (N/A, -0.01, N/A)	3011.9	N/A	1.0621 [1.0000]	106.2% { 100.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 693582	(6.93, N/A) (N/A, -0.01, N/A)	2144.7	N/A	1.0944 [1.0000]	109.4% { 97.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 682622	(7.54, N/A) (N/A, -0.01, N/A)	1282.2	N/A	1.1297 [1.0000]	113.0% { 107.7% }			

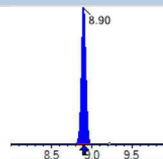
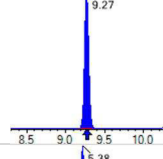
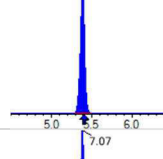
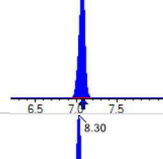
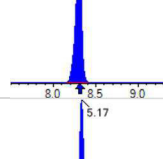
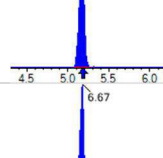
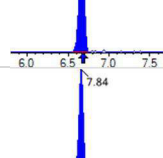
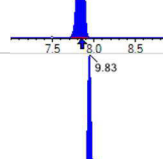
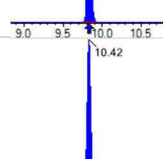
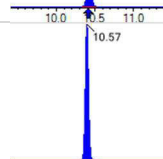
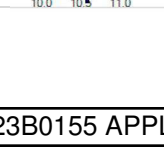


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (57)
 Acquired: 2023/02/24 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 634448	(8.10, N/A) (N/A, -0.01, N/A)	1933.4	N/A	1.0965 [1.0000]	109.6% { 100.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 962458	(7.07, N/A) (N/A, -0.01, N/A)	4741.3	N/A	1.1239 [1.0000]	112.4% { 89.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1696638	(8.30, N/A) (N/A, 0.00, N/A)	1184.3	N/A	1.1270 [1.0000]	112.7% { 102.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2533086	(3.54, N/A) (N/A, 0.06, N/A)	5933.6	N/A	7.3022 [8.0000]	91.3% { 89.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2320397	(4.49, N/A) (N/A, -0.01, N/A)	4009.4	N/A	3.9556 [4.0000]	98.9% { 84.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1356933	(5.42, N/A) (N/A, -0.01, N/A)	2438.1	N/A	1.8477 [2.0000]	92.4% { 84.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1130363	(6.23, N/A) (N/A, -0.01, N/A)	3051.5	N/A	1.7765 [2.0000]	88.8% { 73.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1331257	(6.93, N/A) (N/A, -0.01, N/A)	1780.0	N/A	1.6948 [2.0000]	84.7% { 78.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 622889	(7.54, N/A) (N/A, 0.00, N/A)	287495.7	N/A	0.8612 [1.0000]	86.1% { 83.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 752552	(8.10, N/A) (N/A, 0.00, N/A)	1524.4	N/A	0.9408 [1.0000]	94.1% { 81.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 732345	(8.60, N/A) (N/A, 0.00, N/A)	1758.9	N/A	0.9207 [1.0000]	92.1% { 79.3% }			

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_EIS	(615.0 / 570.0) 634700	(8.90, N/A) (N/A, 0.00, N/A)	1736.7	N/A	0.9303 [1.0000]	93.0% { 76.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 600579	(9.27, N/A) (N/A, 0.00, N/A)	2042.6	N/A	0.9607 [1.0000]	96.1% { 76.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4257661	(5.38, N/A) (N/A, -0.01, N/A)	3717.1	N/A	2.1137 [2.0000]	105.7% { 87.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1972995	(7.07, N/A) (N/A, -0.01, N/A)	1345.3	N/A	1.8857 [2.0000]	94.3% { 81.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4058683	(8.30, N/A) (N/A, -0.01, N/A)	1594.2	N/A	1.7425 [2.0000]	87.1% { 76.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 515807	(5.17, N/A) (N/A, -0.01, N/A)	1504.4	N/A	4.6391 [4.0000]	116.0% { 92.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 497532	(6.67, N/A) (N/A, -0.01, N/A)	1043.2	N/A	4.0765 [4.0000]	101.9% { 72.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 646230	(7.84, N/A) (N/A, 0.00, N/A)	1374.6	N/A	3.7478 [4.0000]	93.7% { 75.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6464150	(9.83, N/A) (N/A, 0.00, N/A)	2882.5	N/A	1.4951 [2.0000]	74.8% { 71.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 820463	(10.42, N/A) (N/A, 0.01, N/A)	2166.1	N/A	0.8054 [2.0000]	40.3% { 42.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 666676	(10.57, N/A) (N/A, 0.01, N/A)	2619.7	N/A	0.7314 [2.0000]	36.6% { 37.2% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-01
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (57)
 Acquired: 2023/02/24 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1264844	(8.25, N/A) (N/A, 0.00, N/A)	1434.3	N/A	3.3556 [4.0000]	83.9% { 73.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1067683	(8.49, N/A) (N/A, 0.00, N/A)	10206.5	N/A	3.4593 [4.0000]	86.5% { 74.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2770544	(10.36, N/A) (N/A, 0.01, N/A)	1905.5	N/A	7.4602 [20.0000]	37.3% { 36.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4765692	(10.51, N/A) (N/A, 0.01, N/A)	2421.1	N/A	10.0205 [20.0000]	50.1% { 51.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3307520	(5.73, N/A) (N/A, -0.01, N/A)	3723.5	N/A	7.3971 [8.0000]	92.5% { 79.2% }			

FORM I

ANALYSIS DATA SHEET

AF-RHMW10-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-02
		File ID:	S2023-02-23B (59)
Sampled:	02/21/23 12:45	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 10:50
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	559.04 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.074 J	0.72	0.36	0.058	
PFHXA	0.18 U	0.36	0.18	0.049	
PFHPA	0.18 U	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.073	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPEs	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.18 U	0.36	0.18	0.057	
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	0.72 U	1.4	0.72	0.26	
6:2FTS	0.72 U	1.4	0.72	0.28	
8:2FTS	0.72 U	1.4	0.72	0.073	
PFOSA	0.18 U	0.36	0.18	0.093	
NMeFOSA	0.72 U	1.4	0.72	0.42	
NEtFOSA	0.72 U	1.4	0.72	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.095	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.90	
NEtFOSE	1.1 U	1.4	1.1	0.94	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I ANALYSIS DATA SHEET

AF-RHMW10-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-02
		File ID:	S2023-02-23B (59)
Sampled:	02/21/23 12:45	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 10:50
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	559.04 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.048	
PFMBA	0.36 U	0.72	0.36	0.081	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.18	
3:3FTCA	0.72 U	1.4	0.72	0.51	
5:3FTCA	0.72 U	1.4	0.72	0.40	
7:3FTCA	0.72 U	1.4	0.72	0.49	



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-02
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (59)
 Acquired: 2023/02/24 - 10:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(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) 9505 (263.0 / 69.0) 425	(4.51, 1.00) (0.00, N/A, -14.7)	24.3 11.6	0.0447 417.3 370.8	0.0207	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-02
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (59)
 Acquired: 2023/02/24 - 10:50

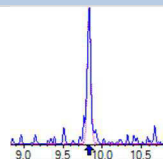
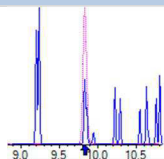
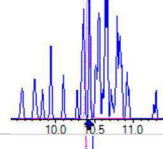
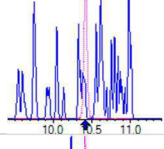
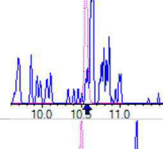
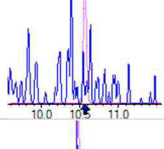
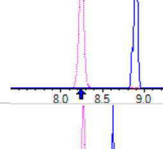
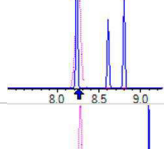
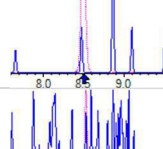
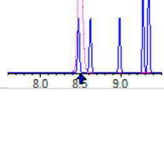
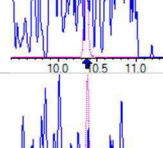
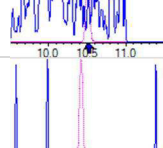
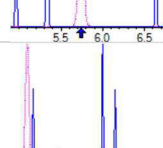
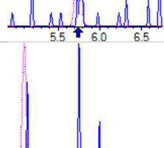
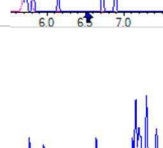
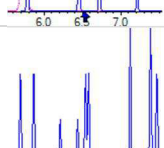
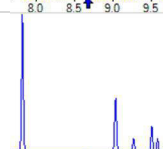
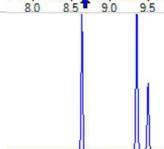
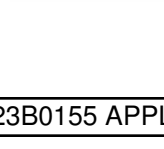
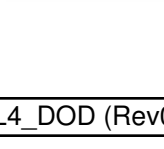
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

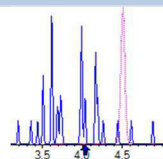
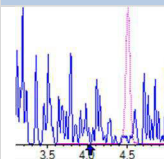
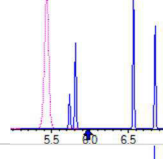
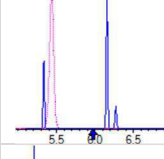
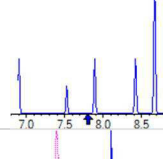
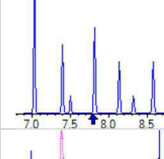
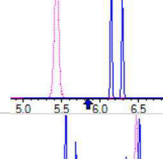
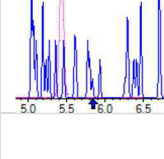
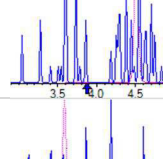
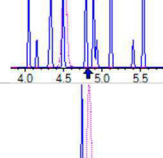
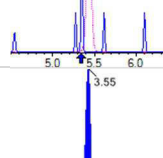
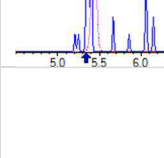
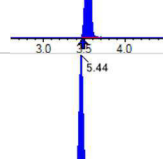
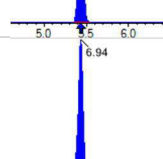
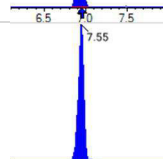
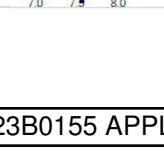


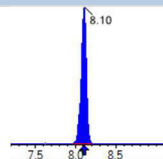
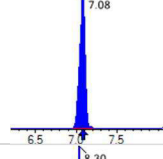
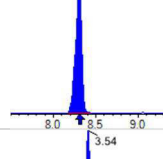
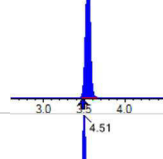
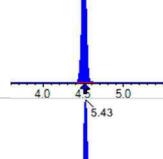
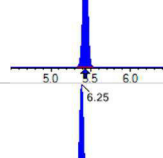
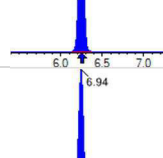
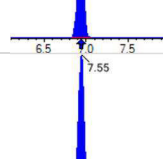
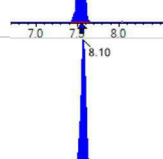
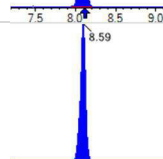
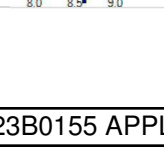
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-02
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (59)
 Acquired: 2023/02/24 - 10:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 303550	(3.55, N/A) (N/A, 0.07, N/A)	2577.7	N/A	1.3552 [1.0000]	135.5% { 111.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 555396	(5.44, N/A) (N/A, 0.00, N/A)	1612.3	N/A	1.1002 [1.0000]	110.0% { 103.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 748382	(6.94, N/A) (N/A, 0.00, N/A)	1659.4	N/A	1.1808 [1.0000]	118.1% { 105.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 689435	(7.55, N/A) (N/A, 0.00, N/A)	2377.9	N/A	1.1409 [1.0000]	114.1% { 108.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 743365	(8.10, N/A) (N/A, -0.01, N/A)	1361.6	N/A	1.2847 [1.0000]	128.5% { 117.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 961171	(7.08, N/A) (N/A, 0.00, N/A)	5249.3	N/A	1.1224 [1.0000]	112.2% { 89.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1728424	(8.30, N/A) (N/A, 0.00, N/A)	1437.8	N/A	1.1482 [1.0000]	114.8% { 104.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2605210	(3.54, N/A) (N/A, 0.07, N/A)	5928.9	N/A	7.2152 [8.0000]	90.2% { 91.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2232921	(4.51, N/A) (N/A, 0.00, N/A)	3343.3	N/A	3.6745 [4.0000]	91.9% { 81.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1309233	(5.43, N/A) (N/A, 0.00, N/A)	3013.1	N/A	1.7210 [2.0000]	86.0% { 81.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1180754	(6.25, N/A) (N/A, 0.00, N/A)	2221.6	N/A	1.7914 [2.0000]	89.6% { 77.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1406138	(6.94, N/A) (N/A, 0.00, N/A)	1684.8	N/A	1.6590 [2.0000]	83.0% { 83.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 588054	(7.55, N/A) (N/A, 0.00, N/A)	2005.8	N/A	0.8050 [1.0000]	80.5% { 78.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 777492	(8.10, N/A) (N/A, -0.01, N/A)	1754.7	N/A	0.8295 [1.0000]	83.0% { 84.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 746374	(8.59, N/A) (N/A, -0.01, N/A)	1559.9	N/A	0.8008 [1.0000]	80.1% { 80.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-02
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (59)
 Acquired: 2023/02/24 - 10:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 655018	(8.89, N/A) (N/A, -0.01, N/A)	1733.5	N/A	0.8194 [1.0000]	81.9% { 79.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 644535	(9.27, N/A) (N/A, 0.00, N/A)	745.6	N/A	0.8799 [1.0000]	88.0% { 82.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4194367	(5.40, N/A) (N/A, 0.00, N/A)	3674.7	N/A	2.0850 [2.0000]	104.3% { 86.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2022207	(7.08, N/A) (N/A, 0.00, N/A)	1653.8	N/A	1.9353 [2.0000]	96.8% { 83.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4205716	(8.30, N/A) (N/A, -0.01, N/A)	1702.4	N/A	1.7724 [2.0000]	88.6% { 79.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 573246	(5.18, N/A) (N/A, 0.00, N/A)	1884.2	N/A	5.1626 [4.0000]	129.1% { 102.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 580319	(6.68, N/A) (N/A, 0.00, N/A)	1389.2	N/A	4.7611 [4.0000]	119.0% { 84.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 668231	(7.85, N/A) (N/A, 0.00, N/A)	1313.5	N/A	3.8805 [4.0000]	97.0% { 78.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6731993	(9.83, N/A) (N/A, 0.00, N/A)	3771.3	N/A	1.5284 [2.0000]	76.4% { 74.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 807764	(10.42, N/A) (N/A, 0.00, N/A)	2192.6	N/A	0.7784 [2.0000]	38.9% { 41.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 652973	(10.56, N/A) (N/A, 0.00, N/A)	2407.2	N/A	0.7032 [2.0000]	35.2% { 36.4% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-02
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (59)
 Acquired: 2023/02/24 - 10:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1385514	(8.25, N/A) (N/A, 0.00, N/A)	2499.6	N/A	3.6081 [4.0000]	90.2% { 80.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1142760	(8.49, N/A) (N/A, 0.00, N/A)	6591.2	N/A	3.6344 [4.0000]	90.9% { 80.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3060676	(10.35, N/A) (N/A, 0.00, N/A)	2231.5	N/A	8.0899 [20.0000]	40.4% { 40.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5230543	(10.51, N/A) (N/A, 0.00, N/A)	1742.4	N/A	10.7957 [20.0000]	54.0% { 56.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3445920	(5.74, N/A) (N/A, 0.00, N/A)	3047.2	N/A	7.4395 [8.0000]	93.0% { 82.5% }			

FORM I ANALYSIS DATA SHEET

AF-RHMW12A-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-03
		File ID:	S2023-02-23B (61)
Sampled:	02/21/23 10:58	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 11:15
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	547.02 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.8	1.5	0.73	0.19	
PFPEA	5.4	0.73	0.37	0.059	
PFHXA	1.6	0.37	0.18	0.050	
PFHPA	0.40	0.37	0.18	0.037	
PFOA	0.18 U	0.37	0.18	0.14	
PFNA	0.18 U	0.37	0.18	0.075	
PFDA	0.18 U	0.37	0.18	0.093	
PFUnA	0.18 U	0.37	0.18	0.15	
PFDOA	0.18 U	0.37	0.18	0.10	
PFTRDA	0.27 U	0.37	0.27	0.19	
PFTEDA	0.18 U	0.37	0.18	0.18	
PFBS	0.18 U	0.37	0.18	0.034	
PFPEs	0.18 U	0.37	0.18	0.057	
PFHXS	0.18 U	0.37	0.18	0.029	
PFHPS	0.18 U	0.37	0.18	0.047	
PFOS	0.18 U	0.37	0.18	0.058	
PFNS	0.18 U	0.37	0.18	0.11	
PFDS	0.18 U	0.37	0.18	0.14	
PFDOS	0.16 J	0.37	0.18	0.11	IR1,
4:2FTS	0.73 U	1.5	0.73	0.27	
6:2FTS	1.5	1.5	0.73	0.29	
8:2FTS	0.73 U	1.5	0.73	0.075	
PFOSA	0.18 U	0.37	0.18	0.095	
NMeFOSA	0.73 U	1.5	0.73	0.43	
NEtFOSA	0.73 U	1.5	0.73	0.38	
NMeFOSAA	0.18 U	0.37	0.18	0.097	
NEtFOSAA	0.18 U	0.37	0.18	0.10	
NMeFOSE	1.1 U	1.5	1.1	0.92	
NEtFOSE	1.1 U	1.5	1.1	0.96	
HFPO-DA	0.37 U	0.73	0.37	0.16	

FORM I

ANALYSIS DATA SHEET

AF-RHMW12A-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-03
		File ID:	S2023-02-23B (61)
Sampled:	02/21/23 10:58	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 11:15
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	547.02 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.37 U	0.73	0.37	0.11	
PFEESA	0.37 U	0.73	0.37	0.10	
PFMPA	0.37 U	0.73	0.37	0.049	
PFMBA	0.37 U	0.73	0.37	0.083	
NFDHA	0.37 U	0.73	0.37	0.28	
9CL-PF3ONS	0.37 U	0.73	0.37	0.19	
11CL-PF3OUDS	0.37 U	0.73	0.37	0.19	
3:3FTCA	0.73 U	1.5	0.73	0.53	
5:3FTCA	0.73 U	1.5	0.73	0.41	
7:3FTCA	0.73 U	1.5	0.73	0.51	



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-03
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (61)
 Acquired: 2023/02/24 - 11:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 129361	(3.55, 1.00) (0.00, N/A, 0.0)	92.0	N/A 0.0 0.0	0.4937	N/A			
PFPeA	(263.0 / 219.0) 683915 (263.0 / 69.0) 6569	(4.51, 1.00) (0.00, N/A, 0.0)	966.6 47.7	0.0096 89.7 79.7	1.4849	N/A			
PFHxA	(313.0 / 269.0) 260171 (313.0 / 119.0) 29858	(5.44, 1.00) (0.00, N/A, -0.3)	439.2 7756.7	0.1148 115.2 110.7	0.4394	N/A			
PFHpA	(363.0 / 319.0) 52012 (363.0 / 169.0) 23136	(6.25, 1.00) (0.00, N/A, 0.5)	332.2 9758137.2	0.4448 138.7 141.2	0.1091	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			



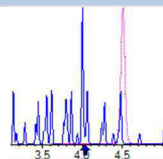
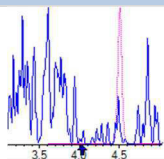
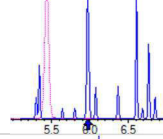
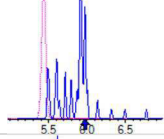
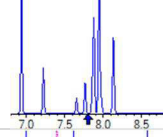
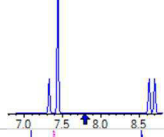
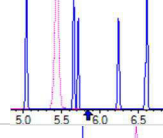
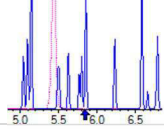
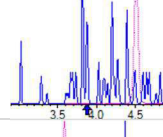
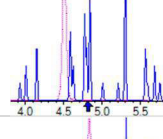
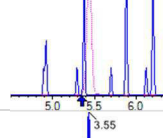
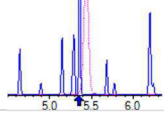
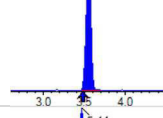
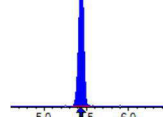
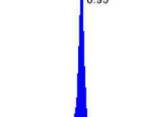
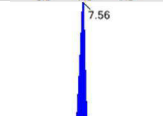
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-03
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (61)
 Acquired: 2023/02/24 - 11:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 80741 (699.0 / 99.0) 1726	(8.99, 1.08) (N/A, -0.36, 0.7)	155.9 33.6	0.0214 10.3 10.4	0.0441	N/A			IR1,
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) 81245 (427.0 / 81.0) 69374	(6.69, 1.00) (0.00, N/A, 0.1)	2061.8 288.7	0.8539 103.2 104.7	0.4229	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 306400	(3.55, N/A) (N/A, 0.07, N/A)	1396.5	N/A	1.3679 [1.0000]	136.8% { 112.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 488099	(5.44, N/A) (N/A, 0.00, N/A)	1923.3	N/A	0.9669 [1.0000]	96.7% { 91.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 737487	(6.95, N/A) (N/A, 0.01, N/A)	1280.0	N/A	1.1636 [1.0000]	116.4% { 103.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 664088	(7.56, N/A) (N/A, 0.01, N/A)	3778.5	N/A	1.0990 [1.0000]	109.9% { 104.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-03
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (61)
 Acquired: 2023/02/24 - 11:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 689898	(8.12, N/A) (N/A, 0.01, N/A)	1888.0	N/A	1.1923 [1.0000]	119.2% { 109.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1099563	(7.09, N/A) (N/A, 0.01, N/A)	2387.5	N/A	1.2840 [1.0000]	128.4% { 102.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1811592	(8.32, N/A) (N/A, 0.01, N/A)	550.4	N/A	1.2034 [1.0000]	120.3% { 109.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2530447	(3.55, N/A) (N/A, 0.07, N/A)	5559.1	N/A	6.9430 [8.0000]	86.8% { 88.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2239218	(4.51, N/A) (N/A, 0.00, N/A)	3637.9	N/A	4.1929 [4.0000]	104.8% { 81.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1347063	(5.44, N/A) (N/A, 0.00, N/A)	2637.2	N/A	2.0149 [2.0000]	100.7% { 83.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1129038	(6.25, N/A) (N/A, 0.01, N/A)	2452.7	N/A	1.9491 [2.0000]	97.5% { 73.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1435641	(6.95, N/A) (N/A, 0.01, N/A)	1930.2	N/A	1.7189 [2.0000]	85.9% { 84.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 633802	(7.56, N/A) (N/A, 0.01, N/A)	2637.9	N/A	0.9008 [1.0000]	90.1% { 84.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 765824	(8.12, N/A) (N/A, 0.01, N/A)	1054.3	N/A	0.8804 [1.0000]	88.0% { 82.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 719414	(8.61, N/A) (N/A, 0.01, N/A)	1358.8	N/A	0.8317 [1.0000]	83.2% { 77.9% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-03
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (61)
 Acquired: 2023/02/24 - 11:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 714893	(8.90, N/A) (N/A, 0.00, N/A)	2120.9	N/A	0.9636 [1.0000]	96.4% { 86.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 669992	(9.28, N/A) (N/A, 0.01, N/A)	1406.3	N/A	0.9856 [1.0000]	98.6% { 85.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4065405	(5.40, N/A) (N/A, 0.00, N/A)	2570.5	N/A	1.7666 [2.0000]	88.3% { 83.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2011644	(7.09, N/A) (N/A, 0.01, N/A)	1349.5	N/A	1.6829 [2.0000]	84.1% { 83.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4453272	(8.32, N/A) (N/A, 0.01, N/A)	971.6	N/A	1.7906 [2.0000]	89.5% { 84.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 556824	(5.18, N/A) (N/A, 0.00, N/A)	835.3	N/A	4.3836 [4.0000]	109.6% { 99.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 541562	(6.68, N/A) (N/A, 0.01, N/A)	952.9	N/A	3.8839 [4.0000]	97.1% { 78.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1217650	(7.86, N/A) (N/A, 0.01, N/A)	2259.6	N/A	6.1811 [4.0000]	154.5% { 142.9% }			S2,
13C8_PFOsa_EIS	(506.0 / 78.0) 6811714	(9.84, N/A) (N/A, 0.01, N/A)	2616.7	N/A	1.4755 [2.0000]	73.8% { 75.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1118814	(10.42, N/A) (N/A, 0.01, N/A)	2037.4	N/A	1.0286 [2.0000]	51.4% { 57.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 903179	(10.57, N/A) (N/A, 0.01, N/A)	2952.5	N/A	0.9279 [2.0000]	46.4% { 50.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-03
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (61)
 Acquired: 2023/02/24 - 11:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1401108	(8.26, N/A) (N/A, 0.01, N/A)	1266.9	N/A	3.4812 [4.0000]	87.0% { 81.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1224310	(8.51, N/A) (N/A, 0.01, N/A)	19681.9	N/A	3.7150 [4.0000]	92.9% { 85.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3776086	(10.36, N/A) (N/A, 0.01, N/A)	2245.5	N/A	9.5227 [20.0000]	47.6% { 49.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6151182	(10.52, N/A) (N/A, 0.01, N/A)	1786.8	N/A	12.1130 [20.0000]	60.6% { 67.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3381451	(5.75, N/A) (N/A, 0.00, N/A)	2488.6	N/A	8.3068 [8.0000]	103.8% { 81.0% }			

FORM I

ANALYSIS DATA SHEET

AF-RHMW12A-WGFD01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-04
		File ID:	S2023-02-23B (63)
Sampled:	02/21/23 10:58	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 11:41
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	561.82 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.7	1.4	0.71	0.19	
PFPEA	5.1	0.71	0.36	0.058	
PFHXA	1.5	0.36	0.18	0.049	
PFHPA	0.35 J	0.36	0.18	0.036	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.073	
PFDA	0.18 U	0.36	0.18	0.090	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPEs	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.18 U	0.36	0.18	0.057	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.13	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.71 U	1.4	0.71	0.26	
6:2FTS	1.5	1.4	0.71	0.28	
8:2FTS	0.71 U	1.4	0.71	0.073	
PFOSA	0.18 U	0.36	0.18	0.093	
NMeFOSA	0.71 U	1.4	0.71	0.42	
NEtFOSA	0.71 U	1.4	0.71	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.094	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.90	
NEtFOSE	1.1 U	1.4	1.1	0.93	
HFPO-DA	0.36 U	0.71	0.36	0.16	

FORM I

ANALYSIS DATA SHEET

AF-RHMW12A-WGFD01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-04
		File ID:	S2023-02-23B (63)
Sampled:	02/21/23 10:58	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 11:41
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	561.82 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.71	0.36	0.11	
PFEESA	0.36 U	0.71	0.36	0.097	
PFMPA	0.36 U	0.71	0.36	0.048	
PFMBA	0.36 U	0.71	0.36	0.081	
NFDHA	0.36 U	0.71	0.36	0.27	
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4	0.71	0.39	
7:3FTCA	0.71 U	1.4	0.71	0.49	



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-04
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (63)
 Acquired: 2023/02/24 - 11:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 119637	(3.52, 1.00) (0.00, N/A, 0.0)	99.5	N/A 0.0 0.0	0.4804	N/A			
PFPeA	(263.0 / 219.0) 645911 (263.0 / 69.0) 6593	(4.49, 1.00) (0.00, N/A, -0.2)	1095.7 42.3	0.0102 95.3 84.7	1.4346	N/A			
PFHxA	(313.0 / 269.0) 251077 (313.0 / 119.0) 27783	(5.42, 1.00) (0.00, N/A, 0.3)	370.9 7130.5	0.1107 111.1 106.7	0.4286	N/A			
PFHpA	(363.0 / 319.0) 48568 (363.0 / 169.0) 11904	(6.24, 1.00) (0.00, N/A, 1.2)	323.8 4346.3	0.2451 76.5 77.8	0.0984	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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-04
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (63)
 Acquired: 2023/02/24 - 11:41

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) 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) 83882 (427.0 / 81.0) 64526	(6.67, 1.00) (-0.01, N/A, -0.3)	11389.7 289.2	0.7692 92.9 94.3	0.4276	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 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			

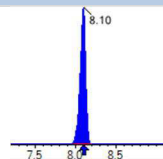
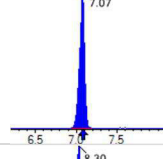
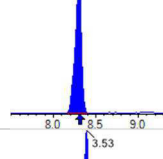
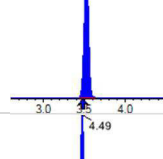
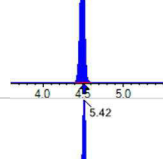
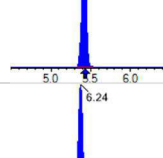
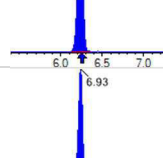
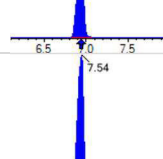
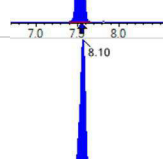
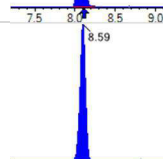
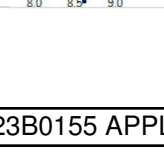


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-04
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (63)
 Acquired: 2023/02/24 - 11:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 276449	(3.53, N/A) (N/A, 0.05, N/A)	1522.3	N/A	1.2342 [1.0000]	123.4% { 101.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 485543	(5.42, N/A) (N/A, -0.02, N/A)	2047.6	N/A	0.9618 [1.0000]	96.2% { 90.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 700157	(6.93, N/A) (N/A, -0.01, N/A)	914.8	N/A	1.1047 [1.0000]	110.5% { 98.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 659864	(7.54, N/A) (N/A, -0.01, N/A)	1172.7	N/A	1.0920 [1.0000]	109.2% { 104.1% }			

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_IIS	(515.0 / 470.1) 580112	(8.10, N/A) (N/A, -0.01, N/A)	6078.1	N/A	1.0025 [1.0000]	100.3% { 91.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1014119	(7.07, N/A) (N/A, -0.01, N/A)	1234.2	N/A	1.1842 [1.0000]	118.4% { 94.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1587720	(8.30, N/A) (N/A, -0.01, N/A)	569.6	N/A	1.0547 [1.0000]	105.5% { 95.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2404957	(3.53, N/A) (N/A, 0.05, N/A)	5460.0	N/A	7.3136 [8.0000]	91.4% { 84.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2188924	(4.49, N/A) (N/A, -0.01, N/A)	4039.7	N/A	4.1203 [4.0000]	103.0% { 79.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1332761	(5.42, N/A) (N/A, -0.02, N/A)	2441.8	N/A	2.0040 [2.0000]	100.2% { 82.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1169443	(6.24, N/A) (N/A, -0.01, N/A)	1668.7	N/A	2.0294 [2.0000]	101.5% { 76.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1351249	(6.93, N/A) (N/A, -0.01, N/A)	3008.5	N/A	1.7041 [2.0000]	85.2% { 79.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 615919	(7.54, N/A) (N/A, -0.01, N/A)	1088.2	N/A	0.8810 [1.0000]	88.1% { 82.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 667937	(8.10, N/A) (N/A, -0.01, N/A)	1560.0	N/A	0.9132 [1.0000]	91.3% { 72.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 699495	(8.59, N/A) (N/A, -0.01, N/A)	1391.0	N/A	0.9617 [1.0000]	96.2% { 75.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-04
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (63)
 Acquired: 2023/02/24 - 11:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 617520	(8.89, N/A) (N/A, -0.01, N/A)	1776.7	N/A	0.9899 [1.0000]	99.0% { 74.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 627658	(9.26, N/A) (N/A, -0.01, N/A)	1869.0	N/A	1.0981 [1.0000]	109.8% { 80.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4141182	(5.38, N/A) (N/A, -0.02, N/A)	2188.0	N/A	1.9511 [2.0000]	97.6% { 85.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2000383	(7.07, N/A) (N/A, -0.01, N/A)	2065.5	N/A	1.8145 [2.0000]	90.7% { 82.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4182429	(8.30, N/A) (N/A, -0.01, N/A)	813.1	N/A	1.9188 [2.0000]	95.9% { 79.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 507245	(5.16, N/A) (N/A, -0.02, N/A)	847.5	N/A	4.3297 [4.0000]	108.2% { 91.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 552970	(6.67, N/A) (N/A, 0.00, N/A)	1473.6	N/A	4.2999 [4.0000]	107.5% { 80.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1142664	(7.84, N/A) (N/A, -0.01, N/A)	1996.5	N/A	6.2892 [4.0000]	157.2% { 134.1% }			S2,
13C8_PFOsa_EIS	(506.0 / 78.0) 6275347	(9.83, N/A) (N/A, 0.00, N/A)	3208.1	N/A	1.5510 [2.0000]	77.5% { 69.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1064210	(10.41, N/A) (N/A, 0.00, N/A)	2367.7	N/A	1.1164 [2.0000]	55.8% { 54.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 936420	(10.56, N/A) (N/A, 0.00, N/A)	2911.7	N/A	1.0978 [2.0000]	54.9% { 52.2% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-04
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (63)
 Acquired: 2023/02/24 - 11:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1350100	(8.24, N/A) (N/A, -0.01, N/A)	1372.2	N/A	3.8275 [4.0000]	95.7% { 78.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1271945	(8.49, N/A) (N/A, 0.00, N/A)	58716.4	N/A	4.4038 [4.0000]	110.1% { 89.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3482123	(10.35, N/A) (N/A, 0.00, N/A)	2592.6	N/A	10.0195 [20.0000]	50.1% { 45.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5786521	(10.51, N/A) (N/A, 0.00, N/A)	2016.0	N/A	13.0016 [20.0000]	65.0% { 63.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3371650	(5.73, N/A) (N/A, -0.02, N/A)	2644.9	N/A	8.3264 [8.0000]	104.1% { 80.8% }			

FORM I ANALYSIS DATA SHEET

AF-RHMW16-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-05
		File ID:	S2023-02-23B (65)
Sampled:	02/21/23 14:55	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 12:07
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	575.6 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.69 U	1.4	0.69	0.18	
PFPEA	0.12 J	0.69	0.35	0.056	
PFHXA	0.17 U	0.35	0.17	0.048	IR2,
PFHPA	0.17 U	0.35	0.17	0.036	
PFOA	0.17 U	0.35	0.17	0.13	
PFNA	0.17 U	0.35	0.17	0.071	
PFDA	0.17 U	0.35	0.17	0.088	
PFUnA	0.17 U	0.35	0.17	0.14	
PFDOA	0.17 U	0.35	0.17	0.097	
PFTRDA	0.26 U	0.35	0.26	0.18	
PFTEDA	0.17 U	0.35	0.17	0.17	
PFBS	0.17 U	0.35	0.17	0.032	
PFPEs	0.17 U	0.35	0.17	0.054	
PFHXS	0.17 U	0.35	0.17	0.028	
PFHPS	0.17 U	0.35	0.17	0.045	
PFOS	0.17 U	0.35	0.17	0.055	
PFNS	0.17 U	0.35	0.17	0.11	
PFDS	0.17 U	0.35	0.17	0.13	
PFDOS	0.17 U	0.35	0.17	0.11	
4:2FTS	0.69 U	1.4	0.69	0.25	
6:2FTS	0.69 U	1.4	0.69	0.27	
8:2FTS	0.69 U	1.4	0.69	0.071	
PFOSA	0.17 U	0.35	0.17	0.090	
NMeFOSA	0.69 U	1.4	0.69	0.41	
NEtFOSA	0.69 U	1.4	0.69	0.36	
NMeFOSAA	0.17 U	0.35	0.17	0.092	
NEtFOSAA	0.17 U	0.35	0.17	0.10	
NMeFOSE	1.0 U	1.4	1.0	0.88	
NEtFOSE	1.0 U	1.4	1.0	0.91	
HFPO-DA	0.35 U	0.69	0.35	0.15	

FORM I ANALYSIS DATA SHEET

AF-RHMW16-WGN01LF-2302W3

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0155-05
		File ID:	S2023-02-23B (65)
Sampled:	02/21/23 14:55	Prepared:	02/22/23 15:43
		Analyzed:	02/24/23 12:07
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	575.6 mL / 2 mL	Instrument:	Saphira
Batch:	BCB0392	Sequence:	SC00790
		Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.35 U	0.69	0.35	0.11	
PFEESA	0.35 U	0.69	0.35	0.095	
PFMPA	0.35 U	0.69	0.35	0.047	
PFMBA	0.35 U	0.69	0.35	0.079	
NFDHA	0.35 U	0.69	0.35	0.26	
9CL-PF3ONS	0.35 U	0.69	0.35	0.18	
11CL-PF3OUDS	0.35 U	0.69	0.35	0.18	
3:3FTCA	0.69 U	1.4	0.69	0.50	
5:3FTCA	0.69 U	1.4	0.69	0.38	
7:3FTCA	0.69 U	1.4	0.69	0.48	



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-05
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (65)
 Acquired: 2023/02/24 - 12:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 9215	(3.56, 1.00) (-0.01, N/A, 0.0)	14.9	N/A 0.0 0.0	0.0331	N/A			
PFPeA	(263.0 / 219.0) 17243 (263.0 / 69.0) 533	(4.50, 1.00) (0.00, N/A, -7.0)	38.5 9.4	0.0309 288.7 256.6	0.0350	N/A			
PFHxA	(313.0 / 269.0) 7670 (313.0 / 119.0) 1250	(5.43, 1.00) (0.00, N/A, 2.7)	12.6 91.7	0.1630 163.7 157.3	0.0118	N/A			IR2,
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-05
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (65)
 Acquired: 2023/02/24 - 12:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 4592 (299.0 / 99.0) 2500	(5.39 , 1.00) (0.00 , N/A , -0.5)	16.6 45.3	0.5444 84.2 88.5	0.0034	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-05
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (65)
 Acquired: 2023/02/24 - 12:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 284	(N/A, N/A) (N/A, N/A, N/A)	N/A 21.8	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) 310934	(3.56, N/A) (N/A, 0.08, N/A)	2225.8	N/A	1.3882 [1.0000]	138.8% { 113.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 540731	(5.43, N/A) (N/A, 0.00, N/A)	2297.4	N/A	1.0712 [1.0000]	107.1% { 101.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 802085	(6.93, N/A) (N/A, -0.01, N/A)	2694.1	N/A	1.2656 [1.0000]	126.6% { 112.8% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 733482	(7.54, N/A) (N/A, -0.01, N/A)	865.3	N/A	1.2138 [1.0000]	121.4% { 115.8% }			

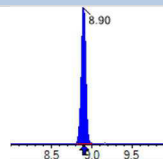
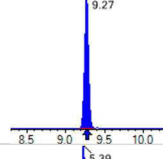
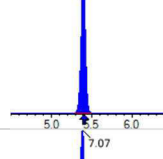
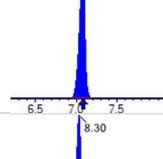
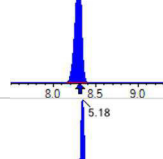
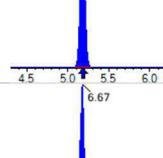
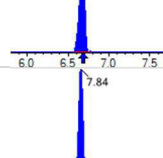
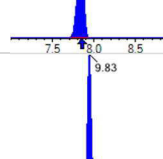
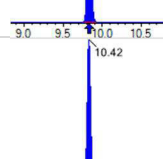
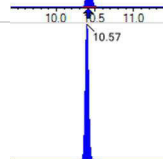
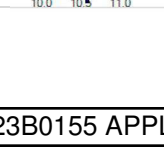


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-05
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (65)
 Acquired: 2023/02/24 - 12:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 722194	(8.10, N/A) (N/A, -0.01, N/A)	15730.6	N/A	1.2481 [1.0000]	124.8% { 114.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1119607	(7.07, N/A) (N/A, -0.01, N/A)	1468.6	N/A	1.3074 [1.0000]	130.7% { 104.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1811238	(8.30, N/A) (N/A, -0.01, N/A)	985.0	N/A	1.2032 [1.0000]	120.3% { 109.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2690121	(3.56, N/A) (N/A, 0.08, N/A)	6921.5	N/A	7.2735 [8.0000]	90.9% { 94.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2395090	(4.51, N/A) (N/A, 0.00, N/A)	3706.9	N/A	4.0483 [4.0000]	101.2% { 87.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1481056	(5.43, N/A) (N/A, 0.00, N/A)	1673.3	N/A	1.9997 [2.0000]	100.0% { 91.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1275223	(6.24, N/A) (N/A, -0.01, N/A)	3021.1	N/A	1.9871 [2.0000]	99.4% { 83.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1463108	(6.93, N/A) (N/A, -0.01, N/A)	2255.9	N/A	1.6107 [2.0000]	80.5% { 86.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 595877	(7.54, N/A) (N/A, -0.01, N/A)	1168.5	N/A	0.7667 [1.0000]	76.7% { 79.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 819890	(8.10, N/A) (N/A, -0.01, N/A)	1029.0	N/A	0.9004 [1.0000]	90.0% { 88.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 755454	(8.59, N/A) (N/A, -0.01, N/A)	954.9	N/A	0.8343 [1.0000]	83.4% { 81.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 710175	(8.90, N/A) (N/A, 0.00, N/A)	1744.6	N/A	0.9145 [1.0000]	91.4% { 85.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 670953	(9.27, N/A) (N/A, 0.00, N/A)	940.6	N/A	0.9429 [1.0000]	94.3% { 85.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4342457	(5.39, N/A) (N/A, 0.00, N/A)	3255.2	N/A	1.8532 [2.0000]	92.7% { 89.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2078050	(7.07, N/A) (N/A, -0.01, N/A)	1473.4	N/A	1.7074 [2.0000]	85.4% { 85.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4563149	(8.30, N/A) (N/A, -0.01, N/A)	1798.9	N/A	1.8351 [2.0000]	91.8% { 86.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 553692	(5.18, N/A) (N/A, 0.00, N/A)	1476.0	N/A	4.2809 [4.0000]	107.0% { 99.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 550192	(6.67, N/A) (N/A, 0.00, N/A)	5318.2	N/A	3.8752 [4.0000]	96.9% { 80.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 743987	(7.84, N/A) (N/A, -0.01, N/A)	1316.6	N/A	3.7091 [4.0000]	92.7% { 87.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7228401	(9.83, N/A) (N/A, 0.00, N/A)	3274.7	N/A	1.5660 [2.0000]	78.3% { 79.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 923889	(10.42, N/A) (N/A, 0.00, N/A)	2166.6	N/A	0.8496 [2.0000]	42.5% { 47.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 736782	(10.57, N/A) (N/A, 0.01, N/A)	3218.3	N/A	0.7571 [2.0000]	37.9% { 41.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: 23B0155-05
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (65)
 Acquired: 2023/02/24 - 12:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1390617	(8.24, N/A) (N/A, 0.00, N/A)	1533.1	N/A	3.4558 [4.0000]	86.4% { 80.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1260073	(8.49, N/A) (N/A, 0.00, N/A)	100698.6	N/A	3.8243 [4.0000]	95.6% { 88.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3233790	(10.36, N/A) (N/A, 0.01, N/A)	2055.4	N/A	8.1567 [20.0000]	40.8% { 42.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5402564	(10.51, N/A) (N/A, 0.01, N/A)	2391.7	N/A	10.6409 [20.0000]	53.2% { 58.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3594681	(5.74, N/A) (N/A, -0.01, N/A)	2670.7	N/A	7.9711 [8.0000]	99.6% { 86.1% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-HDMW225303-WGN01LF-2302W3 (23B0155-01) ng/L				Lab File ID: S2023-02-23B (57)
				Analyzed: 02/24/23 10:24
13C4-PFBA	28.8	91.3	10 - 130	
13C5-PFPEA	14.4	98.9	35 - 150	
13C5-PFHXA	7.19	92.4	55 - 150	
13C4-PFHPA	7.19	88.8	55 - 150	
13C8-PFOA	7.19	84.7	60 - 140	
13C9-PFNA	3.59	86.1	55 - 140	
13C6-PFDA	3.59	94.1	50 - 140	
13C7-PFUnA	3.59	92.1	30 - 140	
13C2-PFDOA	3.59	93.0	10 - 150	
13C2-PFTEDA	3.59	96.1	10 - 130	
13C3-PFBS	7.19	106	55 - 150	
13C3-PFHXS	7.19	94.3	55 - 150	
13C8-PFOS	7.19	87.1	45 - 140	
13C2-4:2FTS	14.4	116	60 - 200	
13C2-6:2FTS	14.4	102	60 - 200	
13C2-8:2FTS	14.4	93.7	50 - 200	
13C8-PFOSA	7.19	74.8	30 - 130	
D3-NMEFOSA	7.19	40.3	15 - 130	
D5-NETFOSA	7.19	36.6	10 - 130	
D3-NMEFOSAA	14.4	83.9	45 - 200	
D5-NETFOSAA	14.4	86.5	10 - 200	
D7-NMEFOSE	71.9	37.3	10 - 150	
D9-NETFOSSE	71.9	50.1	10 - 150	
13C3-HFPO-DA	28.8	92.5	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW10-WGN01LF-2302W3 (23B0155-02) ng/L		Lab File ID: S2023-02-23B (59)		Analyzed: 02/24/23 10:50
13C4-PFBA	28.6	90.2	10 - 130	
13C5-PFPEA	14.3	91.9	35 - 150	
13C5-PFHXA	7.16	86.0	55 - 150	
13C4-PFHPA	7.16	89.6	55 - 150	
13C8-PFOA	7.16	83.0	60 - 140	
13C9-PFNA	3.58	80.5	55 - 140	
13C6-PFDA	3.58	83.0	50 - 140	
13C7-PFUnA	3.58	80.1	30 - 140	
13C2-PFDOA	3.58	81.9	10 - 150	
13C2-PFTEDA	3.58	88.0	10 - 130	
13C3-PFBS	7.16	104	55 - 150	
13C3-PFHXS	7.16	96.8	55 - 150	
13C8-PFOS	7.16	88.6	45 - 140	
13C2-4:2FTS	14.3	129	60 - 200	
13C2-6:2FTS	14.3	119	60 - 200	
13C2-8:2FTS	14.3	97.0	50 - 200	
13C8-PFOSA	7.16	76.4	30 - 130	
D3-NMEFOSA	7.16	38.9	15 - 130	
D5-NETFOSA	7.16	35.2	10 - 130	
D3-NMEFOSAA	14.3	90.2	45 - 200	
D5-NETFOSAA	14.3	90.9	10 - 200	
D7-NMEFOSE	71.6	40.4	10 - 150	
D9-NETFOSSE	71.6	54.0	10 - 150	
13C3-HFPO-DA	28.6	93.0	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW12A-WGN01LF-2302W3 (23B0155-03) ng/L		Lab File ID: S2023-02-23B (61)		Analyzed: 02/24/23 11:15
13C4-PFBA	29.2	86.8	10 - 130	
13C5-PFPEA	14.6	105	35 - 150	
13C5-PFHXA	7.31	101	55 - 150	
13C4-PFHFA	7.31	97.5	55 - 150	
13C8-PFOA	7.31	85.9	60 - 140	
13C9-PFNA	3.66	90.1	55 - 140	
13C6-PFDA	3.66	88.0	50 - 140	
13C7-PFUnA	3.66	83.2	30 - 140	
13C2-PFDOA	3.66	96.4	10 - 150	
13C2-PFTEDA	3.66	98.6	10 - 130	
13C3-PFBS	7.31	88.3	55 - 150	
13C3-PFHXS	7.31	84.1	55 - 150	
13C8-PFOS	7.31	89.5	45 - 140	
13C2-4:2FTS	14.6	110	60 - 200	
13C2-6:2FTS	14.6	97.1	60 - 200	
13C2-8:2FTS	14.6	155	50 - 200	
13C8-PFOSA	7.31	73.8	30 - 130	
D3-NMEFOSA	7.31	51.4	15 - 130	
D5-NETFOSA	7.31	46.4	10 - 130	
D3-NMEFOSAA	14.6	87.0	45 - 200	
D5-NETFOSAA	14.6	92.9	10 - 200	
D7-NMEFOSE	73.1	47.6	10 - 150	
D9-NETFOSSE	73.1	60.6	10 - 150	
13C3-HFPO-DA	29.2	104	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW12A-WGFD01LF-2302W3 (23B0155-04) ng/L		Lab File ID: S2023-02-23B (63)		Analyzed: 02/24/23 11:41
13C4-PFBA	28.5	91.4	10 - 130	
13C5-PFPEA	14.2	103	35 - 150	
13C5-PFHXA	7.12	100	55 - 150	
13C4-PFHPA	7.12	101	55 - 150	
13C8-PFOA	7.12	85.2	60 - 140	
13C9-PFNA	3.56	88.1	55 - 140	
13C6-PFDA	3.56	91.3	50 - 140	
13C7-PFUnA	3.56	96.2	30 - 140	
13C2-PFDOA	3.56	99.0	10 - 150	
13C2-PFTEDA	3.56	110	10 - 130	
13C3-PFBS	7.12	97.6	55 - 150	
13C3-PFHXS	7.12	90.7	55 - 150	
13C8-PFOS	7.12	95.9	45 - 140	
13C2-4:2FTS	14.2	108	60 - 200	
13C2-6:2FTS	14.2	107	60 - 200	
13C2-8:2FTS	14.2	157	50 - 200	
13C8-PFOSA	7.12	77.5	30 - 130	
D3-NMEFOSA	7.12	55.8	15 - 130	
D5-NETFOSA	7.12	54.9	10 - 130	
D3-NMEFOSAA	14.2	95.7	45 - 200	
D5-NETFOSAA	14.2	110	10 - 200	
D7-NMEFOSE	71.2	50.1	10 - 150	
D9-NETFOSE	71.2	65.0	10 - 150	
13C3-HFPO-DA	28.5	104	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW16-WGN01LF-2302W3 (23B0155-05) ng/L		Lab File ID: S2023-02-23B (65)		Analyzed: 02/24/23 12:07
13C4-PFBA	27.8	90.9	10 - 130	
13C5-PFPEA	13.9	101	35 - 150	
13C5-PFHXA	6.95	100	55 - 150	
13C4-PFHFA	6.95	99.4	55 - 150	
13C8-PFOA	6.95	80.5	60 - 140	
13C9-PFNA	3.47	76.7	55 - 140	
13C6-PFDA	3.47	90.0	50 - 140	
13C7-PFUnA	3.47	83.4	30 - 140	
13C2-PFDOA	3.47	91.4	10 - 150	
13C2-PFTEDA	3.47	94.3	10 - 130	
13C3-PFBS	6.95	92.7	55 - 150	
13C3-PFHXS	6.95	85.4	55 - 150	
13C8-PFOS	6.95	91.8	45 - 140	
13C2-4:2FTS	13.9	107	60 - 200	
13C2-6:2FTS	13.9	96.9	60 - 200	
13C2-8:2FTS	13.9	92.7	50 - 200	
13C8-PFOSA	6.95	78.3	30 - 130	
D3-NMEFOSA	6.95	42.5	15 - 130	
D5-NETFOSA	6.95	37.9	10 - 130	
D3-NMEFOSAA	13.9	86.4	45 - 200	
D5-NETFOSAA	13.9	95.6	10 - 200	
D7-NMEFOSE	69.5	40.8	10 - 150	
D9-NETFOSSE	69.5	53.2	10 - 150	
13C3-HFPO-DA	27.8	99.6	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCB0392-BLK1) . ng/L	Lab File ID: S2023-02-23B (50)			Analyzed: 02/24/23 08:54
13C4-PFBA	32.0	101	10 - 130	
13C5-PFPEA	16.0	102	35 - 150	
13C5-PFHXA	8.00	98.0	55 - 150	
13C4-PFHPA	8.00	100	55 - 150	
13C8-PFOA	8.00	92.9	60 - 140	
13C9-PFNA	4.00	83.4	55 - 140	
13C6-PFDA	4.00	86.4	50 - 140	
13C7-PFUnA	4.00	90.4	30 - 140	
13C2-PFDOA	4.00	89.5	10 - 150	
13C2-PFTEDA	4.00	96.2	10 - 130	
13C3-PFBS	8.00	98.0	55 - 150	
13C3-PFHXS	8.00	94.4	55 - 150	
13C8-PFOS	8.00	88.8	45 - 140	
13C2-4:2FTS	16.0	110	60 - 200	
13C2-6:2FTS	16.0	97.6	60 - 200	
13C2-8:2FTS	16.0	86.6	50 - 200	
13C8-PFOSA	8.00	75.3	30 - 130	
D3-NMEFOSA	8.00	40.8	15 - 130	
D5-NETFOSA	8.00	42.5	10 - 130	
D3-NMEFOSAA	16.0	78.0	45 - 200	
D5-NETFOSAA	16.0	82.2	10 - 200	
D7-NMEFOSE	80.0	42.9	10 - 150	
D9-NETFOSE	80.0	58.5	10 - 150	
13C3-HFPO-DA	32.0	99.1	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCB0392-BS1) . ng/L	Lab File ID: S2023-02-23B (51)			Analyzed: 02/24/23 09:06
13C4-PFBA	32.0	96.3	10 - 130	
13C5-PFPEA	16.0	98.4	35 - 150	
13C5-PFHXA	8.00	90.6	55 - 150	
13C4-PFHPA	8.00	97.0	55 - 150	
13C8-PFOA	8.00	101	60 - 140	
13C9-PFNA	4.00	101	55 - 140	
13C6-PFDA	4.00	89.6	50 - 140	
13C7-PFUnA	4.00	83.3	30 - 140	
13C2-PFDOA	4.00	91.5	10 - 150	
13C2-PFTEDA	4.00	102	10 - 130	
13C3-PFBS	8.00	97.9	55 - 150	
13C3-PFHXS	8.00	90.9	55 - 150	
13C8-PFOS	8.00	89.1	45 - 140	
13C2-4:2FTS	16.0	100	60 - 200	
13C2-6:2FTS	16.0	94.7	60 - 200	
13C2-8:2FTS	16.0	83.7	50 - 200	
13C8-PFOSA	8.00	75.0	30 - 130	
D3-NMEFOSA	8.00	39.9	15 - 130	
D5-NETFOSA	8.00	39.4	10 - 130	
D3-NMEFOSAA	16.0	83.2	45 - 200	
D5-NETFOSAA	16.0	84.5	10 - 200	
D7-NMEFOSE	80.0	46.7	10 - 150	
D9-NETFOSSE	80.0	61.5	10 - 150	
13C3-HFPO-DA	32.0	92.6	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
 Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCB0392-MRL1) . ng/L	Lab File ID: S2023-02-23B (52)		Analyzed: 02/24/23 09:19	
13C4-PFBA	32.0	95.0	10 - 130	
13C5-PFPEA	16.0	100	35 - 150	
13C5-PFHXA	8.00	97.7	55 - 150	
13C4-PFHPA	8.00	95.5	55 - 150	
13C8-PFOA	8.00	94.0	60 - 140	
13C9-PFNA	4.00	104	55 - 140	
13C6-PFDA	4.00	96.8	50 - 140	
13C7-PFUnA	4.00	93.5	30 - 140	
13C2-PFDOA	4.00	107	10 - 150	
13C2-PFTEDA	4.00	105	10 - 130	
13C3-PFBS	8.00	104	55 - 150	
13C3-PFHXS	8.00	98.2	55 - 150	
13C8-PFOS	8.00	90.6	45 - 140	
13C2-4:2FTS	16.0	117	60 - 200	
13C2-6:2FTS	16.0	109	60 - 200	
13C2-8:2FTS	16.0	87.5	50 - 200	
13C8-PFOSA	8.00	81.3	30 - 130	
D3-NMEFOSA	8.00	49.1	15 - 130	
D5-NETFOSA	8.00	51.5	10 - 130	
D3-NMEFOSAA	16.0	94.9	45 - 200	
D5-NETFOSAA	16.0	102	10 - 200	
D7-NMEFOSE	80.0	51.3	10 - 150	
D9-NETFOSSE	80.0	67.1	10 - 150	
13C3-HFPO-DA	32.0	96.9	25 - 160	

METHOD BLANK SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Blank ID:	BCB0392-BLK1	Batch:	BCB0392
		Prepared:	02/22/2023 15:43

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCB0392-BS1	S2023-02-23B (51)	09:06
MRL Check	BCB0392-MRL1	S2023-02-23B (52)	09:19
AF-HDMW225303-WGN01LF-2302W3	23B0155-01	S2023-02-23B (57)	10:24
AF-RHMW10-WGN01LF-2302W3	23B0155-02	S2023-02-23B (59)	10:50
AF-RHMW12A-WGN01LF-2302W3	23B0155-03	S2023-02-23B (61)	11:15
AF-RHMW12A-WGFD01LF-2302W3	23B0155-04	S2023-02-23B (63)	11:41
AF-RHMW16-WGN01LF-2302W3	23B0155-05	S2023-02-23B (65)	12:07

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BLK1
Sampled:		File ID:	S2023-02-23B (50)
Solids:		Prepared:	02/22/23 15:43
Batch:	BCB0392	Analyzed:	02/24/23 08:54
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2307007
		Instrument:	Saphira
		Sequence:	SC00790

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	0.20 U	0.40	0.20	0.064	MI2, U
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:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BLK1
Sampled:		Prepared:	02/22/23 15:43
Solids:		Preparation:	EPA 1633
Batch:	BCB0392	Sequence:	SC00790
Column:	1	Calibration:	2307007
			Instrument: Saphira
			File ID: S2023-02-23B (50)
			Analyzed: 02/24/23 08:54
			Dilution: 1

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

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23B0155

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Water

Preparation: EPA 1633

Batch: BCB0392

Laboratory ID: BCB0392-BS1

Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	17.6	110	58 - 148
PFPEA	8.00	9.02	113	54 - 152
PFHXA	4.00	4.34	108	55 - 152
PFHPA	4.00	4.01	100	54 - 154
PFOA	4.00	4.39	110	52 - 161
PFNA	4.00	4.82	121	59 - 149
PFDA	4.00	4.65	116	52 - 147
PFUnA	4.00	4.47	112	48 - 159
PFDOA	4.00	4.44	111	64 - 142
PFTRDA	4.00	4.81	120	49 - 148
PFTEDA	4.00	4.42	110	47 - 161
PFBS	3.54	3.46	97.6	62 - 144
PFPEs	3.76	4.00	106	59 - 151
PFHXS	3.66	3.75	102	57 - 146
PFHPS	3.82	4.42	116	55 - 152
PFOS	3.72	4.40	118	58 - 149
PFNS	3.84	4.07	106	52 - 148
PFDS	3.86	4.01	104	51 - 147
PFDOS	3.88	3.78	97.4	36 - 145
4:2FTS	15.0	19.2	128	67 - 146
6:2FTS	15.2	16.8	110	61 - 151
8:2FTS	15.4	19.1	124	63 - 152
PFOSA	4.00	4.97	124	61 - 148
NMeFOSA	16.0	17.0	106	63 - 145
NEtFOSA	16.0	19.2	120	65 - 139
NMeFOSAA	4.00	4.80	120	58 - 144
NEtFOSAA	4.00	4.04	101	59 - 146
NMeFOSE	16.0	18.3	115	71 - 136
NEtFOSE	16.0	17.8	111	69 - 137
HFPO-DA	8.00	8.67	108	63 - 144
ADONA	7.56	8.80	116	68 - 146
PFEESA	7.12	8.60	121	56 - 151
PFMPA	8.00	9.50	119	51 - 145
PFMBA	8.00	8.50	106	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory: APPL, LLC

Work Order: 23B0155

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Water

Preparation: EPA 1633

Batch: BCB0392

Laboratory ID: BCB0392-BS1

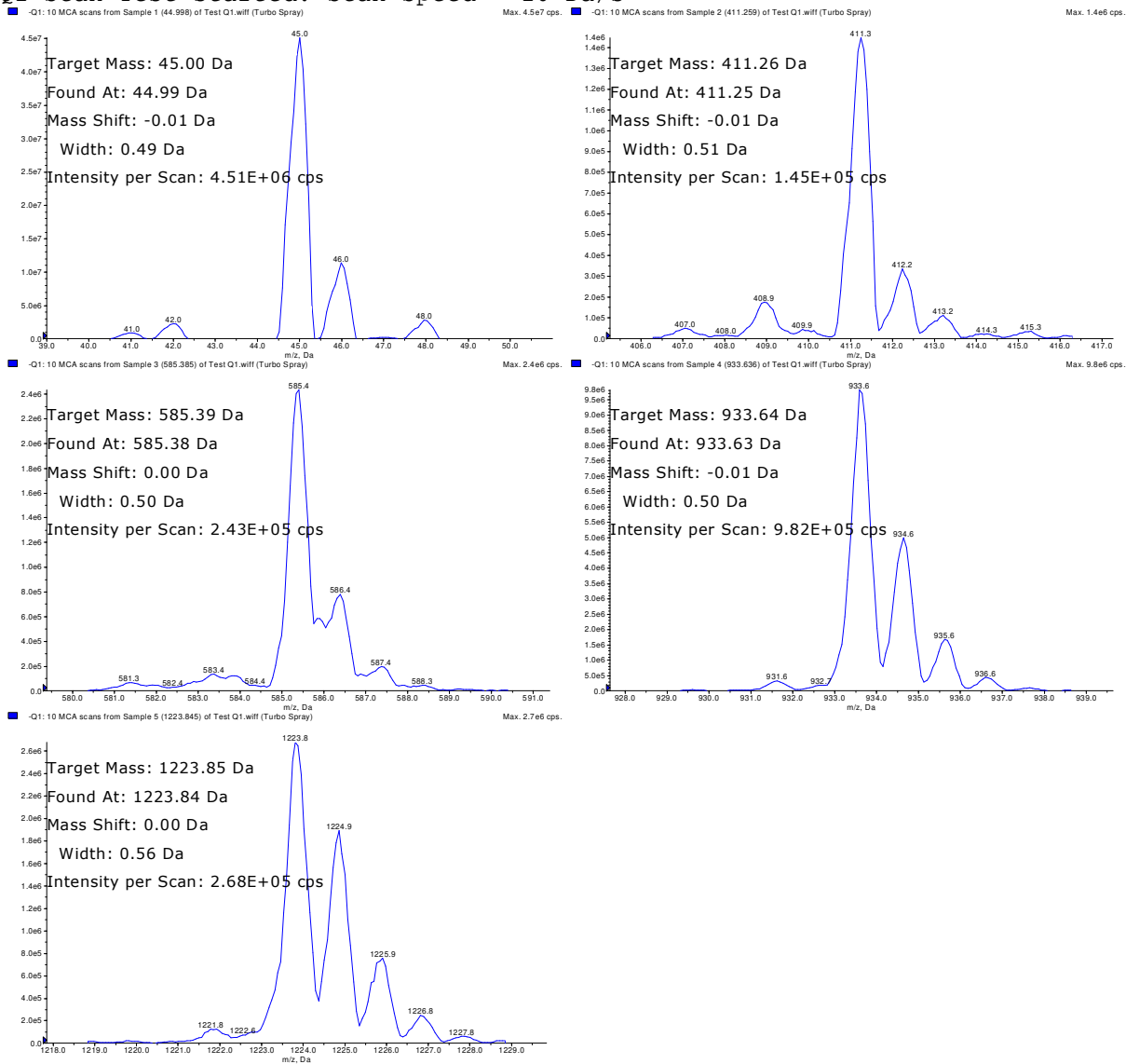
Column:

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	9.38	117	48 - 161
9CL-PF3ONS	7.48	7.98	107	56 - 156
11CL-PF3OUDS	7.56	8.23	109	46 - 156
3:3FTCA	16.0	19.2	120	62 - 129
5:3FTCA	16.0	16.4	103	63 - 134
7:3FTCA	16.0	17.3	108	50 - 138

CALIBRATION SUMMARY

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

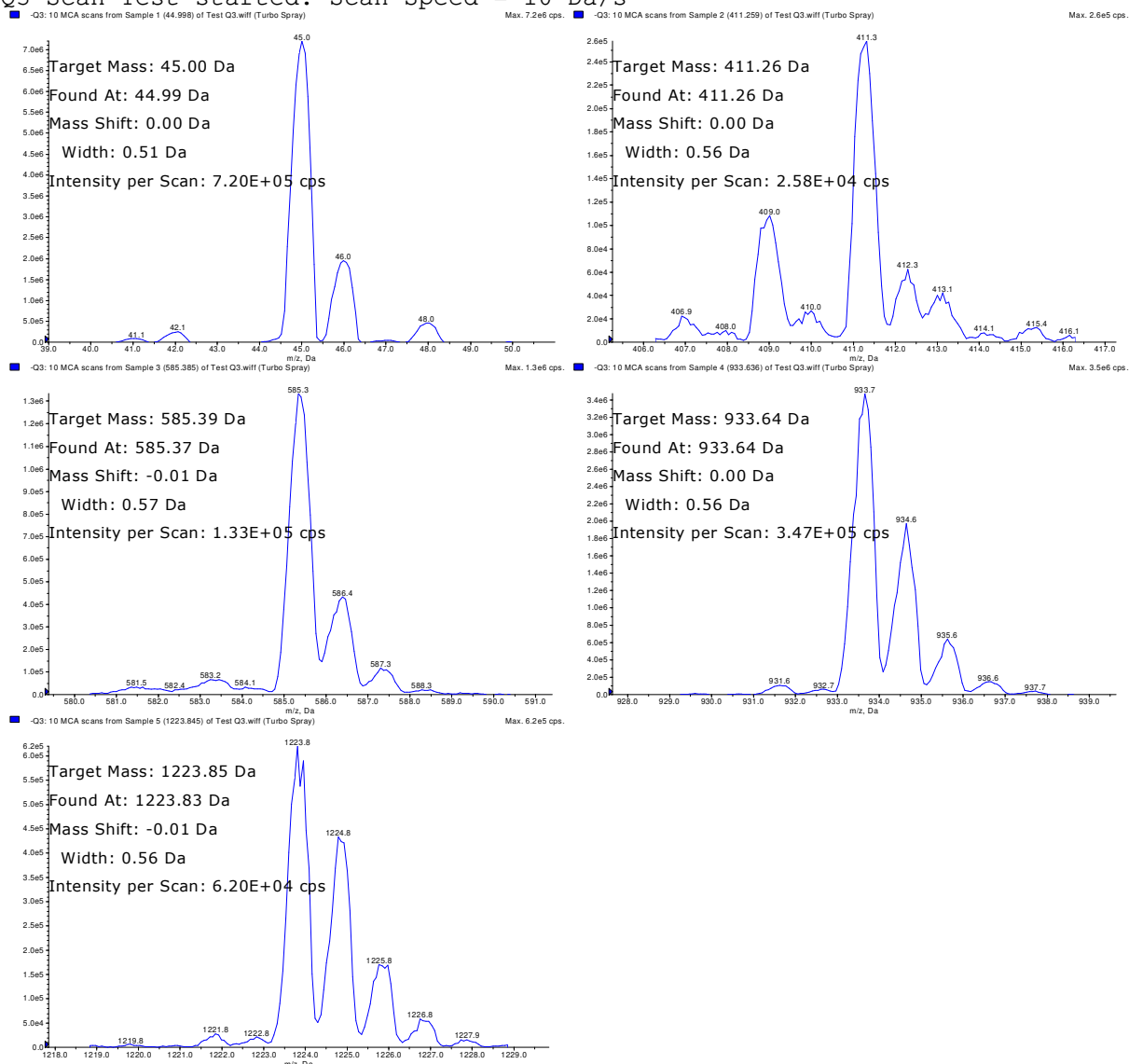
Q1 Scan Test started. Scan Speed = 10 Da/s



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

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.41417 x (std. dev. = 0.03642) (weighting: None)	%RSE=8.8
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.41137 x (std. dev. = 0.03924) (weighting: None)	%RSE=9.5
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.43957 x (std. dev. = 0.04840) (weighting: None)	%RSE=11.0
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.42221 x (std. dev. = 0.04136) (weighting: None)	%RSE=9.8
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.44519 x (std. dev. = 0.03337) (weighting: None)	%RSE=7.5
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.88477 x (std. dev. = 0.05485) (weighting: None)	%RSE=6.2
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.87964 x (std. dev. = 0.08735) (weighting: None)	%RSE=9.9
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.83084 x (std. dev. = 0.10366) (weighting: None)	%RSE=12.5
PFDaA	(613.0 / 569.0)	13C2_PFDaA_EIS	1.0000	1.0000	y = 0.87937 x (std. dev. = 0.06795) (weighting: None)	%RSE=7.7
PFTrDA	(663.0 / 619.0)	13C2_PFDaA_EIS	1.0000	1.0000	y = 0.79619 x (std. dev. = 0.07839) (weighting: None)	%RSE=9.8
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.86535 x (std. dev. = 0.04299) (weighting: None)	%RSE=5.0
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.27491 x (std. dev. = 0.02287) (weighting: None)	%RSE=8.3
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.90486 x (std. dev. = 0.09986) (weighting: None)	%RSE=11.0
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.70041 x (std. dev. = 0.05642) (weighting: None)	%RSE=8.1
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.36246 x (std. dev. = 0.04648) (weighting: None)	%RSE=12.8
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.48901 x (std. dev. = 0.04989) (weighting: None)	%RSE=10.2
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.56877 x (std. dev. = 0.05568) (weighting: None)	%RSE=9.8
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.62077 x (std. dev. = 0.05855) (weighting: None)	%RSE=9.4
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.39858 x (std. dev. = 0.05576) (weighting: None)	%RSE=14.0
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.55237 x (std. dev. = 0.26579) (weighting: None)	%RSE=10.4
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.34660 x (std. dev. = 0.14334) (weighting: None)	%RSE=10.6
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.04382 x (std. dev. = 0.12314) (weighting: None)	%RSE=11.8
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.39991 x (std. dev. = 0.04179) (weighting: None)	%RSE=10.4
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = -0.01499 x ² + 1.74034 x + -0.02935 (r = 0.99892) (weighting: 1 / x)	%RSE=7.9
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.86847 x (std. dev. = 0.19576) (weighting: None)	%RSE=10.5
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.19619 x (std. dev. = 0.01798) (weighting: None)	%RSE=9.2
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.20998 x (std. dev. = 0.01387) (weighting: None)	%RSE=6.6
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.19995 x (std. dev. = 0.01319) (weighting: None)	%RSE=6.6
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.19033 x (std. dev. = 0.01474) (weighting: None)	%RSE=7.7
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.19770 x (std. dev. = 0.01992) (weighting: None)	%RSE=10.1
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.64094 x (std. dev. = 0.09352) (weighting: None)	%RSE=14.6
9CI-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = -0.04473 x ² + 2.10957 x + -0.05721 (r = 0.99774) (weighting: 1 / x)	%RSE=10.3
11CI-Pf3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.04469 x (std. dev. = 0.11673) (weighting: None)	%RSE=11.2
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 1.86535e-4 x ² + 0.01946 x + -4.63779e-5 (r = 0.99934) (weighting: 1 / x)	%RSE=7.1
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.24044 x (std. dev. = 0.03492) (weighting: None)	%RSE=14.5
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.44417 x (std. dev. = 0.05674) (weighting: None)	%RSE=12.8
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.94250 x (std. dev. = 0.11701) (weighting: None)	%RSE=12.4
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.08985 x (std. dev. = 0.01015) (weighting: None)	%RSE=11.3
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.37681 x (std. dev. = 0.03401) (weighting: None)	%RSE=9.0
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.48796 x (std. dev. = 0.05376) (weighting: None)	%RSE=11.0
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 223990.8344 x	%RSD=15.7
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 504804.2832 x	%RSD=8.3
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 633776.3615 x	%RSD=10.0
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 604267.6924 x	%RSD=7.7

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 578638.3434 x	%RSD=6.0
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 856363.7448 x	%RSD=5.6
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 1505389.7322 x	%RSD=6.7
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 9.5160 x	%RSD=6.0
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 4.3765 x	%RSD=12.0
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.7395 x	%RSD=10.4
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.3736 x	%RSD=9.3
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.2651 x	%RSD=10.4
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0595 x	%RSD=8.0
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2608 x	%RSD=10.3
13C7_PFUxA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2538 x	%RSD=12.9
13C2_PFDxA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.0753 x	%RSD=12.1
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 0.9853 x	%RSD=8.1
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 4.1858 x	%RSD=8.8
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.1742 x	%RSD=6.1
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.7457 x	%RSD=8.1
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4621 x	%RSD=6.6
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5072 x	%RSD=8.2
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.7166 x	%RSD=12.2
13C8_PFOSA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 5.0967 x	%RSD=12.6
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.2008 x	%RSD=7.5
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.0745 x	%RSD=15.8
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.8887 x	%RSD=7.4
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.7277 x	%RSD=6.9
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 4.3778 x	%RSD=11.4
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 5.6063 x	%RSD=15.4
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 6.6719 x	%RSD=9.1

x=Concentration Analyte

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

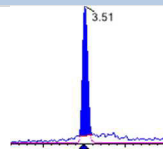
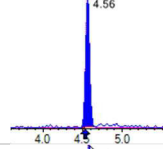
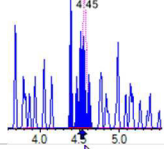
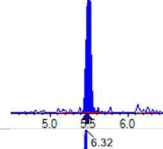
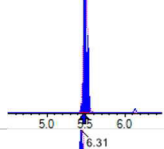
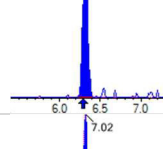
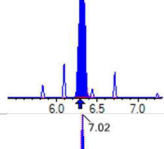
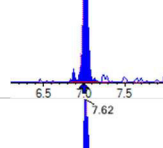
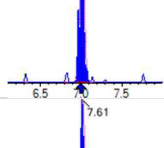
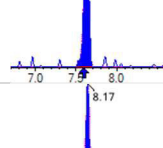
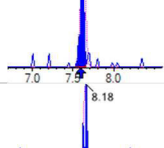
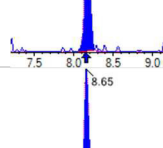
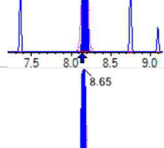
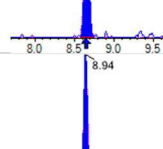
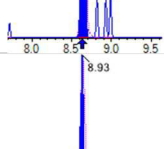
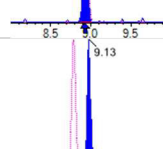
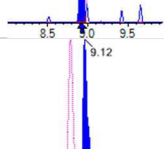
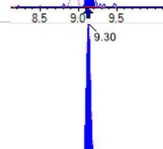
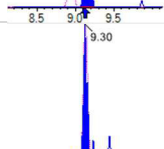
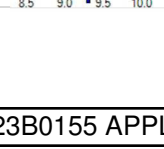
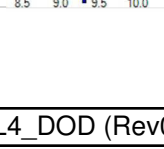
$$\text{Acid Factor} = \frac{\text{Molecular weight Acid}}{\text{Molecular weight Salt}}$$

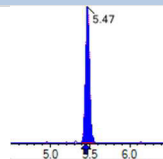
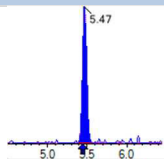
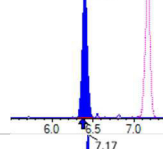
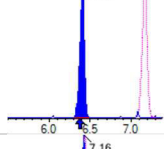
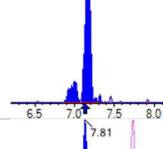
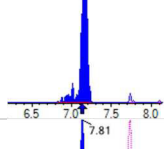
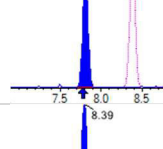
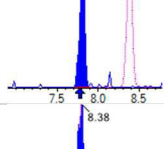
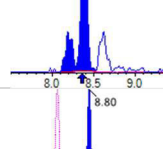
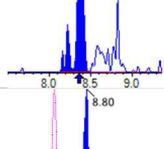
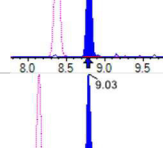
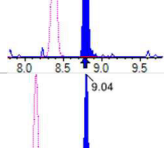
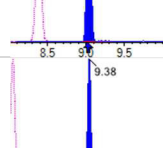
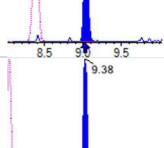
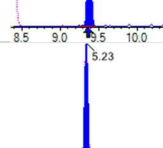
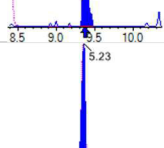
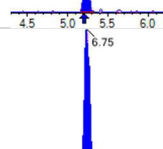
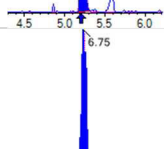
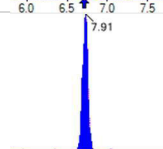
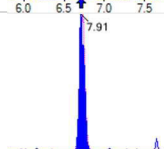
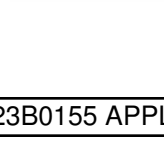
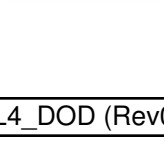
$$\text{Multiplier} = \frac{\text{Concentration of Analyte}}{\text{Concentration of PFOA}} \text{ in curve standard mix}$$

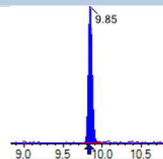
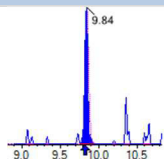
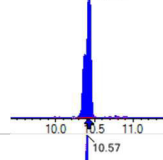
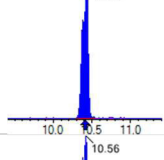
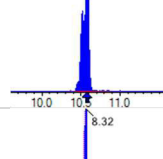
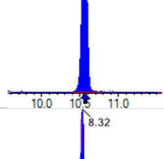
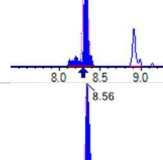
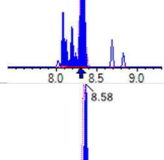
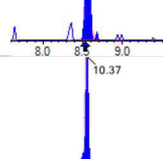
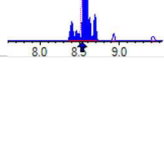
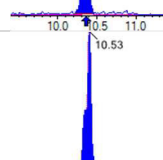
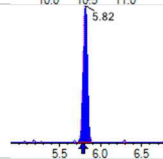
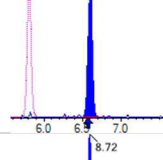
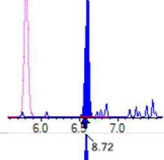
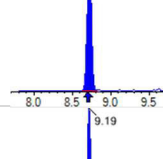
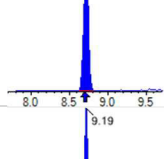
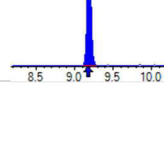
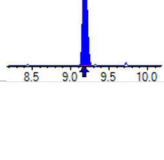
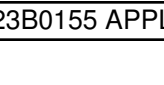
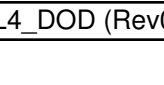
$$\text{Result} \left(\frac{\text{ng}}{\text{mL}} \right) = x * \text{Multiplier} * \text{Acid Factor}$$

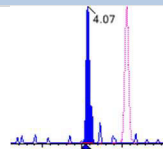
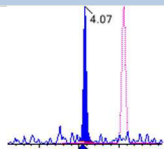
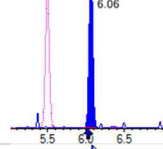
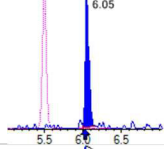
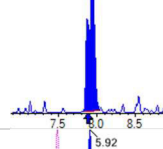
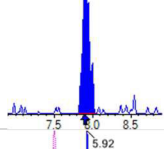
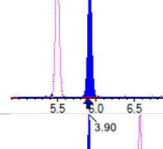
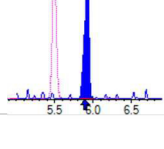
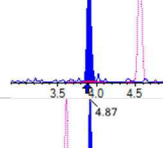
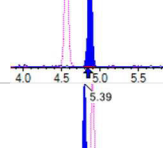
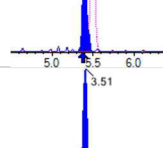
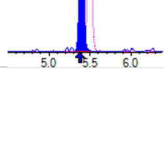
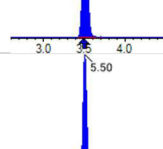
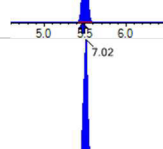
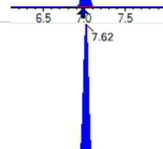
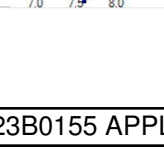
EPA 1633

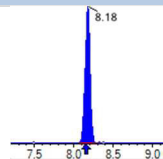
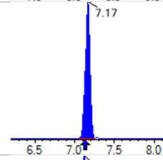
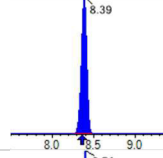
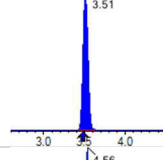
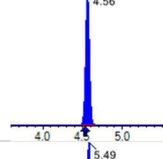
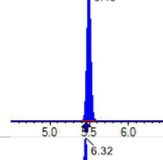
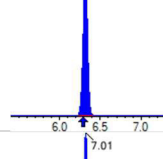
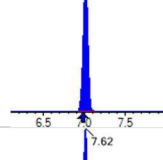
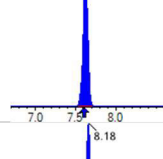
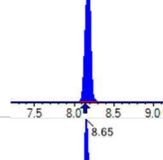
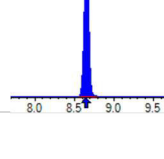
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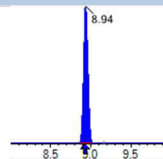
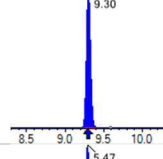
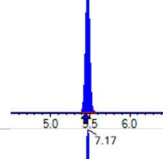
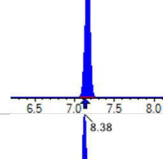
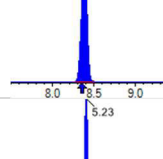
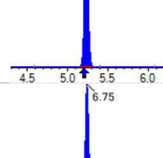
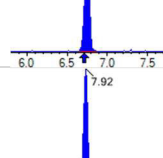
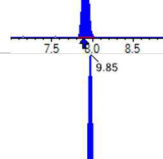
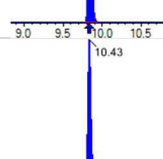
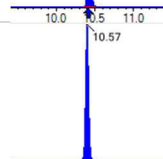
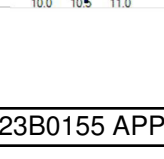
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 89209	(3.51, 1.00) (0.00, N/A, 0.0)	76.9	N/A 0.0 0.0	0.3517 [0.4000]	87.9%			
PFPeA	(263.0 / 219.0) 89024 (263.0 / 69.0) 1335	(4.56, 1.00) (0.00, N/A, 6.9)	310.9 5964.0	0.0150 140.0 140.0	0.1743 [0.2000]	87.2%			
PFHxA	(313.0 / 269.0) 59236 (313.0 / 119.0) 7304	(5.50, 1.00) (0.00, N/A, 0.5)	372.7 42522.7	0.1233 123.8 123.8	0.0903 [0.1000]	90.3%			
PFHpA	(363.0 / 319.0) 51122 (363.0 / 169.0) 17342	(6.32, 1.00) (0.00, N/A, 0.3)	55898.0 812.6	0.3392 105.8 105.8	0.0951 [0.1000]	95.1%			
PFOA	(413.0 / 369.0) 70061 (413.0 / 169.0) 21539	(7.02, 1.00) (0.00, N/A, 0.1)	656.9 1399.5	0.3074 91.9 91.9	0.1047 [0.1000]	104.7%			
PFNA	(463.0 / 419.0) 54818 (463.0 / 169.0) 11781	(7.62, 1.00) (0.00, N/A, 0.7)	5330.4 644.4	0.2149 96.0 96.0	0.0937 [0.1000]	93.7%			
PFDA	(513.0 / 469.0) 56800 (513.0 / 169.0) 4296	(8.17, 1.00) (0.00, N/A, -0.7)	157.8 6379.1	0.0756 62.2 62.2	0.0887 [0.1000]	88.7%			
PFUnA	(563.0 / 519.0) 60153 (563.0 / 169.0) 5180	(8.65, 1.00) (0.00, N/A, 0.4)	229.8 793.8	0.0861 82.1 82.1	0.0873 [0.1000]	87.3%			
PFDoA	(613.0 / 569.0) 63649 (613.0 / 169.0) 8537	(8.94, 1.00) (0.00, N/A, 0.4)	581.7 121.0	0.1341 82.0 82.0	0.0963 [0.1000]	96.3%			
PFTrDA	(663.0 / 619.0) 62304 (663.0 / 169.0) 19614	(9.13, 1.02) (N/A, 0.01, 0.6)	434.9 11588627.4	0.3148 131.7 131.7	0.1041 [0.1000]	104.1%			
PFTeDA	(713.0 / 669.0) 49918 (713.0 / 169.0) 13191	(9.30, 1.00) (0.00, N/A, 0.1)	460.4 598.4	0.2643 127.9 127.9	0.0964 [0.1000]	96.4%			

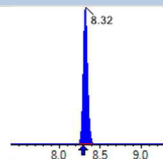
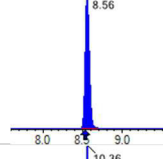
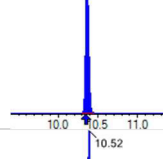
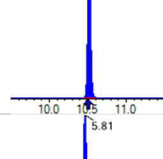
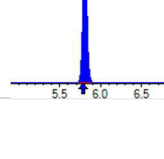
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-Imin, Δ RT-CVmin, Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 104864 (299.0 / 99.0) 61681	(5.47, 1.00) (0.00, N/A, 0.0)	937.2 202.1	0.5882 91.0 91.0	0.0900 [0.0885]	101.8%			
PFPeS	(349.0 / 80.0) 165326 (349.0 / 99.0) 57545	(6.40, 0.89) (N/A, 0.03, -0.4)	1188.9 210907.1	0.3481 97.5 97.5	0.0881 [0.0938]	93.9%			
PFHxS	(399.0 / 80.0) 142609 (399.0 / 99.0) 51178	(7.17, 1.00) (0.00, N/A, 0.2)	2284.2 5030.8	0.3589 110.5 110.5	0.0953 [0.0911]	104.6%			
PFHpS	(449.0 / 80.0) 143003 (449.0 / 99.0) 48860	(7.81, 0.93) (N/A, 0.03, -0.1)	1479.4 20139600.5	0.3417 125.5 125.5	0.0859 [0.0951]	90.3%			
PFOS	(499.0 / 80.0) 240900 (499.0 / 99.0) 55675	(8.39, 1.00) (0.00, N/A, 0.4)	144.5 95.1	0.2311 104.4 104.4	0.1046 [0.0927]	112.7%			
PFNS	(549.0 / 80.0) 267881 (549.0 / 99.0) 72412	(8.80, 1.05) (N/A, 0.02, 0.1)	2678.9 730.3	0.2703 123.3 123.3	0.1035 [0.0960]	107.8%			
PFDS	(599.0 / 80.0) 266169 (599.0 / 99.0) 60916	(9.03, 1.08) (N/A, 0.01, -0.5)	821.7 424.5	0.2289 105.0 105.0	0.0945 [0.0963]	98.1%			
PFDoS	(699.0 / 80.0) 164788 (699.0 / 99.0) 41858	(9.38, 1.12) (N/A, 0.02, 0.2)	625.6 256.9	0.2540 122.0 122.0	0.0917 [0.0970]	94.6%			
4:2FTS	(327.0 / 307.0) 100994 (327.0 / 81.0) 64806	(5.23, 1.00) (0.00, N/A, -0.2)	587.5 260.2	0.6417 95.1 95.1	0.3649 [0.3738]	97.6%			
6:2FTS	(427.0 / 407.0) 52063 (427.0 / 81.0) 50004	(6.75, 1.00) (0.00, N/A, 0.0)	1057.7 255.3	0.9604 116.0 116.0	0.3227 [0.3796]	85.0%			
8:2FTS	(527.0 / 507.0) 54092 (527.0 / 81.0) 51796	(7.91, 1.00) (0.00, N/A, 0.5)	22137206.7 343.8	0.9576 115.2 115.2	0.2983 [0.3833]	77.8%			

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) 326059 (498.0 / 478.0) 6395	(9.85, 1.00) (0.00, N/A, 0.5)	435.1 92.9	0.0196 95.5 95.5	0.0981 [0.1000]	98.1%			
NMeFOSA	(512.0 / 219.0) 311700 (512.0 / 169.0) 251496	(10.43, 1.00) (0.00, N/A, 0.8)	910.7 988.1	0.8069 98.5 98.5	0.4355 [0.4000]	108.9%			
NEIFOSA	(526.0 / 219.0) 325495 (526.0 / 169.0) 402906	(10.57, 1.00) (0.00, N/A, 0.8)	1489.9 1292.0	1.2378 97.5 97.5	0.3950 [0.4000]	98.7%			
NMeFOSAA	(570.0 / 419.0) 31281 (570.0 / 483.0) 12615	(8.32, 1.00) (0.01, N/A, 0.0)	81874.8 66.4	0.4033 85.0 85.0	0.1066 [0.1000]	106.6%			
NEIFOSAA	(584.0 / 419.0) 23406 (584.0 / 526.0) 18199	(8.56, 1.00) (0.01, N/A, -0.8)	455204.0 175.6	0.7775 152.4 152.4	0.0995 [0.1000]	99.5%			IR2,
NMeFOSE	(616.0 / 59.0) 145674	(10.37, 1.00) (0.01, N/A, 0.0)	321.7	N/A 0.0 0.0	0.4009 [0.4000]	100.2%			
NEtFOSE	(630.0 / 59.0) 156006	(10.53, 1.00) (0.01, N/A, 0.0)	279.4	N/A 0.0 0.0	0.4008 [0.4000]	100.2%			
HFPO-DA	(285.0 / 169.0) 66037 (285.0 / 185.0) 177079	(5.82, 1.00) (0.01, N/A, 0.3)	708.1 472.4	2.6815 97.4 97.4	0.1832 [0.2000]	91.6%			
ADONA	(377.0 / 85.0) 224483 (377.0 / 251.0) 22053	(6.60, 1.14) (N/A, 0.03, 0.0)	373.1 122.9	0.0982 111.4 111.4	0.1811 [0.1885]	96.0%			
9CI-Pf3ONS	(531.0 / 351.0) 629773 (533.0 / 353.0) 194028	(8.72, 1.50) (N/A, 0.03, 0.2)	557.7 584.4	0.3081 88.5 88.5	0.2039 [0.1867]	109.2%			
11CI-PF3OUDS	(631.0 / 451.0) 362238 (633.0 / 453.0) 128996	(9.19, 1.58) (N/A, 0.02, -0.1)	784.7 5104.8	0.3561 98.4 98.4	0.1793 [0.1886]	95.1%			

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) 4574 (241.0 / 117.0) 6911	(4.07, 0.89) (N/A, 0.03, -0.1)	137.7 66.2	1.5109 95.7 95.7	0.3879 [0.4000]	97.0%			
5:3FTCA	(341.0 / 236.7) 36025 (341.0 / 217.0) 50605	(6.06, 1.10) (N/A, 0.04, 0.9)	289.4 119.0	1.4047 82.4 82.4	0.4014 [0.4000]	100.3%			
7:3FTCA	(441.0 / 317.0) 64735 (441.0 / 337.0) 54368	(7.93, 1.44) (N/A, 0.05, 0.7)	93.1 99.2	0.8399 97.6 97.6	0.3904 [0.4000]	97.6%			
PFEESA	(315.0 / 135.0) 130937 (315.0 / 83.0) 37471	(5.92, 1.08) (N/A, 0.03, -0.2)	767.3 153.5	0.2862 112.0 112.0	0.1661 [0.1785]	93.0%			
PFMPA	(229.0 / 85.0) 18495	(3.90, 0.86) (N/A, 0.02, 0.0)	183.4	N/A 0.0 0.0	0.1658 [0.2000]	82.9%			
PFMBA	(279.0 / 85.0) 92630	(4.87, 1.07) (N/A, 0.03, 0.0)	415.5	N/A 0.0 0.0	0.1980 [0.2000]	99.0%			
NFDHA	(295.0 / 201.0) 67723 (295.0 / 85.0) 57064	(5.39, 0.98) (N/A, 0.02, -0.5)	301.0 266.7	0.8426 84.2 84.2	0.1859 [0.2000]	93.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 254010	(3.51, N/A) (N/A, 0.02, N/A)	1726.7	N/A	1.1340 [1.0000]	113.4% {112.7%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 577490	(5.50, N/A) (N/A, 0.03, N/A)	3009.2	N/A	1.1440 [1.0000]	114.4% {120.3%}			
13C4_PFOA_IIS	(417.0 / 372.0) 690977	(7.02, N/A) (N/A, 0.04, N/A)	1738.7	N/A	1.0903 [1.0000]	109.0% {116.4%}			
13C5_PFNA_IIS	(468.0 / 423.0) 636163	(7.62, N/A) (N/A, 0.03, N/A)	4733.4	N/A	1.0528 [1.0000]	105.3% {107.3%}			

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) 593318	(8.18, N/A) (N/A, 0.03, N/A)	1103.0	N/A	1.0254 [1.0000]	102.5% {109.0%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 870629	(7.17, N/A) (N/A, 0.04, N/A)	3746.4	N/A	1.0167 [1.0000]	101.7% {103.1%}			
13C4_PFOS_IIS	(503.0 / 79.9) 1609689	(8.39, N/A) (N/A, 0.03, N/A)	1109.3	N/A	1.0693 [1.0000]	106.9% {106.5%}			
13C4_PFBA_EIS	(217.0 / 172.0) 2449883	(3.51, N/A) (N/A, 0.02, N/A)	4854.2	N/A	8.1084 [8.0000]	101.4% {104.9%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 2482651	(4.56, N/A) (N/A, 0.03, N/A)	4201.2	N/A	3.9292 [4.0000]	98.2% {102.6%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 1493141	(5.49, N/A) (N/A, 0.03, N/A)	4148.5	N/A	1.8876 [2.0000]	94.4% {97.3%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 1272791	(6.32, N/A) (N/A, 0.03, N/A)	2795.4	N/A	1.8571 [2.0000]	92.9% {100.7%}			
13C8_PFOA_EIS	(421.0 / 376.0) 1503687	(7.01, N/A) (N/A, 0.03, N/A)	2224.2	N/A	1.9215 [2.0000]	96.1% {97.6%}			
13C9_PFNA_EIS	(472.0 / 427.0) 661416	(7.62, N/A) (N/A, 0.03, N/A)	1339.6	N/A	0.9813 [1.0000]	98.1% {94.1%}			
13C6_PFDA_EIS	(519.0 / 474.0) 728048	(8.18, N/A) (N/A, 0.03, N/A)	2745.6	N/A	0.9732 [1.0000]	97.3% {93.7%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 829502	(8.65, N/A) (N/A, 0.02, N/A)	2125.0	N/A	1.1151 [1.0000]	111.5% {107.5%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 751841	(8.94, N/A) (N/A, 0.02, N/A)	1472.4	N/A	1.1784 [1.0000]	117.8% {114.5%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 598593	(9.30, N/A) (N/A, 0.01, N/A)	1534.2	N/A	1.0239 [1.0000]	102.4% {98.1%}			
13C3_PFBs_EIS	(302.0 / 80.0) 3748603	(5.47, N/A) (N/A, 0.03, N/A)	3158.7	N/A	2.0572 [2.0000]	102.9% {94.9%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 1946389	(7.17, N/A) (N/A, 0.03, N/A)	2265.9	N/A	2.0565 [2.0000]	102.8% {97.8%}			
13C8_PFOS_EIS	(507.0 / 80.0) 4369903	(8.38, N/A) (N/A, 0.03, N/A)	2552.8	N/A	1.9775 [2.0000]	98.9% {98.9%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 405361	(5.23, N/A) (N/A, 0.03, N/A)	1641.7	N/A	4.0303 [4.0000]	100.8% {99.0%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 454861	(6.75, N/A) (N/A, 0.04, N/A)	1114.4	N/A	4.1199 [4.0000]	103.0% {99.3%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 665899	(7.92, N/A) (N/A, 0.03, N/A)	1555.4	N/A	4.2691 [4.0000]	106.7% {110.1%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 8308651	(9.85, N/A) (N/A, 0.02, N/A)	3294.2	N/A	2.0255 [2.0000]	101.3% {96.9%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1948846	(10.43, N/A) (N/A, 0.02, N/A)	3119.7	N/A	2.0165 [2.0000]	100.8% {106.8%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1764295	(10.57, N/A) (N/A, 0.02, N/A)	2916.1	N/A	2.0400 [2.0000]	102.0% {102.4%}			

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) 1495876	(8.32, N/A) (N/A, 0.03, N/A)	2110.6	N/A	4.1829 [4.0000]	104.6% {100.5%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1120624	(8.56, N/A) (N/A, 0.02, N/A)	4180.6	N/A	3.8269 [4.0000]	95.7% {99.9%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7269308	(10.36, N/A) (N/A, 0.02, N/A)	1974.3	N/A	20.6314 [20.0000]	103.2% {101.1%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8179426	(10.52, N/A) (N/A, 0.02, N/A)	2057.8	N/A	18.1274 [20.0000]	90.6% {85.9%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 3647056	(5.81, N/A) (N/A, 0.03, N/A)	3400.0	N/A	7.5725 [8.0000]	94.7% {99.6%}			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (2)
 Acquired: 2023/02/14 - 17:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 451149	(3.51, 1.00) (0.00, N/A, 0.0)	144.9	N/A 0.0 0.0	1.8493 [2.0000]	92.5%			
PFPeA	(263.0 / 219.0) 452555 (263.0 / 69.0) 8313	(4.56, 1.00) (0.00, N/A, 0.3)	1325.9 88.5	0.0184 171.5 171.5	0.9113 [1.0000]	91.1%			
PFHxA	(313.0 / 269.0) 289264 (313.0 / 119.0) 25240	(5.49, 1.00) (0.00, N/A, -0.2)	2436.9 1164772.0	0.0873 87.6 87.6	0.4579 [0.5000]	91.6%			
PFHpA	(363.0 / 319.0) 250921 (363.0 / 169.0) 65829	(6.32, 1.00) (0.00, N/A, 0.1)	3944.0 8977.6	0.2624 81.8 81.8	0.4549 [0.5000]	91.0%			
PFOA	(413.0 / 369.0) 313034 (413.0 / 169.0) 106346	(7.01, 1.00) (0.00, N/A, -0.1)	1450.9 9317.1	0.3397 101.5 101.5	0.4538 [0.5000]	90.8%			
PFNA	(463.0 / 419.0) 284469 (463.0 / 169.0) 62891	(7.61, 1.00) (0.00, N/A, -0.2)	31533.0 17199442.2	0.2211 98.8 98.8	0.5039 [0.5000]	100.8%			
PFDA	(513.0 / 469.0) 303672 (513.0 / 169.0) 41031	(8.17, 1.00) (0.00, N/A, 0.3)	433.1 1465214.7	0.1351 111.1 111.1	0.4463 [0.5000]	89.3%			
PFUnA	(563.0 / 519.0) 289025 (563.0 / 169.0) 39284	(8.65, 1.00) (0.00, N/A, 0.0)	915.6 1903603.1	0.1359 129.6 129.6	0.4511 [0.5000]	90.2%			
PFDoA	(613.0 / 569.0) 291794 (613.0 / 169.0) 48414	(8.93, 1.00) (0.00, N/A, -0.1)	1118.5 762.6	0.1659 101.4 101.4	0.5240 [0.5000]	104.8%			
PFTrDA	(663.0 / 619.0) 246586 (663.0 / 169.0) 80494	(9.13, 1.02) (N/A, 0.01, -0.2)	2744.7 100483.4	0.3264 136.6 136.6	0.4891 [0.5000]	97.8%			
PFTeDA	(713.0 / 669.0) 240170 (713.0 / 169.0) 59327	(9.30, 1.00) (0.00, N/A, 0.4)	675.8 329.7	0.2470 119.5 119.5	0.5061 [0.5000]	101.2%			

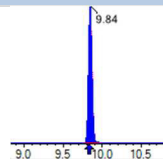
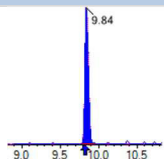
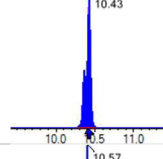
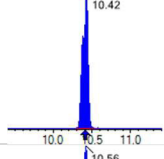
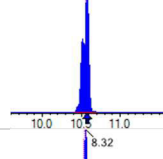
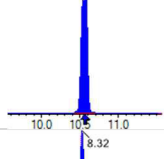
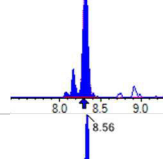
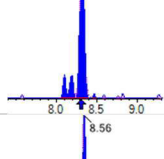
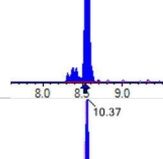
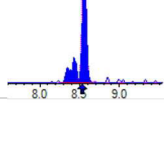
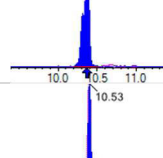
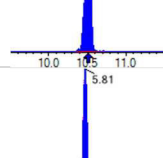
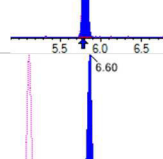
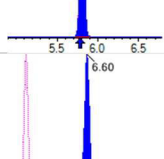
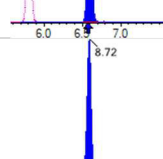
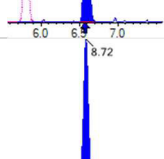
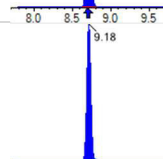
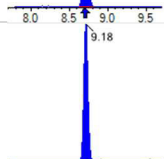
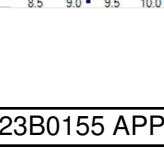
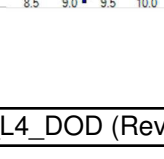


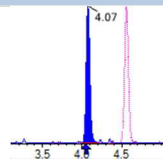
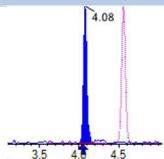
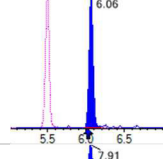
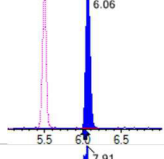
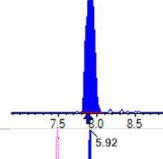
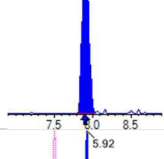
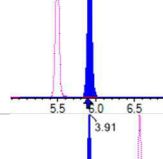
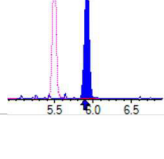
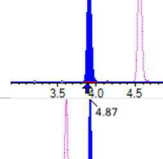
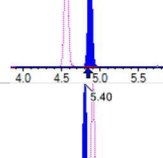
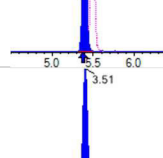
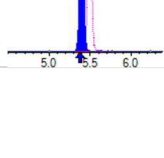
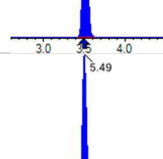
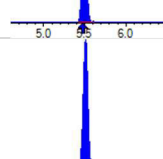
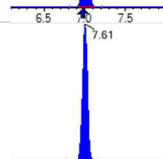
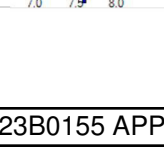
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (2)
 Acquired: 2023/02/14 - 17:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 488992 (299.0 / 99.0) 318173	(5.47, 1.00) (0.00, N/A, 0.1)	1533.7 797.1	0.6507 100.6 100.6	0.4102 [0.4424]	92.7%			
PFPeS	(349.0 / 80.0) 884263 (349.0 / 99.0) 328050	(6.40, 0.89) (N/A, 0.03, 0.0)	76134.6 12284.9	0.3710 103.9 103.9	0.4660 [0.4692]	99.3%			
PFHxS	(399.0 / 80.0) 613514 (399.0 / 99.0) 203107	(7.16, 1.00) (0.00, N/A, 0.2)	45927.5 249.2	0.3311 101.9 101.9	0.4055 [0.4555]	89.0%			
PFHpS	(449.0 / 80.0) 737280 (449.0 / 99.0) 229850	(7.80, 0.93) (N/A, 0.03, 0.0)	4303.0 425623.2	0.3118 114.5 114.5	0.4457 [0.4757]	93.7%			
PFOS	(499.0 / 80.0) 1008273 (499.0 / 99.0) 218013	(8.38, 1.00) (0.00, N/A, -0.2)	174.8 455.8	0.2162 97.7 97.7	0.4405 [0.4637]	95.0%			
PFNS	(549.0 / 80.0) 1109039 (549.0 / 99.0) 278597	(8.79, 1.05) (N/A, 0.02, 0.0)	9198421.7 19330.3	0.2512 114.6 114.6	0.4311 [0.4799]	89.8%			
PFDS	(599.0 / 80.0) 1241916 (599.0 / 99.0) 290512	(9.04, 1.08) (N/A, 0.02, 0.0)	1447.0 1355.0	0.2339 107.3 107.3	0.4438 [0.4816]	92.2%			
PFDoS	(699.0 / 80.0) 801641 (699.0 / 99.0) 188250	(9.38, 1.12) (N/A, 0.01, -0.1)	1658.6 1272.5	0.2348 112.8 112.8	0.4491 [0.4848]	92.6%			
4:2FTS	(327.0 / 307.0) 513694 (327.0 / 81.0) 373584	(5.23, 1.00) (0.00, N/A, 0.1)	2186.0 971.2	0.7272 107.8 107.8	1.9300 [1.8691]	103.3%			
6:2FTS	(427.0 / 407.0) 304578 (427.0 / 81.0) 194493	(6.74, 1.00) (0.00, N/A, 0.2)	16204.4 543.4	0.6386 77.1 77.1	1.9163 [1.8981]	101.0%			
8:2FTS	(527.0 / 507.0) 298908 (527.0 / 81.0) 263515	(7.92, 1.00) (0.00, N/A, 0.4)	1027.2 1232.9	0.8816 106.1 106.1	1.8930 [1.9166]	98.8%			

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
PFOSA	(498.0 / 78.0) 1656779 (498.0 / 478.0) 33096	(9.84, 1.00) (0.00, N/A, 0.2)	1723.9 736.7	0.0200 97.3 97.3	0.4992 [0.5000]	99.8%			
NMeFOSA	(512.0 / 219.0) 1474591 (512.0 / 169.0) 1275492	(10.43, 1.00) (0.00, N/A, 0.7)	2716.9 2319.6	0.8650 105.6 105.6	1.7977 [2.0000]	89.9%			
NEIFOSA	(526.0 / 219.0) 1722014 (526.0 / 169.0) 2236482	(10.57, 1.00) (0.00, N/A, 1.0)	3690.3 4294.5	1.2988 102.3 102.3	1.9274 [2.0000]	96.4%			
NMeFOSAA	(570.0 / 419.0) 108171 (570.0 / 483.0) 55304	(8.32, 1.00) (0.01, N/A, 0.1)	2008.1 6004.0	0.5113 107.7 107.7	0.4261 [0.5000]	85.2%			
NEIFOSAA	(584.0 / 419.0) 98385 (584.0 / 526.0) 67969	(8.56, 1.00) (0.00, N/A, -0.2)	8363.3 1160.0	0.6908 135.4 135.4	0.4314 [0.5000]	86.3%			
NMeFOSE	(616.0 / 59.0) 669858	(10.37, 1.00) (0.01, N/A, 0.0)	1001.5	N/A 0.0 0.0	1.8949 [2.0000]	94.7%			
NEtFOSE	(630.0 / 59.0) 888349	(10.53, 1.00) (0.01, N/A, 0.0)	857.4	N/A 0.0 0.0	1.9103 [2.0000]	95.5%			
HFPO-DA	(285.0 / 169.0) 321441 (285.0 / 185.0) 865673	(5.81, 1.00) (0.00, N/A, 0.0)	1278.5 1204.7	2.6931 97.8 97.8	0.9265 [1.0000]	92.6%			
ADONA	(377.0 / 85.0) 1107868 (377.0 / 251.0) 118038	(6.60, 1.14) (N/A, 0.03, -0.3)	1437.6 728.1	0.1065 120.8 120.8	0.9285 [0.9427]	98.5%			
9CI-Pr3ONS	(531.0 / 351.0) 3303252 (533.0 / 353.0) 984795	(8.72, 1.50) (N/A, 0.02, 0.1)	2197.8 1257.6	0.2981 85.6 85.6	0.8924 [0.9333]	95.6%			
11CI-PF3OUDS	(631.0 / 451.0) 1784838 (633.0 / 453.0) 612728	(9.18, 1.58) (N/A, 0.01, 0.0)	1962.5 1840.4	0.3433 94.9 94.9	0.9182 [0.9432]	97.4%			

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) 22880 (241.0 / 117.0) 36417	(4.07, 0.89) (N/A, 0.03, -0.1)	390.3 261.9	1.5917 100.9 100.9	1.9481 [2.0000]	97.4%			
5:3FTCA	(341.0 / 236.7) 155711 (341.0 / 217.0) 279237	(6.06, 1.10) (N/A, 0.04, 0.1)	515.7 785.8	1.7933 105.2 105.2	1.8024 [2.0000]	90.1%			
7:3FTCA	(441.0 / 317.0) 303061 (441.0 / 337.0) 252225	(7.91, 1.44) (N/A, 0.03, 0.2)	412.3 382.9	0.8323 96.7 96.7	1.8990 [2.0000]	94.9%			
PFEESA	(315.0 / 135.0) 668291 (315.0 / 83.0) 182692	(5.92, 1.08) (N/A, 0.03, -0.1)	2261.2 359.4	0.2734 107.0 107.0	0.8806 [0.8925]	98.7%			
PFMPA	(229.0 / 85.0) 101708	(3.91, 0.86) (N/A, 0.03, 0.0)	888.8	N/A 0.0 0.0	0.9376 [1.0000]	93.8%			
PFMBA	(279.0 / 85.0) 405237	(4.87, 1.07) (N/A, 0.03, 0.0)	1278.3	N/A 0.0 0.0	0.8908 [1.0000]	89.1%			
NFDHA	(295.0 / 201.0) 315461 (295.0 / 85.0) 324582	(5.40, 0.98) (N/A, 0.03, 0.0)	1056.6 916.7	1.0289 102.8 102.8	0.8996 [1.0000]	90.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 237086	(3.51, N/A) (N/A, 0.02, N/A)	1428.1	N/A	1.0585 [1.0000]	105.8% { 105.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 474334	(5.49, N/A) (N/A, 0.03, N/A)	5166.1	N/A	0.9396 [1.0000]	94.0% { 98.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 597727	(7.01, N/A) (N/A, 0.03, N/A)	1166.1	N/A	0.9431 [1.0000]	94.3% { 100.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 600355	(7.61, N/A) (N/A, 0.03, N/A)	4826.5	N/A	0.9935 [1.0000]	99.4% { 101.3% }			

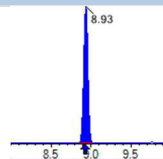
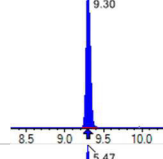
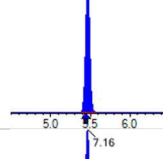
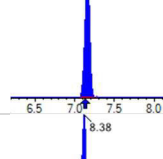
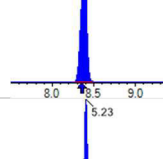
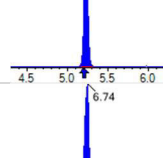
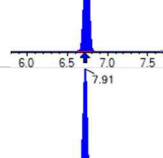
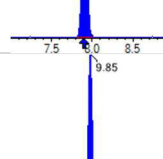
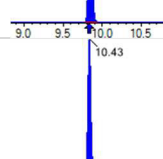
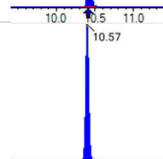
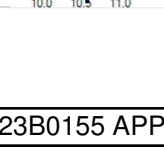


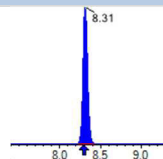
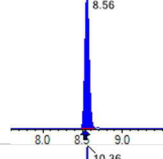
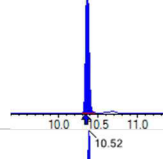
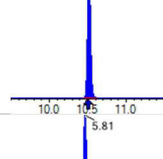
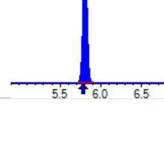
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 Instrument: Saphira
 Type: Sciex Q3 5500

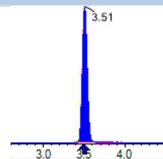
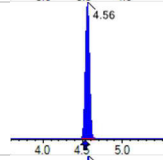
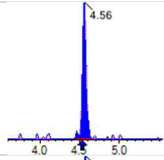
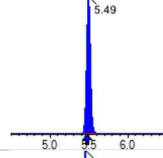
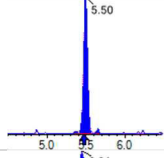
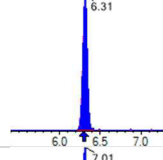
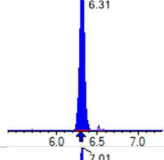
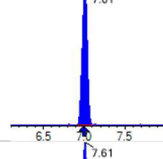
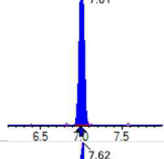
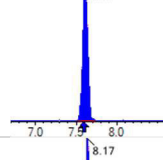
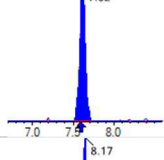
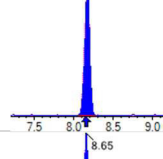
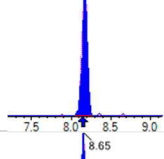
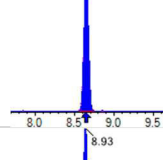
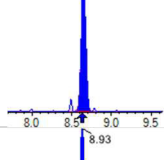
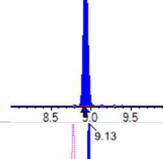
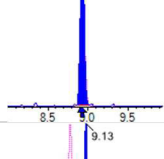
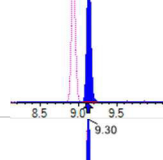
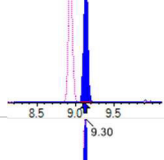
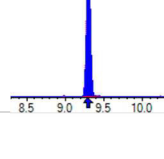
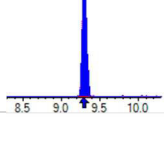
Sample I.D.: SC00647-CAL2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (2)
 Acquired: 2023/02/14 - 17:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 537002	(8.17, N/A) (N/A, 0.02, N/A)	10203.3	N/A	0.9280 [1.0000]	92.8% { 98.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 872778	(7.16, N/A) (N/A, 0.03, N/A)	1067.1	N/A	1.0192 [1.0000]	101.9% { 103.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1485383	(8.38, N/A) (N/A, 0.02, N/A)	1347.5	N/A	0.9867 [1.0000]	98.7% { 98.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2356057	(3.51, N/A) (N/A, 0.02, N/A)	5406.3	N/A	8.3544 [8.0000]	104.4% { 100.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2414394	(4.56, N/A) (N/A, 0.03, N/A)	3420.2	N/A	4.6522 [4.0000]	116.3% { 99.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1437224	(5.49, N/A) (N/A, 0.03, N/A)	2433.0	N/A	2.2121 [2.0000]	110.6% { 93.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1306373	(6.31, N/A) (N/A, 0.03, N/A)	2350.6	N/A	2.3206 [2.0000]	116.0% { 103.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1549605	(7.01, N/A) (N/A, 0.03, N/A)	3163.0	N/A	2.2891 [2.0000]	114.5% { 100.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 638082	(7.62, N/A) (N/A, 0.02, N/A)	2377.6	N/A	1.0031 [1.0000]	100.3% { 90.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 773492	(8.17, N/A) (N/A, 0.03, N/A)	2146.3	N/A	1.1424 [1.0000]	114.2% { 99.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 771164	(8.65, N/A) (N/A, 0.02, N/A)	2481.9	N/A	1.1454 [1.0000]	114.5% { 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) 633220	(8.93, N/A) (N/A, 0.02, N/A)	1548.4	N/A	1.0966 [1.0000]	109.7% { 96.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 548363	(9.30, N/A) (N/A, 0.01, N/A)	1640.3	N/A	1.0363 [1.0000]	103.6% { 89.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3836135	(5.47, N/A) (N/A, 0.03, N/A)	4222.9	N/A	2.1001 [2.0000]	105.0% { 97.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1967780	(7.16, N/A) (N/A, 0.03, N/A)	2175.8	N/A	2.0740 [2.0000]	103.7% { 98.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4341643	(8.38, N/A) (N/A, 0.03, N/A)	2646.7	N/A	2.1291 [2.0000]	106.5% { 98.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 389814	(5.23, N/A) (N/A, 0.03, N/A)	2328.3	N/A	3.8662 [4.0000]	96.7% { 95.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 448065	(6.74, N/A) (N/A, 0.03, N/A)	1550.7	N/A	4.0484 [4.0000]	101.2% { 97.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 579858	(7.91, N/A) (N/A, 0.03, N/A)	1886.6	N/A	3.7084 [4.0000]	92.7% { 95.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8299727	(9.85, N/A) (N/A, 0.02, N/A)	2955.9	N/A	2.1926 [2.0000]	109.6% { 96.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1966659	(10.43, N/A) (N/A, 0.01, N/A)	2317.1	N/A	2.2052 [2.0000]	110.3% { 107.8% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1912622	(10.57, N/A) (N/A, 0.01, N/A)	3094.7	N/A	2.3966 [2.0000]	119.8% { 111.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[min], Δ RT-CV[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) 1294019	(8.31, N/A) (N/A, 0.03, N/A)	2109.7	N/A	3.9213 [4.0000]	98.0% { 86.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1086211	(8.56, N/A) (N/A, 0.02, N/A)	9289.8	N/A	4.0198 [4.0000]	100.5% { 96.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7071882	(10.36, N/A) (N/A, 0.01, N/A)	1362.0	N/A	21.7507 [20.0000]	108.8% { 98.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9773335	(10.52, N/A) (N/A, 0.01, N/A)	2205.6	N/A	23.4725 [20.0000]	117.4% { 102.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3509898	(5.81, N/A) (N/A, 0.03, N/A)	3188.3	N/A	8.8726 [8.0000]	110.9% { 95.9% }			

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) 992985	(3.51, 1.00) (0.00, N/A, 0.0)	192.4	N/A 0.0 0.0	4.0401 [4.0000]	101.0%			
PFPeA	(263.0 / 219.0) 995190 (263.0 / 69.0) 13200	(4.56, 1.00) (0.00, N/A, 0.3)	2220.7 225.4	0.0133 123.9 123.9	2.0489 [2.0000]	102.4%			
PFHxA	(313.0 / 269.0) 632186 (313.0 / 119.0) 57415	(5.49, 1.00) (0.00, N/A, -0.1)	2410.2 171374.7	0.0908 91.2 91.2	0.9528 [1.0000]	95.3%			
PFHpA	(363.0 / 319.0) 507737 (363.0 / 169.0) 157722	(6.31, 1.00) (0.00, N/A, 0.0)	26405.3 2125592.4	0.3106 96.9 96.9	0.9408 [1.0000]	94.1%			
PFOA	(413.0 / 369.0) 622937 (413.0 / 169.0) 205185	(7.01, 1.00) (0.00, N/A, 0.1)	6482.6 6529.1	0.3294 98.4 98.4	0.9571 [1.0000]	95.7%			
PFNA	(463.0 / 419.0) 570086 (463.0 / 169.0) 115433	(7.61, 1.00) (0.00, N/A, -0.3)	4299.3 26480.6	0.2025 90.5 90.5	0.9731 [1.0000]	97.3%			
PFDA	(513.0 / 469.0) 667559 (513.0 / 169.0) 85346	(8.17, 1.00) (0.00, N/A, -0.1)	713.4 2307.5	0.1278 105.1 105.1	0.9768 [1.0000]	97.7%			
PFUnA	(563.0 / 519.0) 656549 (563.0 / 169.0) 83205	(8.65, 1.00) (0.00, N/A, 0.1)	1652.5 448.0	0.1267 120.9 120.9	1.0212 [1.0000]	102.1%			
PFDoA	(613.0 / 569.0) 556848 (613.0 / 169.0) 102128	(8.93, 1.00) (0.00, N/A, 0.1)	675.4 232.8	0.1834 112.1 112.1	0.9839 [1.0000]	98.4%			
PFTTrDA	(663.0 / 619.0) 522444 (663.0 / 169.0) 151041	(9.13, 1.02) (N/A, 0.01, -0.1)	1144.8 8191.0	0.2891 121.0 121.0	1.0195 [1.0000]	101.9%			
PFTeDA	(713.0 / 669.0) 522743 (713.0 / 169.0) 134113	(9.30, 1.00) (0.00, N/A, 0.0)	1196.0 1042.9	0.2566 124.1 124.1	0.9899 [1.0000]	99.0%			

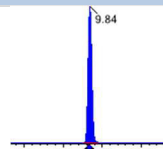
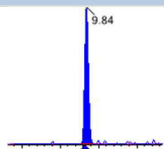
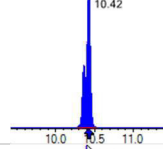
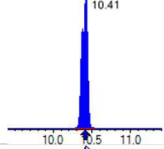
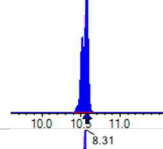
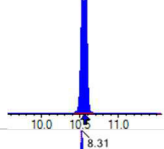
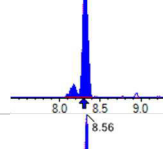
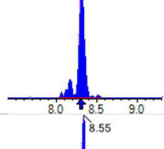
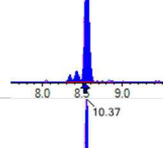
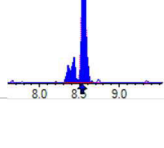
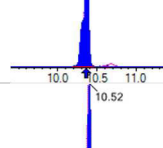
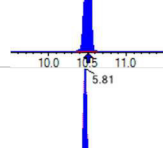
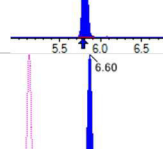
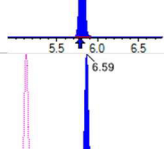
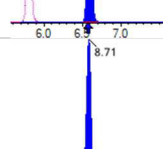
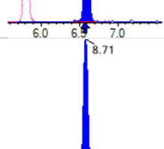
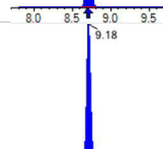
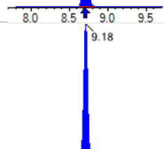
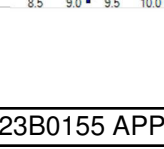
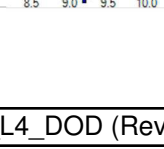


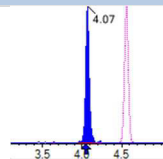
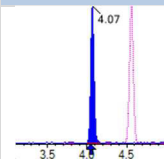
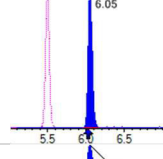
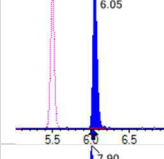
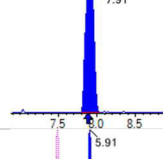
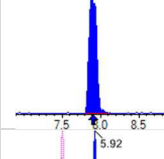
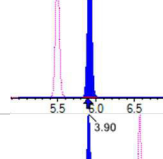
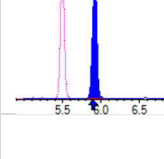
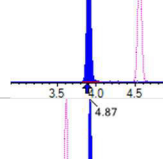
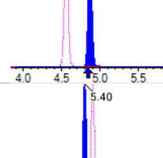
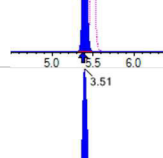
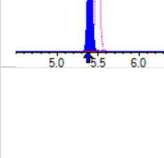
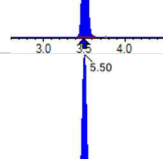
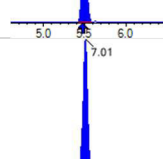
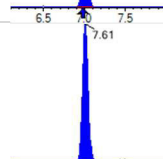
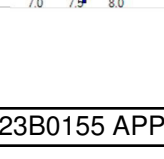
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Instrument: Saphira
Type: Sciex Q3 5500

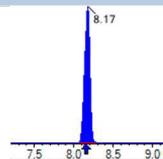
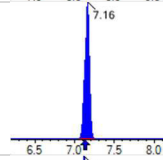
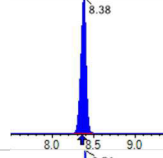
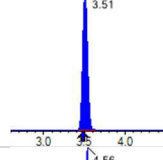
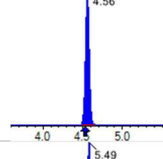
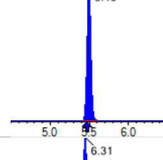
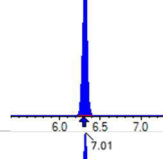
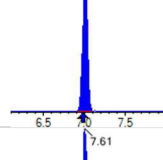
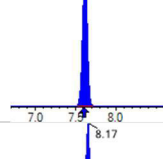
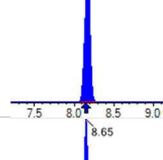
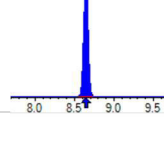
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Acquisition Method: 1633 2023-02-14.dam

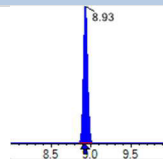
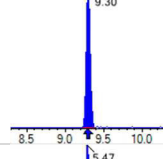
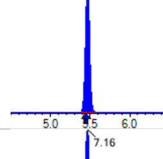
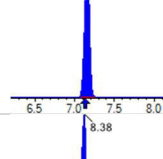
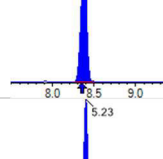
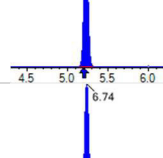
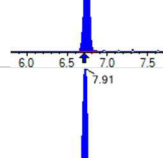
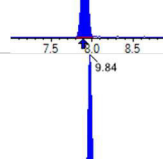
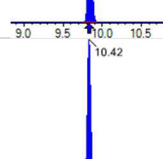
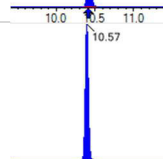
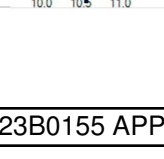
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Path: S2023-02-14C (3)
Acquired: 2023/02/14 - 17:45

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) 1115761 (299.0 / 99.0) 660695	(5.47, 1.00) (0.00, N/A, 0.1)	3318.3 1288.5	0.5921 91.6 91.6	0.9169 [0.8847]	103.6%			
PFPeS	(349.0 / 80.0) 1898329 (349.0 / 99.0) 641927	(6.40, 0.89) (N/A, 0.03, 0.1)	28058.9 8629.1	0.3382 94.7 94.7	0.9722 [0.9384]	103.6%			
PFHxS	(399.0 / 80.0) 1346938 (399.0 / 99.0) 485366	(7.16, 1.00) (0.00, N/A, 0.0)	7988.0 934.1	0.3603 111.0 111.0	0.8651 [0.9110]	95.0%			
PFHpS	(449.0 / 80.0) 1649623 (449.0 / 99.0) 406605	(7.80, 0.93) (N/A, 0.02, 0.0)	831232.4 8656.3	0.2465 90.5 90.5	0.9551 [0.9514]	100.4%			
PFOS	(499.0 / 80.0) 2103149 (499.0 / 99.0) 460724	(8.38, 1.00) (0.00, N/A, 0.0)	307.7 265.9	0.2191 99.0 99.0	0.8798 [0.9275]	94.9%			
PFNS	(549.0 / 80.0) 2497676 (549.0 / 99.0) 597897	(8.79, 1.05) (N/A, 0.02, 0.0)	26410.0 39648.2	0.2394 109.2 109.2	0.9297 [0.9599]	96.9%			
PFDS	(599.0 / 80.0) 2775816 (599.0 / 99.0) 601185	(9.03, 1.08) (N/A, 0.01, 0.1)	2370.9 1333.7	0.2166 99.4 99.4	0.9499 [0.9631]	98.6%			
PFDoS	(699.0 / 80.0) 1869304 (699.0 / 99.0) 376149	(9.37, 1.12) (N/A, 0.01, -0.1)	1682.1 879.2	0.2012 96.7 96.7	1.0029 [0.9696]	103.4%			
4:2FTS	(327.0 / 307.0) 1102979 (327.0 / 81.0) 700459	(5.23, 1.00) (0.00, N/A, 0.0)	2554.0 1188.0	0.6351 94.1 94.1	3.7263 [3.7381]	99.7%			
6:2FTS	(427.0 / 407.0) 551597 (427.0 / 81.0) 491370	(6.74, 1.00) (0.00, N/A, 0.0)	4455.6 936.5	0.8908 107.6 107.6	3.5034 [3.7962]	92.3%			
8:2FTS	(527.0 / 507.0) 648567 (527.0 / 81.0) 536762	(7.91, 1.00) (0.00, N/A, -0.1)	1501.8 2426.4	0.8276 99.6 99.6	4.3681 [3.8332]	114.0%			

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
PFOSA	(498.0 / 78.0) 3648720 (498.0 / 478.0) 66647	(9.84, 1.00) (0.00, N/A, 0.0)	3061.1 348.5	0.0183 88.9 88.9	1.0638 [1.0000]	106.4%			
NMeFOFA	(512.0 / 219.0) 3232329 (512.0 / 169.0) 2709837	(10.42, 1.00) (0.00, N/A, 0.9)	4031.3 4123.4	0.8384 102.3 102.3	3.8883 [4.0000]	97.2%			
NEIFOSA	(526.0 / 219.0) 3650558 (526.0 / 169.0) 4758356	(10.57, 1.00) (0.00, N/A, 1.0)	6399.0 5545.6	1.3035 102.7 102.7	4.0961 [4.0000]	102.4%			
NMeFOSAA	(570.0 / 419.0) 279159 (570.0 / 483.0) 118936	(8.31, 1.00) (0.00, N/A, 0.0)	4984.7 185484.6	0.4261 89.7 89.7	1.0227 [1.0000]	102.3%			
NEIFOSAA	(584.0 / 419.0) 257131 (584.0 / 526.0) 141719	(8.56, 1.00) (0.00, N/A, 0.1)	2290.5 2169.6	0.5512 108.0 108.0	0.9982 [1.0000]	99.8%			
NMeFOSE	(616.0 / 59.0) 1483945	(10.37, 1.00) (0.01, N/A, 0.0)	1605.1	N/A 0.0 0.0	3.9770 [4.0000]	99.4%			
NEIFOSE	(630.0 / 59.0) 1945357	(10.52, 1.00) (0.01, N/A, 0.0)	1205.3	N/A 0.0 0.0	4.1721 [4.0000]	104.3%			
HFPO-DA	(285.0 / 169.0) 702936 (285.0 / 185.0) 2029139	(5.81, 1.00) (0.00, N/A, 0.1)	1495.7 2469.1	2.8867 104.8 104.8	1.9094 [2.0000]	95.5%			
ADONA	(377.0 / 85.0) 2546378 (377.0 / 251.0) 217566	(6.60, 1.14) (N/A, 0.03, 0.2)	2490.7 407.3	0.0854 96.9 96.9	2.0112 [1.8854]	106.7%			
9CI-Pf3ONS	(531.0 / 351.0) 6975004 (533.0 / 353.0) 2111294	(8.71, 1.50) (N/A, 0.02, 0.1)	2422.7 1747.7	0.3027 86.9 86.9	1.7421 [1.8665]	93.3%			
11CI-PF3OUDS	(631.0 / 451.0) 3820731 (633.0 / 453.0) 1412412	(9.18, 1.58) (N/A, 0.01, -0.1)	2015.7 2421.3	0.3697 102.2 102.2	1.8524 [1.8864]	98.2%			

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
3:3FTCA	(241.0 / 177.0) 49606 (241.0 / 117.0) 73731	(4.07, 0.89) (N/A, 0.02, 0.1)	645.5 531.6	1.4863 94.2 94.2	4.2828 [4.0000]	107.1%			
5:3FTCA	(341.0 / 236.7) 307972 (341.0 / 217.0) 563339	(6.05, 1.10) (N/A, 0.02, 0.1)	1195.2 949.5	1.8292 107.3 107.3	3.3942 [4.0000]	84.9%			
7:3FTCA	(441.0 / 317.0) 606609 (441.0 / 337.0) 509153	(7.91, 1.44) (N/A, 0.03, 0.5)	637.1 611.4	0.8393 97.5 97.5	3.6190 [4.0000]	90.5%			
PFEESA	(315.0 / 135.0) 1415175 (315.0 / 83.0) 430101	(5.91, 1.08) (N/A, 0.03, -0.1)	2671.2 1261.5	0.3039 119.0 119.0	1.7755 [1.7849]	99.5%			
PFMPA	(229.0 / 85.0) 210517	(3.90, 0.86) (N/A, 0.02, 0.0)	1653.4	N/A 0.0 0.0	1.9842 [2.0000]	99.2%			
PFMBA	(279.0 / 85.0) 870406	(4.87, 1.07) (N/A, 0.03, 0.0)	2115.8	N/A 0.0 0.0	1.9563 [2.0000]	97.8%			
NFDHA	(295.0 / 201.0) 737616 (295.0 / 85.0) 776112	(5.40, 0.98) (N/A, 0.03, 0.0)	2100.7 2541.0	1.0522 105.1 105.1	2.0028 [2.0000]	100.1%			
13C3_PFBa_IIS	(216.0 / 172.0) 247463	(3.51, N/A) (N/A, 0.02, N/A)	1430.4	N/A	1.1048 [1.0000]	110.5% {109.8%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 545767	(5.50, N/A) (N/A, 0.03, N/A)	7771.3	N/A	1.0811 [1.0000]	108.1% {113.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 680981	(7.01, N/A) (N/A, 0.03, N/A)	2337.2	N/A	1.0745 [1.0000]	107.4% {114.8%}			
13C5_PFNAl_IIS	(468.0 / 423.0) 635510	(7.61, N/A) (N/A, 0.02, N/A)	1046.2	N/A	1.0517 [1.0000]	105.2% {107.2%}			

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) 586872	(8.17, N/A) (N/A, 0.02, N/A)	1991.3	N/A	1.0142 [1.0000]	101.4% { 107.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 877200	(7.16, N/A) (N/A, 0.03, N/A)	2151.0	N/A	1.0243 [1.0000]	102.4% { 103.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1527312	(8.38, N/A) (N/A, 0.02, N/A)	1792.9	N/A	1.0146 [1.0000]	101.5% { 101.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2373686	(3.51, N/A) (N/A, 0.02, N/A)	4602.1	N/A	8.0640 [8.0000]	100.8% { 101.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2361531	(4.56, N/A) (N/A, 0.03, N/A)	3090.6	N/A	3.9547 [4.0000]	98.9% { 97.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1509504	(5.49, N/A) (N/A, 0.03, N/A)	2234.0	N/A	2.0193 [2.0000]	101.0% { 98.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1278281	(6.31, N/A) (N/A, 0.03, N/A)	2293.3	N/A	1.9735 [2.0000]	98.7% { 101.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1461964	(7.01, N/A) (N/A, 0.03, N/A)	2029.4	N/A	1.8956 [2.0000]	94.8% { 94.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 662113	(7.61, N/A) (N/A, 0.02, N/A)	2039.6	N/A	0.9833 [1.0000]	98.3% { 94.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 776912	(8.17, N/A) (N/A, 0.02, N/A)	9707.2	N/A	1.0499 [1.0000]	105.0% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 773791	(8.65, N/A) (N/A, 0.01, N/A)	2173.1	N/A	1.0516 [1.0000]	105.2% { 100.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 643629	(8.93, N/A) (N/A, 0.01, N/A)	2450.6	N/A	1.0199 [1.0000]	102.0% { 98.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 610224	(9.30, N/A) (N/A, 0.01, N/A)	802.3	N/A	1.0553 [1.0000]	105.5% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3916474	(5.47, N/A) (N/A, 0.03, N/A)	3181.3	N/A	2.1333 [2.0000]	106.7% { 99.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2025045	(7.16, N/A) (N/A, 0.02, N/A)	1903.3	N/A	2.1236 [2.0000]	106.2% { 101.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4533818	(8.38, N/A) (N/A, 0.02, N/A)	2062.8	N/A	2.1623 [2.0000]	108.1% { 102.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 433513	(5.23, N/A) (N/A, 0.03, N/A)	1584.2	N/A	4.2779 [4.0000]	106.9% { 105.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 443849	(6.74, N/A) (N/A, 0.03, N/A)	630.4	N/A	3.9901 [4.0000]	99.8% { 96.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 545242	(7.91, N/A) (N/A, 0.03, N/A)	949.4	N/A	3.4694 [4.0000]	86.7% { 90.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8576988	(9.84, N/A) (N/A, 0.01, N/A)	3982.4	N/A	2.2037 [2.0000]	110.2% { 100.1% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 1961100	(10.42, N/A) (N/A, 0.01, N/A)	2880.3	N/A	2.1386 [2.0000]	106.9% { 107.5% }			
D5_NEiFOsa_EIS	(531.0 / 169.0) 1907916	(10.57, N/A) (N/A, 0.01, N/A)	3172.4	N/A	2.3251 [2.0000]	116.3% { 110.7% }			

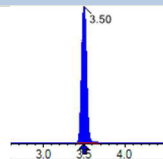
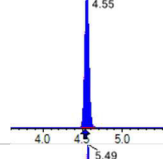
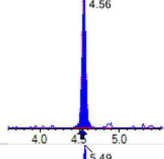
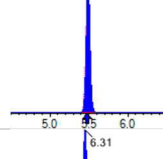
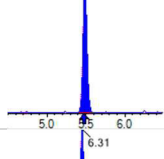
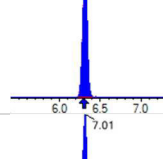
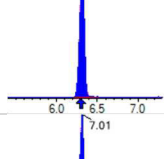
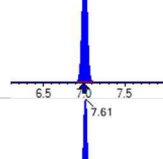
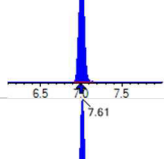
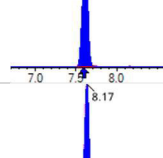
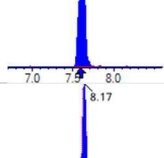
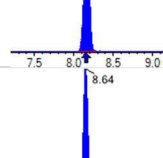
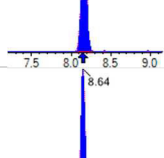
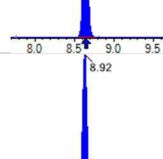
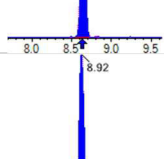
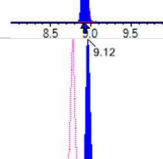
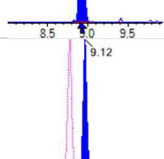
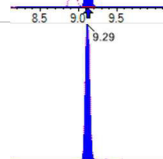
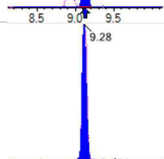
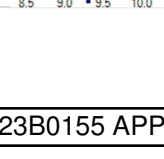
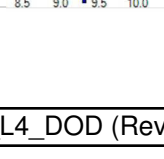


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (3)
 Acquired: 2023/02/14 - 17:45

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) 1391320	(8.31 , N/A) (N/A , 0.02 , N/A)	1765.7	N/A	4.1004 [4.0000]	102.5% { 93.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1226806	(8.55 , N/A) (N/A , 0.02 , N/A)	33894.6	N/A	4.4155 [4.0000]	110.4% { 109.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7464643	(10.36 , N/A) (N/A , 0.01 , N/A)	1414.6	N/A	22.3284 [20.0000]	111.6% { 103.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9799462	(10.51 , N/A) (N/A , 0.01 , N/A)	2582.9	N/A	22.8891 [20.0000]	114.4% { 102.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3724342	(5.81 , N/A) (N/A , 0.03 , N/A)	3728.1	N/A	8.1824 [8.0000]	102.3% { 101.7% }			

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
PFBA	(213.0 / 169.0) 2040417	(3.50, 1.00) (0.00, N/A, 0.0)	222.5	N/A 0.0 0.0	8.2532 [8.0000]	103.2%			
PFPeA	(263.0 / 219.0) 2041470 (263.0 / 69.0) 23902	(4.55, 1.00) (0.00, N/A, -0.2)	2800.6 239.1	0.0117 109.3 109.3	4.0952 [4.0000]	102.4%			
PFHxA	(313.0 / 269.0) 1336473 (313.0 / 119.0) 125042	(5.49, 1.00) (0.00, N/A, 0.1)	5541.8 2724595.8	0.0936 93.9 93.9	2.0232 [2.0000]	101.2%			
PFHpA	(363.0 / 319.0) 1046730 (363.0 / 169.0) 341278	(6.31, 1.00) (0.00, N/A, -0.1)	16010.9 7246.9	0.3260 101.7 101.7	1.9309 [2.0000]	96.5%			
PFOA	(413.0 / 369.0) 1332664 (413.0 / 169.0) 469250	(7.01, 1.00) (0.00, N/A, 0.0)	6220.3 2713549.8	0.3521 105.2 105.2	2.0866 [2.0000]	104.3%			
PFNA	(463.0 / 419.0) 1137106 (463.0 / 169.0) 290595	(7.61, 1.00) (0.00, N/A, 0.0)	8852.4 4937.2	0.2556 114.2 114.2	2.0394 [2.0000]	102.0%			
PFDA	(513.0 / 469.0) 1436390 (513.0 / 169.0) 173502	(8.17, 1.00) (0.00, N/A, -0.2)	1533.1 2906.4	0.1208 99.3 99.3	2.1390 [2.0000]	107.0%			
PFUnA	(563.0 / 519.0) 1214746 (563.0 / 169.0) 160306	(8.64, 1.00) (0.00, N/A, 0.1)	1539.9 3496.0	0.1320 125.9 125.9	1.9413 [2.0000]	97.1%			
PFDoA	(613.0 / 569.0) 1115680 (613.0 / 169.0) 230062	(8.92, 1.00) (0.00, N/A, 0.2)	1334.3 600.4	0.2062 126.1 126.1	2.0539 [2.0000]	102.7%			
PFTTrDA	(663.0 / 619.0) 1066226 (663.0 / 169.0) 270733	(9.12, 1.02) (N/A, 0.00, -0.1)	1920.4 3654.3	0.2539 106.2 106.2	2.1679 [2.0000]	108.4%			
PFTeDA	(713.0 / 669.0) 1064969 (713.0 / 169.0) 204784	(9.29, 1.00) (0.00, N/A, 0.2)	1633.8 783.2	0.1923 93.0 93.0	2.0298 [2.0000]	101.5%			

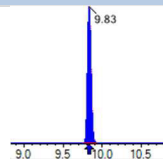
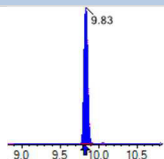
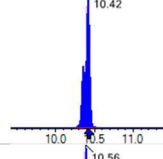
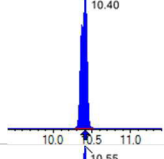
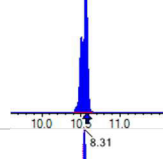
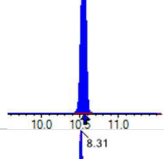
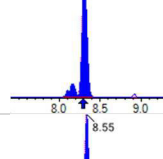
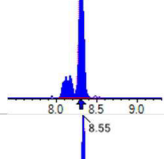
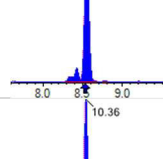
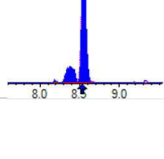
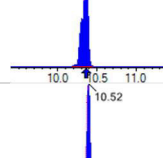
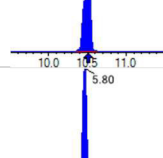
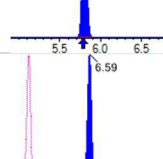
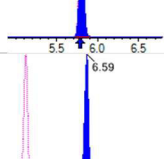
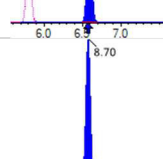
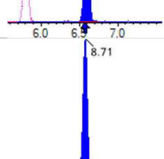
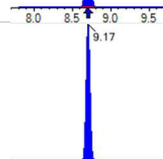
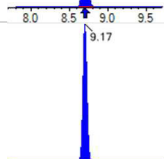
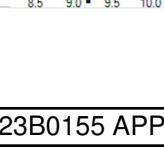
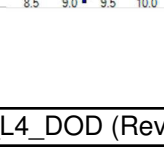


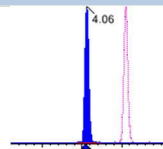
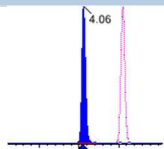
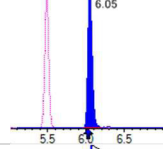
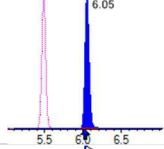
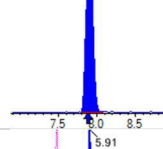
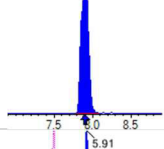
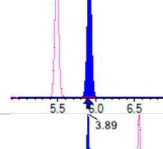
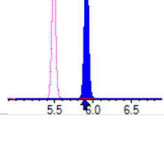
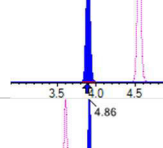
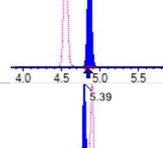
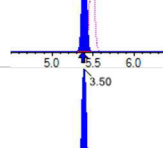
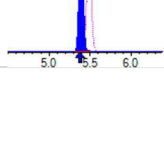
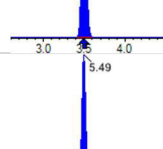
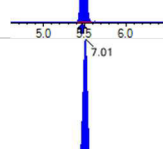
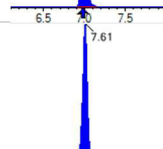
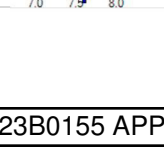
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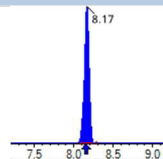
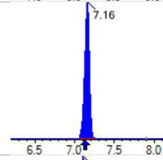
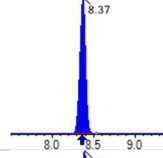
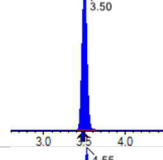
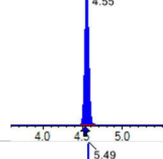
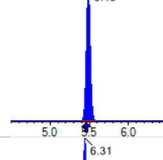
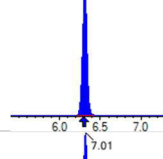
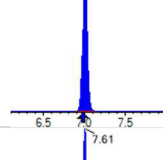
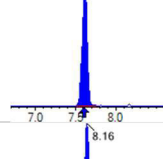
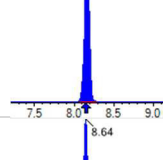
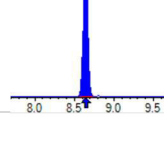
Sample I.D.: SC00647-CAL4
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 Acquisition Method: 1633 2023-02-14.dam

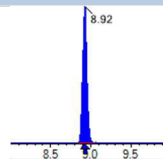
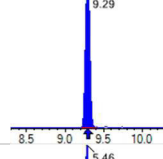
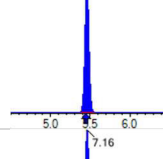
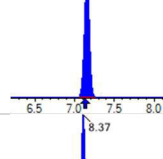
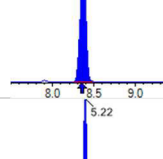
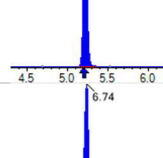
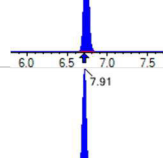
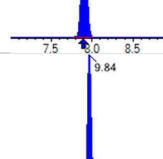
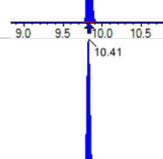
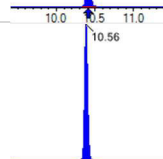
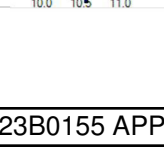
Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (4)
 Acquired: 2023/02/14 - 17:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2223132 (299.0 / 99.0) 1362361	(5.46, 1.00) (0.00, N/A, 0.0)	3112.7 2641.0	0.6128 94.8 94.8	1.8073 [1.7695]	102.1%			
PFPeS	(349.0 / 80.0) 3780216 (349.0 / 99.0) 1256747	(6.39, 0.89) (N/A, 0.02, -0.1)	1878642.0 330746896.9	0.3325 93.1 93.1	1.9706 [1.8768]	105.0%			
PFHxS	(399.0 / 80.0) 2792019 (399.0 / 99.0) 984345	(7.16, 1.00) (0.00, N/A, 0.0)	139093.1 2342.3	0.3526 108.6 108.6	1.8254 [1.8220]	100.2%			
PFHpS	(449.0 / 80.0) 3285266 (449.0 / 99.0) 948388	(7.80, 0.93) (N/A, 0.02, 0.1)	15910125.3 18002.5	0.2887 106.0 106.0	1.9219 [1.9028]	101.0%			
PFOS	(499.0 / 80.0) 4400886 (499.0 / 99.0) 965758	(8.37, 1.00) (0.00, N/A, -0.1)	484.0 429.4	0.2194 99.2 99.2	1.8603 [1.8550]	100.3%			
PFNS	(549.0 / 80.0) 5077665 (549.0 / 99.0) 1142350	(8.78, 1.05) (N/A, 0.01, 0.1)	12572.7 141808.6	0.2250 102.6 102.6	1.9098 [1.9198]	99.5%			
PFDS	(599.0 / 80.0) 5627897 (599.0 / 99.0) 1220356	(9.02, 1.08) (N/A, 0.00, 0.0)	3007.5 2088.2	0.2168 99.5 99.5	1.9460 [1.9262]	101.0%			
PFDoS	(699.0 / 80.0) 3473138 (699.0 / 99.0) 799506	(9.37, 1.12) (N/A, 0.00, 0.0)	3432.2 1574.3	0.2302 110.6 110.6	1.8829 [1.9391]	97.1%			
4:2FTS	(327.0 / 307.0) 2147611 (327.0 / 81.0) 1465550	(5.22, 1.00) (0.00, N/A, 0.0)	4169.6 2224.4	0.6824 101.1 101.1	8.0095 [7.4762]	107.1%			
6:2FTS	(427.0 / 407.0) 1217522 (427.0 / 81.0) 905821	(6.74, 1.00) (0.00, N/A, 0.1)	2807.5 1230.9	0.7440 89.9 89.9	8.2518 [7.5923]	108.7%			
8:2FTS	(527.0 / 507.0) 1325429 (527.0 / 81.0) 1143451	(7.91, 1.00) (0.00, N/A, 0.0)	1768.2 1699.8	0.8627 103.8 103.8	8.0433 [7.6663]	104.9%			

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
PFOSA	(498.0 / 78.0) 7454165 (498.0 / 478.0) 153863	(9.83, 1.00) (0.00, N/A, 0.1)	3632.9 1289.8	0.0206 100.5 100.5	2.1877 [2.0000]	109.4%			
NMeFOSA	(512.0 / 219.0) 6581539 (512.0 / 169.0) 5434702	(10.42, 1.00) (0.00, N/A, 0.9)	4400.8 4035.5	0.8257 100.8 100.8	8.0911 [8.0000]	101.1%			
NEIFOSA	(526.0 / 219.0) 7369810 (526.0 / 169.0) 9562461	(10.56, 1.00) (0.00, N/A, 0.9)	10194.3 8766.4	1.2975 102.2 102.2	8.3766 [8.0000]	104.7%			
NMeFOSAA	(570.0 / 419.0) 558224 (570.0 / 483.0) 249670	(8.31, 1.00) (0.00, N/A, -0.1)	3385.1 183.6	0.4473 94.2 94.2	2.1736 [2.0000]	108.7%			
NEIFOSAA	(584.0 / 419.0) 468621 (584.0 / 526.0) 259589	(8.55, 1.00) (0.01, N/A, 0.2)	253752.3 16601.7	0.5539 108.6 108.6	1.9370 [2.0000]	96.9%			
NMeFOSE	(616.0 / 59.0) 2915088	(10.36, 1.00) (0.01, N/A, 0.0)	2699.4	N/A 0.0 0.0	7.9620 [8.0000]	99.5%			
NEtFOSE	(630.0 / 59.0) 3776358	(10.52, 1.00) (0.01, N/A, 0.0)	1374.9	N/A 0.0 0.0	8.1217 [8.0000]	101.5%			
HFPO-DA	(285.0 / 169.0) 1383460 (285.0 / 185.0) 4010692	(5.80, 1.00) (0.00, N/A, 0.0)	2428.0 3386.2	2.8990 105.3 105.3	4.0649 [4.0000]	101.6%			
ADONA	(377.0 / 85.0) 4962626 (377.0 / 251.0) 457532	(6.59, 1.14) (N/A, 0.02, -0.1)	3737.6 918.9	0.0922 104.6 104.6	4.2400 [3.7708]	112.4%			
9CI-PI3ONS	(531.0 / 351.0) 14406479 (533.0 / 353.0) 4641144	(8.70, 1.50) (N/A, 0.01, -0.1)	3319.3 3063.0	0.3222 92.5 92.5	3.9280 [3.7330]	105.2%			
11CI-PF3OUDS	(631.0 / 451.0) 8500924 (633.0 / 453.0) 2975725	(9.17, 1.58) (N/A, 0.00, 0.2)	3323.4 2149.4	0.3500 96.7 96.7	4.4584 [3.7728]	118.2%			

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
3:3FTCA	(241.0 / 177.0) 98166 (241.0 / 117.0) 149343	(4.06, 0.89) (N/A, 0.02, 0.1)	980.2 901.4	1.5213 96.4 96.4	8.1739 [8.0000]	102.2%			
5:3FTCA	(341.0 / 236.7) 659057 (341.0 / 217.0) 1151481	(6.05, 1.10) (N/A, 0.02, -0.1)	1706.3 1760.2	1.7472 102.5 102.5	7.2959 [8.0000]	91.2%			
7:3FTCA	(441.0 / 317.0) 1221396 (441.0 / 337.0) 1047529	(7.90, 1.44) (N/A, 0.02, 0.2)	612.9 919.3	0.8576 99.7 99.7	7.3193 [8.0000]	91.5%			
PFEESA	(315.0 / 135.0) 2916970 (315.0 / 83.0) 815959	(5.91, 1.08) (N/A, 0.02, -0.1)	3510.3 2085.3	0.2797 109.5 109.5	3.6759 [3.5698]	103.0%			
PFMPA	(229.0 / 85.0) 425241	(3.89, 0.86) (N/A, 0.01, 0.0)	2450.5	N/A 0.0 0.0	3.9053 [4.0000]	97.6%			
PFMBA	(279.0 / 85.0) 1832503	(4.86, 1.07) (N/A, 0.02, 0.0)	3046.2	N/A 0.0 0.0	4.0131 [4.0000]	100.3%			
NFDHA	(295.0 / 201.0) 1471114 (295.0 / 85.0) 1539319	(5.39, 0.98) (N/A, 0.02, 0.2)	2648.0 2571.6	1.0464 104.5 104.5	4.0123 [4.0000]	100.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 258935	(3.50, N/A) (N/A, 0.01, N/A)	1459.6	N/A	1.1560 [1.0000]	115.6% { 114.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 527362	(5.49, N/A) (N/A, 0.02, N/A)	2491.9	N/A	1.0447 [1.0000]	104.5% { 109.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 724530	(7.01, N/A) (N/A, 0.03, N/A)	1417.5	N/A	1.1432 [1.0000]	114.3% { 122.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 687055	(7.61, N/A) (N/A, 0.02, N/A)	10320.7	N/A	1.1370 [1.0000]	113.7% { 115.9% }			

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) 642605	(8.17, N/A) (N/A, 0.02, N/A)	3000.0	N/A	1.1105 [1.0000]	111.1% { 118.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 945086	(7.16, N/A) (N/A, 0.03, N/A)	1162.6	N/A	1.1036 [1.0000]	110.4% { 111.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1662514	(8.37, N/A) (N/A, 0.01, N/A)	1471.1	N/A	1.1044 [1.0000]	110.4% { 109.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2387665	(3.50, N/A) (N/A, 0.01, N/A)	5160.5	N/A	7.7521 [8.0000]	96.9% { 102.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2423641	(4.55, N/A) (N/A, 0.02, N/A)	3349.2	N/A	4.2004 [4.0000]	105.0% { 100.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1502798	(5.49, N/A) (N/A, 0.02, N/A)	3626.2	N/A	2.0804 [2.0000]	104.0% { 97.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1283933	(6.31, N/A) (N/A, 0.02, N/A)	2445.9	N/A	2.0514 [2.0000]	102.6% { 101.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1434645	(7.01, N/A) (N/A, 0.03, N/A)	2756.5	N/A	1.7484 [2.0000]	87.4% { 93.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 630189	(7.61, N/A) (N/A, 0.02, N/A)	1674.8	N/A	0.8657 [1.0000]	86.6% { 89.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 763399	(8.16, N/A) (N/A, 0.02, N/A)	2225.3	N/A	0.9422 [1.0000]	94.2% { 98.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 753151	(8.64, N/A) (N/A, 0.01, N/A)	13028.6	N/A	0.9348 [1.0000]	93.5% { 97.6% }			

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) 617721	(8.92, N/A) (N/A, 0.01, N/A)	2492.7	N/A	0.8939 [1.0000]	89.4% { 94.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 606299	(9.29, N/A) (N/A, 0.00, N/A)	1178.7	N/A	0.9575 [1.0000]	95.8% { 99.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3958718	(5.46, N/A) (N/A, 0.02, N/A)	3417.7	N/A	2.0014 [2.0000]	100.1% { 100.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1989400	(7.16, N/A) (N/A, 0.02, N/A)	2679.8	N/A	1.9364 [2.0000]	96.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4487002	(8.37, N/A) (N/A, 0.02, N/A)	1488.1	N/A	1.9659 [2.0000]	98.3% { 101.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 392697	(5.22, N/A) (N/A, 0.02, N/A)	1473.7	N/A	3.5968 [4.0000]	89.9% { 95.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 415946	(6.74, N/A) (N/A, 0.03, N/A)	1899.8	N/A	3.4707 [4.0000]	86.8% { 90.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 605135	(7.91, N/A) (N/A, 0.02, N/A)	1540.6	N/A	3.5739 [4.0000]	89.3% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8520316	(9.84, N/A) (N/A, 0.00, N/A)	3894.3	N/A	2.0111 [2.0000]	100.6% { 99.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1919031	(10.41, N/A) (N/A, 0.00, N/A)	2947.3	N/A	1.9225 [2.0000]	96.1% { 105.2% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1883486	(10.56, N/A) (N/A, 0.00, N/A)	3509.4	N/A	2.1087 [2.0000]	105.4% { 109.3% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (4)
 Acquired: 2023/02/14 - 17:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1309006	(8.30 , N/A) (N/A , 0.02 , N/A)	1009.4	N/A	3.5440 [4.0000]	88.6% { 87.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1152185	(8.55 , N/A) (N/A , 0.01 , N/A)	15689.4	N/A	3.8097 [4.0000]	95.2% { 102.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7324449	(10.35 , N/A) (N/A , 0.00 , N/A)	2458.1	N/A	20.1274 [20.0000]	100.6% { 101.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9772079	(10.51 , N/A) (N/A , 0.00 , N/A)	2034.7	N/A	20.9689 [20.0000]	104.8% { 102.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3443023	(5.80 , N/A) (N/A , 0.02 , N/A)	4078.3	N/A	7.8284 [8.0000]	97.9% { 94.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (5)
 Acquired: 2023/02/14 - 18:10

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) 4625962	(3.49, 1.00) (0.00, N/A, 0.0)	269.9	N/A 0.0 0.0	19.1353 [20.0000]	95.7%			
PFPeA	(263.0 / 219.0) 4849452 (263.0 / 69.0) 51930	(4.53, 1.00) (0.00, N/A, 0.1)	6300.0 525.7	0.0107 100.0 100.0	9.7482 [10.0000]	97.5%			
PFHxA	(313.0 / 269.0) 3231153 (313.0 / 119.0) 321815	(5.47, 1.00) (0.00, N/A, 0.0)	7539.0 569520.8	0.0996 100.0 100.0	4.7905 [5.0000]	95.8%			
PFHpA	(363.0 / 319.0) 2374219 (363.0 / 169.0) 761184	(6.29, 1.00) (0.00, N/A, 0.0)	27517.9 4626.3	0.3206 100.0 100.0	4.4501 [5.0000]	89.0%			
PFOA	(413.0 / 369.0) 3119950 (413.0 / 169.0) 1043952	(6.98, 1.00) (0.00, N/A, 0.1)	11212.8 2366.5	0.3346 100.0 100.0	4.5495 [5.0000]	91.0%			
PFNA	(463.0 / 419.0) 2777308 (463.0 / 169.0) 621436	(7.59, 1.00) (0.00, N/A, 0.1)	143516.6 7999265.7	0.2238 100.0 100.0	4.4669 [5.0000]	89.3%			
PFDA	(513.0 / 469.0) 3288150 (513.0 / 169.0) 399859	(8.15, 1.00) (0.00, N/A, -0.2)	2295.7 8100.9	0.1216 100.0 100.0	4.8121 [5.0000]	96.2%			
PFUnA	(563.0 / 519.0) 2957188 (563.0 / 169.0) 310031	(8.63, 1.00) (0.00, N/A, 0.2)	2421.9 3060.8	0.1048 100.0 100.0	4.6144 [5.0000]	92.3%			
PFDoA	(613.0 / 569.0) 2625478 (613.0 / 169.0) 429428	(8.92, 1.00) (0.00, N/A, 0.0)	2165.7 1615.7	0.1636 100.0 100.0	4.5454 [5.0000]	90.9%			
PFTTrDA	(663.0 / 619.0) 2589019 (663.0 / 169.0) 618790	(9.12, 1.02) (N/A, 0.00, 0.1)	2797.5 1841.7	0.2390 100.0 100.0	4.9505 [5.0000]	99.0%			
PFTeDA	(713.0 / 669.0) 2457334 (713.0 / 169.0) 507818	(9.29, 1.00) (0.00, N/A, 0.1)	3479.2 625.2	0.2067 100.0 100.0	4.6552 [5.0000]	93.1%			

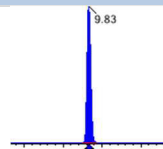
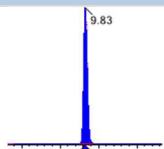
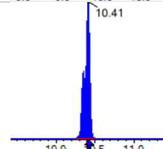
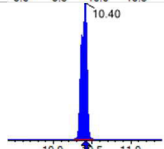
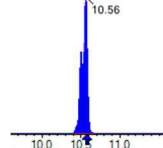
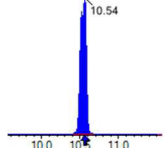
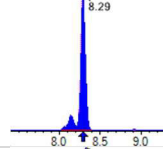
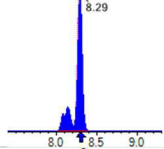
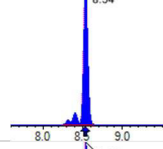
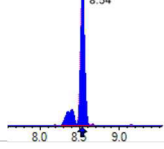
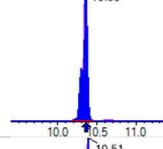
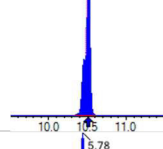
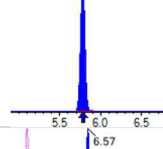
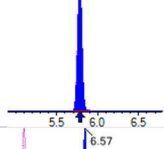
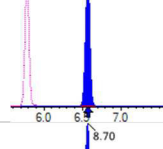
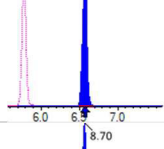
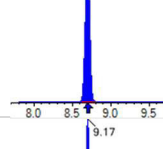
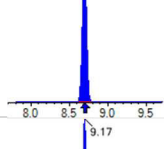
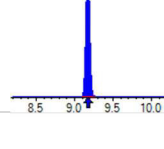
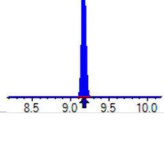


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (5)
 Acquired: 2023/02/14 - 18:10

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
PFBS	(299.0 / 80.0) 5078337 (299.0 / 99.0) 3283985	(5.44 , 1.00) (0.00 , N/A , 0.0)	4191.7 3173.0	0.6467 100.0 100.0	4.1378 [4.4237]	93.5%			
PFPeS	(349.0 / 80.0) 8825978 (349.0 / 99.0) 3150960	(6.37 , 0.89) (N/A , 0.00 , 0.0)	52478.2 43714.8	0.3570 100.0 100.0	4.5997 [4.6919]	98.0%			
PFHxS	(399.0 / 80.0) 6499323 (399.0 / 99.0) 2110618	(7.13 , 1.00) (0.00 , N/A , 0.1)	4671.8 15342595.9	0.3247 100.0 100.0	4.2481 [4.5549]	93.3%			
PFHpS	(449.0 / 80.0) 7537575 (449.0 / 99.0) 2051876	(7.78 , 0.93) (N/A , 0.00 , 0.1)	18633.8 4259.7	0.2722 100.0 100.0	4.4756 [4.7570]	94.1%			
PFOS	(499.0 / 80.0) 10091750 (499.0 / 99.0) 2233382	(8.35 , 1.00) (0.00 , N/A , 0.0)	1680.0 1507.9	0.2213 100.0 100.0	4.3298 [4.6375]	93.4%			
PFNS	(549.0 / 80.0) 12319974 (549.0 / 99.0) 2701138	(8.77 , 1.05) (N/A , 0.00 , 0.0)	41212.2 30751.4	0.2192 100.0 100.0	4.7034 [4.7994]	98.0%			
PFDS	(599.0 / 80.0) 13893059 (599.0 / 99.0) 3028577	(9.02 , 1.08) (N/A , 0.00 , 0.0)	4249.5 2452.4	0.2180 100.0 100.0	4.8759 [4.8155]	101.3%			
PFDoS	(699.0 / 80.0) 9237910 (699.0 / 99.0) 1922828	(9.36 , 1.12) (N/A , 0.00 , -0.1)	3957.0 2185.3	0.2081 100.0 100.0	5.0833 [4.8478]	104.9%			
4:2FTS	(327.0 / 307.0) 4991486 (327.0 / 81.0) 3368015	(5.20 , 1.00) (0.00 , N/A , 0.0)	4068.6 2907.8	0.6748 100.0 100.0	17.8604 [18.6906]	95.6%			
6:2FTS	(427.0 / 407.0) 2761537 (427.0 / 81.0) 2285757	(6.71 , 1.00) (0.00 , N/A , 0.0)	1751.6 2382.2	0.8277 100.0 100.0	16.9949 [18.9808]	89.5%			
8:2FTS	(527.0 / 507.0) 3235546 (527.0 / 81.0) 2689124	(7.89 , 1.00) (0.00 , N/A , 0.0)	2836.4 1954.5	0.8311 100.0 100.0	19.6365 [19.1658]	102.5%			

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
PFOSA	(498.0 / 78.0) 16873776 (498.0 / 478.0) 346600	(9.83, 1.00) (0.00, N/A, 0.1)	3623.3 1365.4	0.0205 100.0 100.0	4.9230 [5.0000]	98.5%			
NMeFOSA	(512.0 / 219.0) 15062148 (512.0 / 169.0) 12339105	(10.41, 1.00) (0.00, N/A, 1.0)	4316.3 4090.2	0.8192 100.0 100.0	19.8909 [20.0000]	99.5%			
NEIFOSA	(526.0 / 219.0) 16221852 (526.0 / 169.0) 20591347	(10.56, 1.00) (0.00, N/A, 0.8)	12815.2 15235.1	1.2694 100.0 100.0	20.1464 [20.0000]	100.7%			
NMeFOSAA	(570.0 / 419.0) 1293168 (570.0 / 483.0) 613882	(8.29, 1.00) (0.00, N/A, -0.2)	3254.9 276085.0	0.4747 100.0 100.0	4.4279 [5.0000]	88.6%			
NEIFOSAA	(584.0 / 419.0) 1211099 (584.0 / 526.0) 617983	(8.54, 1.00) (0.01, N/A, 0.1)	1922.1 7076.5	0.5103 100.0 100.0	5.1422 [5.0000]	102.8%			
NMeFOSE	(616.0 / 59.0) 6860263	(10.36, 1.00) (0.01, N/A, 0.0)	3314.5	N/A 0.0 0.0	19.0869 [20.0000]	95.4%			
NEIFOSE	(630.0 / 59.0) 8750560	(10.51, 1.00) (0.01, N/A, 0.0)	1947.4	N/A 0.0 0.0	19.3134 [20.0000]	96.6%			
HFPO-DA	(285.0 / 169.0) 3384631 (285.0 / 185.0) 9322395	(5.78, 1.00) (0.00, N/A, 0.0)	3354.6 4730.4	2.7543 100.0 100.0	9.3521 [10.0000]	93.5%			
ADONA	(377.0 / 85.0) 11635291 (377.0 / 251.0) 1025920	(6.57, 1.14) (N/A, 0.00, -0.1)	5483.9 2252.2	0.0882 100.0 100.0	9.3484 [9.4270]	99.2%			
9CI-Pf3ONS	(531.0 / 351.0) 31179230 (533.0 / 353.0) 10857577	(8.70, 1.50) (N/A, 0.00, 0.0)	3496.7 3130.1	0.3482 100.0 100.0	8.3839 [9.3325]	89.8%			
11CI-PF3OUDS	(631.0 / 451.0) 18911923 (633.0 / 453.0) 6842706	(9.17, 1.59) (N/A, 0.00, 0.0)	2197.8 3639.0	0.3618 100.0 100.0	9.3273 [9.4321]	98.9%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (5)
 Acquired: 2023/02/14 - 18:10

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) 221117 (241.0 / 117.0) 348920	(4.04, 0.89) (N/A, 0.00, 0.0)	1710.7 1270.6	1.5780 100.0 100.0	18.0210 [20.0000]	90.1%			
5:3FTCA	(341.0 / 236.7) 1559646 (341.0 / 217.0) 2659637	(6.03, 1.10) (N/A, 0.00, 0.0)	1471.7 2247.5	1.7053 100.0 100.0	16.9094 [20.0000]	84.5%			
7:3FTCA	(441.0 / 317.0) 2829193 (441.0 / 337.0) 2434614	(7.88, 1.44) (N/A, 0.00, -0.2)	1104.9 1471.1	0.8605 100.0 100.0	16.6044 [20.0000]	83.0%			
PFEESA	(315.0 / 135.0) 6867136 (315.0 / 83.0) 1753875	(5.89, 1.08) (N/A, 0.00, 0.1)	4733.3 2624.5	0.2554 100.0 100.0	8.4754 [8.9246]	95.0%			
PFMPA	(229.0 / 85.0) 1012996	(3.88, 0.86) (N/A, 0.00, 0.0)	4456.4	N/A 0.0 0.0	9.3225 [10.0000]	93.2%			
PFMBA	(279.0 / 85.0) 4261572	(4.84, 1.07) (N/A, 0.00, 0.0)	4291.0	N/A 0.0 0.0	9.3520 [10.0000]	93.5%			
NFDHA	(295.0 / 201.0) 3469986 (295.0 / 85.0) 3474472	(5.37, 0.98) (N/A, 0.00, 0.0)	3832.4 3353.4	1.0013 100.0 100.0	9.2688 [10.0000]	92.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 225438	(3.49, N/A) (N/A, 0.00, N/A)	1151.4	N/A	1.0065 [1.0000]	100.6% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 480171	(5.47, N/A) (N/A, 0.00, N/A)	1976.3	N/A	0.9512 [1.0000]	95.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 593445	(6.98, N/A) (N/A, 0.00, N/A)	1655.7	N/A	0.9364 [1.0000]	93.6% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 592832	(7.59, N/A) (N/A, 0.00, N/A)	3326.2	N/A	0.9811 [1.0000]	98.1% { 100.0% }			

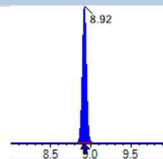
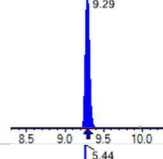
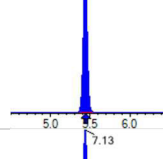
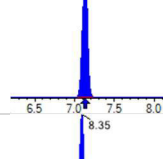
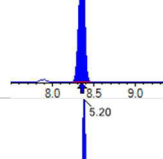
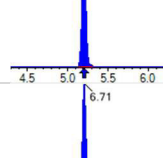
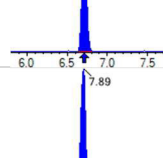
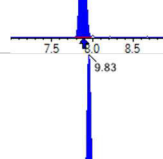
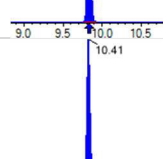
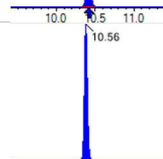
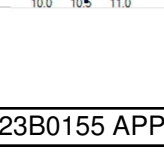


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (5)
 Acquired: 2023/02/14 - 18:10

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
13C2_PFDA_IIS	(515.0 / 470.1) 544568	(8.15, N/A) (N/A, 0.00, N/A)	905.1	N/A	0.9411 [1.0000]	94.1% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 844212	(7.13, N/A) (N/A, 0.00, N/A)	1879.8	N/A	0.9858 [1.0000]	98.6% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1512102	(8.36, N/A) (N/A, 0.00, N/A)	1058.0	N/A	1.0045 [1.0000]	100.4% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2334765	(3.49, N/A) (N/A, 0.00, N/A)	4444.3	N/A	8.7067 [8.0000]	108.8% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2418611	(4.53, N/A) (N/A, 0.00, N/A)	3591.2	N/A	4.6036 [4.0000]	115.1% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1534443	(5.47, N/A) (N/A, 0.00, N/A)	3297.1	N/A	2.3330 [2.0000]	116.7% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1263643	(6.29, N/A) (N/A, 0.00, N/A)	2333.7	N/A	2.2174 [2.0000]	110.9% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1540426	(6.98, N/A) (N/A, 0.00, N/A)	3544.1	N/A	2.2920 [2.0000]	114.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 702736	(7.59, N/A) (N/A, 0.00, N/A)	1753.9	N/A	1.1188 [1.0000]	111.9% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 776808	(8.15, N/A) (N/A, 0.00, N/A)	1570.3	N/A	1.1314 [1.0000]	113.1% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 771339	(8.63, N/A) (N/A, 0.00, N/A)	4873.0	N/A	1.1297 [1.0000]	113.0% { 100.0% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 656853	(8.92, N/A) (N/A, 0.00, N/A)	1995.2	N/A	1.1217 [1.0000]	112.2% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 610004	(9.29, N/A) (N/A, 0.00, N/A)	1873.5	N/A	1.1368 [1.0000]	113.7% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3949791	(5.44, N/A) (N/A, 0.00, N/A)	3731.4	N/A	2.2355 [2.0000]	111.8% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1989895	(7.13, N/A) (N/A, 0.00, N/A)	2011.6	N/A	2.1683 [2.0000]	108.4% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4420657	(8.35, N/A) (N/A, 0.00, N/A)	1390.6	N/A	2.1295 [2.0000]	106.5% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 409305	(5.20, N/A) (N/A, 0.00, N/A)	1608.0	N/A	4.1969 [4.0000]	104.9% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 458078	(6.71, N/A) (N/A, 0.00, N/A)	1511.4	N/A	4.2789 [4.0000]	107.0% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 605084	(7.89, N/A) (N/A, 0.00, N/A)	1458.0	N/A	4.0006 [4.0000]	100.0% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8570962	(9.83, N/A) (N/A, 0.00, N/A)	2834.2	N/A	2.2243 [2.0000]	111.2% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1824778	(10.41, N/A) (N/A, 0.00, N/A)	2895.5	N/A	2.0100 [2.0000]	100.5% { 100.0% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1723765	(10.56, N/A) (N/A, 0.00, N/A)	3505.4	N/A	2.1218 [2.0000]	106.1% { 100.0% }			

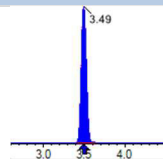
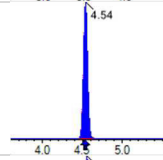
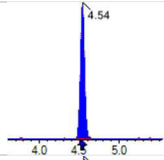
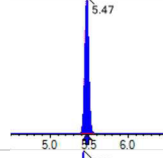
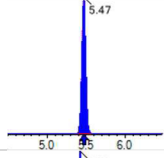
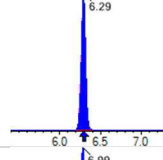
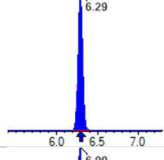
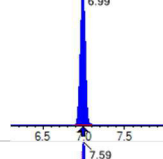
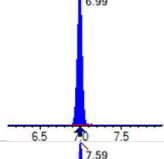
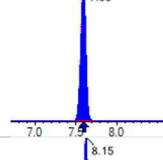
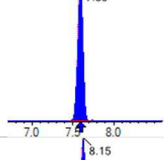
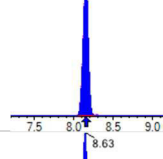
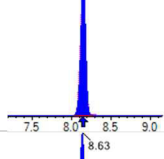
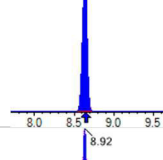
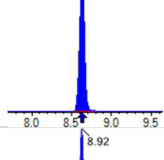
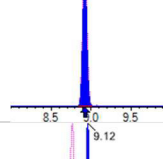
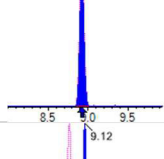
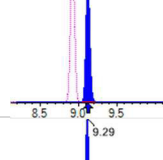
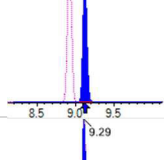
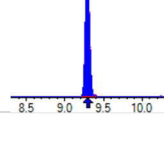
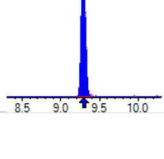


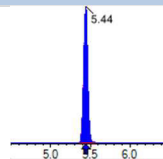
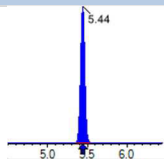
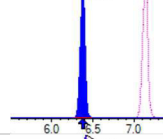
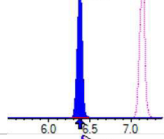
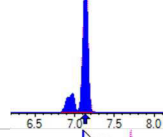
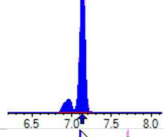
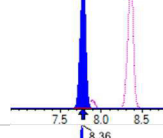
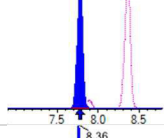
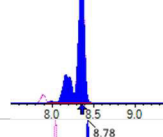
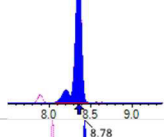
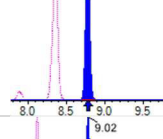
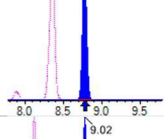
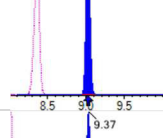
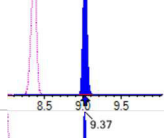
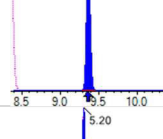
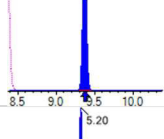
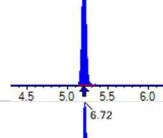
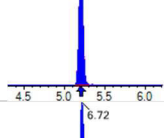
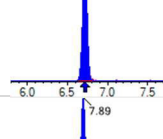
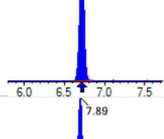
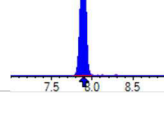
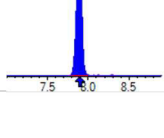
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 Instrument: Saphira
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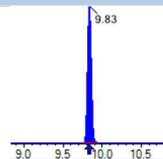
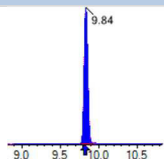
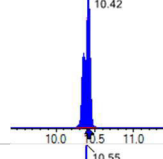
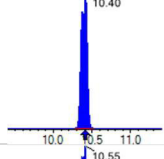
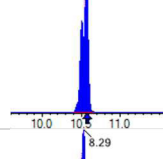
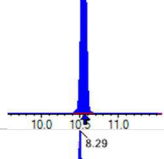
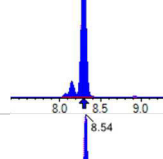
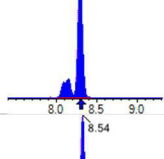
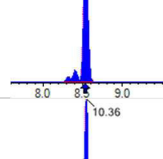
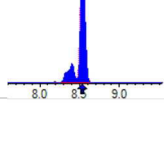
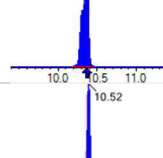
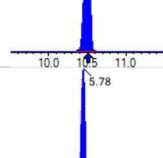
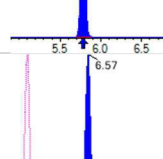
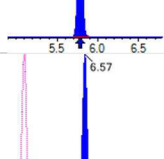
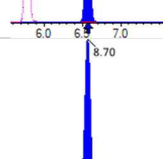
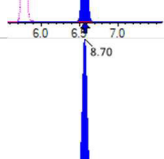
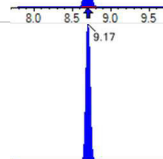
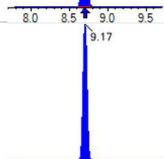
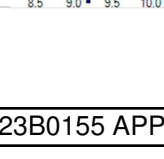
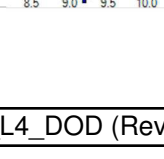
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 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (5)
 Acquired: 2023/02/14 - 18:10

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) 1488594	(8.29 , N/A) (N/A , 0.00 , N/A)	1552.1	N/A	4.4312 [4.0000]	110.8% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1121658	(8.53 , N/A) (N/A , 0.00 , N/A)	3086.8	N/A	4.0777 [4.0000]	101.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7190335	(10.35 , N/A) (N/A , 0.00 , N/A)	1480.1	N/A	21.7243 [20.0000]	108.6% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9522239	(10.50 , N/A) (N/A , 0.00 , N/A)	2110.5	N/A	22.4653 [20.0000]	112.3% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3661243	(5.78 , N/A) (N/A , 0.00 , N/A)	3134.5	N/A	9.1427 [8.0000]	114.3% { 100.0% }			

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
PFBA	(213.0 / 169.0) 9233467	(3.49, 1.00) (0.00, N/A, 0.0)	224.3	N/A 0.0 0.0	46.9444 [40.0000]	117.4%			
PFPeA	(263.0 / 219.0) 9531366 (263.0 / 69.0) 126268	(4.54, 1.00) (0.00, N/A, 0.0)	6000.9 942.8	0.0132 123.7 123.7	23.8670 [20.0000]	119.3%			
PFHxA	(313.0 / 269.0) 6393140 (313.0 / 119.0) 631426	(5.47, 1.00) (0.00, N/A, 0.0)	8330.5 54939.1	0.0988 99.2 99.2	12.4668 [10.0000]	124.7%			
PFHpA	(363.0 / 319.0) 5097470 (363.0 / 169.0) 1520229	(6.29, 1.00) (0.00, N/A, 0.1)	8366.5 19589.4	0.2982 93.0 93.0	11.2965 [10.0000]	113.0%			
PFOA	(413.0 / 369.0) 6305799 (413.0 / 169.0) 2127178	(6.99, 1.00) (0.00, N/A, 0.1)	9194.0 1722.9	0.3373 100.8 100.8	10.4049 [10.0000]	104.0%			
PFNA	(463.0 / 419.0) 5831024 (463.0 / 169.0) 1289232	(7.59, 1.00) (0.00, N/A, 0.0)	7838.8 3394.3	0.2211 98.8 98.8	10.4692 [10.0000]	104.7%			
PFDA	(513.0 / 469.0) 6609858 (513.0 / 169.0) 772819	(8.15, 1.00) (0.00, N/A, -0.1)	2492.5 1306.9	0.1169 96.1 96.1	11.9377 [10.0000]	119.4%			
PFUnA	(563.0 / 519.0) 6120046 (563.0 / 169.0) 718714	(8.63, 1.00) (0.00, N/A, 0.0)	2434.2 1645.4	0.1174 112.0 112.0	12.5450 [10.0000]	125.4%			
PFDoA	(613.0 / 569.0) 5503400 (613.0 / 169.0) 936186	(8.92, 1.00) (0.00, N/A, 0.0)	2937.9 2305.5	0.1701 104.0 104.0	11.5680 [10.0000]	115.7%			
PFTrDA	(663.0 / 619.0) 4864186 (663.0 / 169.0) 1198575	(9.12, 1.02) (N/A, 0.00, 0.0)	2848.6 2088.0	0.2464 103.1 103.1	11.2925 [10.0000]	112.9%			
PFTeDA	(713.0 / 669.0) 4740592 (713.0 / 169.0) 999348	(9.29, 1.00) (0.00, N/A, 0.2)	3599.3 1036.6	0.2108 102.0 102.0	10.7960 [10.0000]	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
PFBS	(299.0 / 80.0) 10390212 (299.0 / 99.0) 6605887	(5.44, 1.00) (0.00, N/A, 0.0)	4357.0 4771.2	0.6358 98.3 98.3	10.2872 [8.8473]	116.3%			
PFPeS	(349.0 / 80.0) 17873849 (349.0 / 99.0) 6341955	(6.38, 0.89) (N/A, 0.00, -0.1)	64324.3 304115.8	0.3548 99.4 99.4	11.1269 [9.3838]	118.6%			
PFHxS	(399.0 / 80.0) 13307133 (399.0 / 99.0) 4364301	(7.14, 1.00) (0.00, N/A, 0.0)	6437.0 4162.2	0.3280 101.0 101.0	10.3896 [9.1098]	114.0%			
PFHpS	(449.0 / 80.0) 16488908 (449.0 / 99.0) 4352074	(7.78, 0.93) (N/A, 0.00, -0.1)	14934.5 33644616.2	0.2639 97.0 97.0	12.2275 [9.5141]	128.5%			
PFOS	(499.0 / 80.0) 20346672 (499.0 / 99.0) 4392227	(8.36, 1.00) (0.00, N/A, 0.1)	1739.1 2878.9	0.2159 97.5 97.5	10.9024 [9.2749]	117.5%			
PFNS	(549.0 / 80.0) 23660442 (549.0 / 99.0) 5643402	(8.78, 1.05) (N/A, 0.00, 0.0)	25366.7 18550.7	0.2385 108.8 108.8	11.2811 [9.5989]	117.5%			
PFDS	(599.0 / 80.0) 26146019 (599.0 / 99.0) 6144955	(9.02, 1.08) (N/A, 0.00, 0.1)	4520.9 3068.3	0.2350 107.8 107.8	11.4601 [9.6311]	119.0%			
PFDoS	(699.0 / 80.0) 17995927 (699.0 / 99.0) 3844433	(9.37, 1.12) (N/A, 0.00, 0.0)	3280.7 2642.6	0.2136 102.6 102.6	12.3673 [9.6956]	127.6%			
4:2FTS	(327.0 / 307.0) 10683219 (327.0 / 81.0) 7205169	(5.20, 1.00) (0.00, N/A, 0.0)	6478.7 5055.2	0.6744 100.0 100.0	44.2283 [37.3811]	118.3%			
6:2FTS	(427.0 / 407.0) 5942947 (427.0 / 81.0) 4683835	(6.72, 1.00) (0.00, N/A, -0.1)	3868.4 3031.6	0.7881 95.2 95.2	44.0754 [37.9617]	116.1%			
8:2FTS	(527.0 / 507.0) 6511862 (527.0 / 81.0) 5633982	(7.89, 1.00) (0.00, N/A, 0.0)	2935.1 2349.4	0.8652 104.1 104.1	42.5374 [38.3315]	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) 28496764 (498.0 / 478.0) 688439	(9.83, 1.00) (0.00, N/A, -0.1)	3755.5 1485.3	0.0242 117.6 117.6	10.8845 [10.0000]	108.8%			
NMeFOSA	(512.0 / 219.0) 27427411 (512.0 / 169.0) 23151406	(10.42, 1.00) (0.00, N/A, 1.0)	3933.1 5131.3	0.8441 103.0 103.0	43.4554 [40.0000]	108.6%			
NEIFOSA	(526.0 / 219.0) 30152734 (526.0 / 169.0) 36496875	(10.55, 1.00) (-0.01, N/A, 0.5)	12529.4 13453.4	1.2104 95.4 95.4	47.2706 [40.0000]	118.2%			
NMeFOSAA	(570.0 / 419.0) 2565724 (570.0 / 483.0) 1265795	(8.29, 1.00) (0.00, N/A, 0.2)	2950.6 2120.3	0.4933 103.9 103.9	10.9996 [10.0000]	110.0%			
NEIFOSAA	(584.0 / 419.0) 2217053 (584.0 / 526.0) 1367295	(8.54, 1.00) (0.00, N/A, 0.0)	2737.6 1586.6	0.6167 120.9 120.9	10.9014 [10.0000]	109.0%			
NMeFOSE	(616.0 / 59.0) 13103112	(10.36, 1.00) (0.01, N/A, 0.0)	3716.4	N/A 0.0 0.0	45.6930 [40.0000]	114.2%			
NEtFOSE	(630.0 / 59.0) 16273237	(10.52, 1.00) (0.01, N/A, 0.0)	1832.3	N/A 0.0 0.0	45.8199 [40.0000]	114.5%			
HFPO-DA	(285.0 / 169.0) 7145918 (285.0 / 185.0) 18638748	(5.78, 1.00) (0.00, N/A, 0.1)	3242.8 4909.2	2.6083 94.7 94.7	24.4771 [20.0000]	122.4%			
ADONA	(377.0 / 85.0) 22877224 (377.0 / 251.0) 2187719	(6.57, 1.14) (N/A, 0.00, 0.1)	4690.0 2291.0	0.0956 108.5 108.5	22.7861 [18.8540]	120.9%			
9CI-Pf3ONS	(531.0 / 351.0) 52552445 (533.0 / 353.0) 20544699	(8.70, 1.50) (N/A, 0.00, 0.0)	3095.8 2832.2	0.3909 112.3 112.3	20.6280 [18.6651]	110.5%			
11CI-PF3OUDS	(631.0 / 451.0) 33770888 (633.0 / 453.0) 12872268	(9.17, 1.59) (N/A, 0.00, 0.0)	2732.6 2758.3	0.3812 105.3 105.3	20.6476 [18.8642]	109.5%			

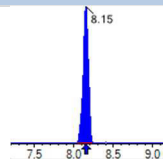
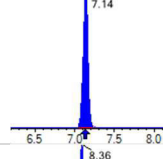
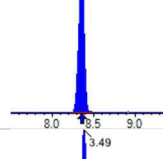
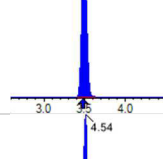
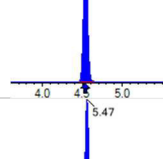
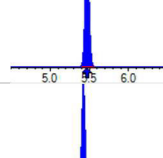
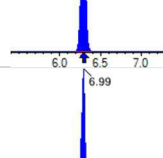
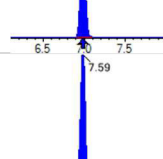
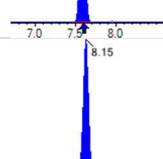
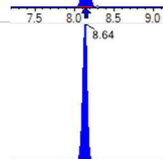
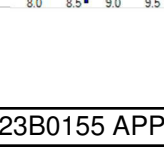


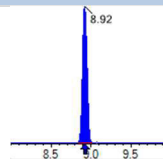
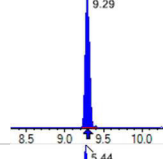
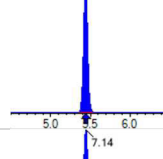
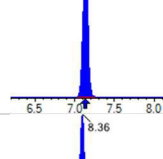
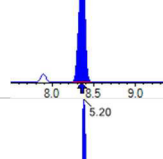
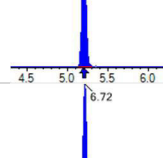
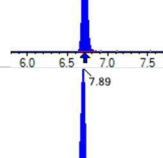
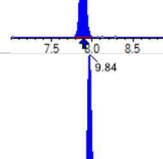
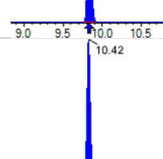
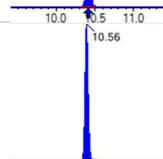
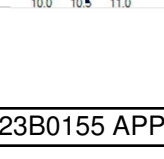
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

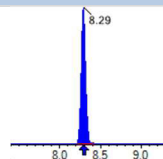
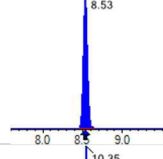
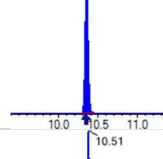
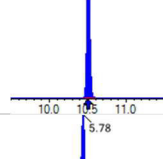
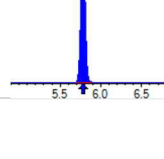
Sample I.D.: SC00647-CAL6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

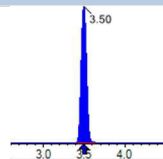
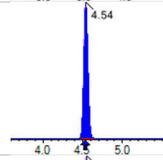
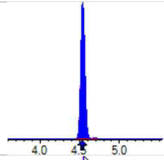
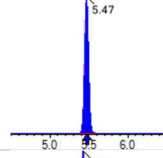
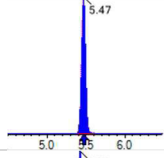
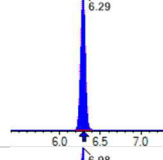
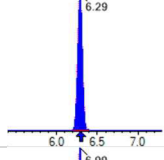
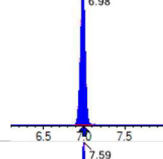
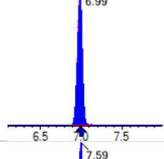
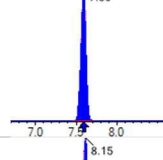
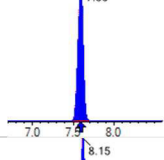
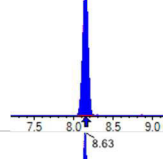
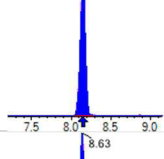
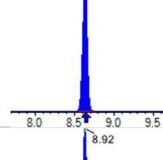
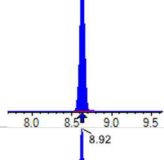
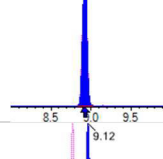
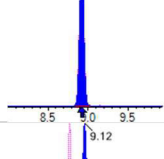
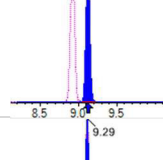
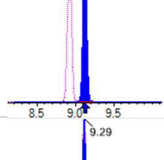
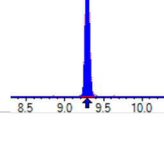
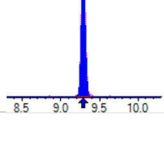
Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (6)
 Acquired: 2023/02/14 - 18:23

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) 453435 (241.0 / 117.0) 709343	(4.05, 0.89) (N/A, 0.01, 0.0)	1696.2 1830.7	1.5644 99.1 99.1	43.4779 [40.0000]	108.7%			
5:3FTCA	(341.0 / 236.7) 3202760 (341.0 / 217.0) 5838898	(6.03, 1.10) (N/A, 0.01, 0.0)	1874.5 2496.4	1.8231 106.9 106.9	45.6716 [40.0000]	114.2%			
7:3FTCA	(441.0 / 317.0) 6044367 (441.0 / 337.0) 5231397	(7.88, 1.44) (N/A, 0.00, 0.0)	1248.9 1229.4	0.8655 100.6 100.6	46.6584 [40.0000]	116.6%			
PFEESA	(315.0 / 135.0) 13856058 (315.0 / 83.0) 3611442	(5.89, 1.08) (N/A, 0.00, 0.1)	4699.3 3584.0	0.2606 102.1 102.1	22.4929 [17.8492]	126.0%			
PFMPA	(229.0 / 85.0) 2074408	(3.89, 0.86) (N/A, 0.01, 0.0)	4384.2	N/A 0.0 0.0	23.7810 [20.0000]	118.9%			
PFMBA	(279.0 / 85.0) 8783910	(4.85, 1.07) (N/A, 0.00, 0.0)	5239.5	N/A 0.0 0.0	24.0123 [20.0000]	120.1%			
NFDHA	(295.0 / 201.0) 7069388 (295.0 / 85.0) 7165355	(5.37, 0.98) (N/A, 0.00, 0.0)	5626.6 4988.4	1.0136 101.2 101.2	24.8368 [20.0000]	124.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 224891	(3.50, N/A) (N/A, 0.01, N/A)	1167.6	N/A	1.0040 [1.0000]	100.4% { 99.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 503477	(5.47, N/A) (N/A, 0.00, N/A)	2210.5	N/A	0.9974 [1.0000]	99.7% { 104.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 642862	(6.99, N/A) (N/A, 0.01, N/A)	2214.2	N/A	1.0143 [1.0000]	101.4% { 108.3% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 572418	(7.59, N/A) (N/A, 0.00, N/A)	11193.0	N/A	0.9473 [1.0000]	94.7% { 96.6% }			

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) 590795	(8.15, N/A) (N/A, 0.00, N/A)	2371.5	N/A	1.0210 [1.0000]	102.1% { 108.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 837150	(7.14, N/A) (N/A, 0.01, N/A)	1125.2	N/A	0.9776 [1.0000]	97.8% { 99.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1482150	(8.36, N/A) (N/A, 0.00, N/A)	1109.8	N/A	0.9846 [1.0000]	98.5% { 98.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1899580	(3.49, N/A) (N/A, 0.01, N/A)	4448.0	N/A	7.1011 [8.0000]	88.8% { 81.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1941584	(4.54, N/A) (N/A, 0.01, N/A)	3195.2	N/A	3.5246 [4.0000]	88.1% { 80.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1166626	(5.47, N/A) (N/A, 0.00, N/A)	3846.9	N/A	1.6917 [2.0000]	84.6% { 76.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1068755	(6.29, N/A) (N/A, 0.00, N/A)	2525.5	N/A	1.7886 [2.0000]	89.4% { 84.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1361303	(6.99, N/A) (N/A, 0.01, N/A)	1818.4	N/A	1.8698 [2.0000]	93.5% { 88.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 629508	(7.59, N/A) (N/A, 0.00, N/A)	3985.1	N/A	1.0379 [1.0000]	103.8% { 89.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 629459	(8.15, N/A) (N/A, 0.00, N/A)	1155.8	N/A	0.8450 [1.0000]	84.5% { 81.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 587177	(8.64, N/A) (N/A, 0.00, N/A)	3704.7	N/A	0.7927 [1.0000]	79.3% { 76.1% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 541005	(8.92, N/A) (N/A, 0.00, N/A)	53274.1	N/A	0.8516 [1.0000]	85.2% { 82.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 507428	(9.29, N/A) (N/A, 0.00, N/A)	1491.2	N/A	0.8717 [1.0000]	87.2% { 83.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3250497	(5.44, N/A) (N/A, 0.00, N/A)	3936.3	N/A	1.8552 [2.0000]	92.8% { 82.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1665870	(7.14, N/A) (N/A, 0.00, N/A)	2186.2	N/A	1.8305 [2.0000]	91.5% { 83.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3539645	(8.36, N/A) (N/A, 0.01, N/A)	1147.9	N/A	1.7396 [2.0000]	87.0% { 80.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 353761	(5.20, N/A) (N/A, 0.00, N/A)	1744.3	N/A	3.6579 [4.0000]	91.4% { 86.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 380113	(6.72, N/A) (N/A, 0.01, N/A)	1460.9	N/A	3.5806 [4.0000]	89.5% { 83.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 562167	(7.89, N/A) (N/A, 0.00, N/A)	1081.9	N/A	3.7482 [4.0000]	93.7% { 92.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6546821	(9.84, N/A) (N/A, 0.00, N/A)	2955.2	N/A	1.7333 [2.0000]	86.7% { 76.4% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 1603154	(10.42, N/A) (N/A, 0.00, N/A)	2177.9	N/A	1.8015 [2.0000]	90.1% { 87.9% }			
D5_NEiFOsa_EIS	(531.0 / 169.0) 1365559	(10.56, N/A) (N/A, 0.00, N/A)	2826.0	N/A	1.7149 [2.0000]	85.7% { 79.2% }			

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1188918	(8.29, N/A) (N/A, 0.00, N/A)	1548.6	N/A	3.6106 [4.0000]	90.3% { 79.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 968558	(8.53, N/A) (N/A, 0.00, N/A)	1321416.8	N/A	3.5922 [4.0000]	89.8% { 86.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5736778	(10.35, N/A) (N/A, 0.00, N/A)	1892.8	N/A	17.6829 [20.0000]	88.4% { 79.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7464155	(10.51, N/A) (N/A, 0.00, N/A)	2307.6	N/A	17.9656 [20.0000]	89.8% { 78.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2953400	(5.78, N/A) (N/A, 0.00, N/A)	2802.1	N/A	7.0337 [8.0000]	87.9% { 80.7% }			

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
PFBA	(213.0 / 169.0) 15337689	(3.50, 1.00) (0.00, N/A, 0.0)	202.8	N/A 0.0 0.0	82.1737 [80.0000]	102.7%			
PFPeA	(263.0 / 219.0) 16682791 (263.0 / 69.0) 214318	(4.54, 1.00) (0.00, N/A, 0.1)	7620.4 1415.7	0.0128 120.0 120.0	40.3999 [40.0000]	101.0%			
PFHxA	(313.0 / 269.0) 11582071 (313.0 / 119.0) 1164126	(5.47, 1.00) (0.00, N/A, 0.0)	10132.7 83880.5	0.1005 100.9 100.9	20.9265 [20.0000]	104.6%			
PFHpA	(363.0 / 319.0) 10236624 (363.0 / 169.0) 2996363	(6.29, 1.00) (0.00, N/A, 0.0)	9527.2 83284.9	0.2927 91.3 91.3	22.4112 [20.0000]	112.1%			
PFOA	(413.0 / 369.0) 12773098 (413.0 / 169.0) 3940700	(6.98, 1.00) (0.00, N/A, -0.1)	9301.8 8448.1	0.3085 92.2 92.2	22.4084 [20.0000]	112.0%			
PFNA	(463.0 / 419.0) 11486325 (463.0 / 169.0) 2596327	(7.59, 1.00) (0.00, N/A, -0.1)	9149.1 1094562.3	0.2260 101.0 101.0	20.8564 [20.0000]	104.3%			
PFDA	(513.0 / 469.0) 13202559 (513.0 / 169.0) 1478374	(8.15, 1.00) (0.00, N/A, 0.0)	3679.6 1643.9	0.1120 92.1 92.1	20.3910 [20.0000]	102.0%			
PFUnA	(563.0 / 519.0) 12098447 (563.0 / 169.0) 1401009	(8.63, 1.00) (0.00, N/A, 0.2)	3830.9 1876.5	0.1158 110.5 110.5	21.9467 [20.0000]	109.7%			
PFDoA	(613.0 / 569.0) 9962922 (613.0 / 169.0) 1708344	(8.92, 1.00) (0.00, N/A, 0.0)	3464.3 2061.8	0.1715 104.8 104.8	19.4226 [20.0000]	97.1%			
PFTTrDA	(663.0 / 619.0) 8892680 (663.0 / 169.0) 2243556	(9.12, 1.02) (N/A, 0.00, 0.1)	3771.0 1929.7	0.2523 105.6 105.6	19.1473 [20.0000]	95.7%			
PFTeDA	(713.0 / 669.0) 9909351 (713.0 / 169.0) 1996611	(9.29, 1.00) (0.00, N/A, 0.0)	4270.0 1672.9	0.2015 97.5 97.5	21.0189 [20.0000]	105.1%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (7)
 Acquired: 2023/02/14 - 18:36

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 18432508 (299.0 / 99.0) 11551282	(5.44, 1.00) (0.00, N/A, 0.0)	4327.3 4075.2	0.6267 96.9 96.9	17.7178 [17.6947]	100.1%			
PFPeS	(349.0 / 80.0) 31713610 (349.0 / 99.0) 12209635	(6.37, 0.89) (N/A, 0.00, -0.1)	19247.5 6160374.7	0.3850 107.8 107.8	19.1741 [18.7676]	102.2%			
PFHxS	(399.0 / 80.0) 25528591 (399.0 / 99.0) 8369716	(7.13, 1.00) (0.00, N/A, 0.0)	7561.6 283033.5	0.3279 101.0 101.0	19.3577 [18.2197]	106.2%			
PFHpS	(449.0 / 80.0) 29354713 (449.0 / 99.0) 8525062	(7.77, 0.93) (N/A, 0.00, 0.0)	69900.5 28178.3	0.2904 106.7 106.7	19.8365 [19.0281]	104.2%			
PFOS	(499.0 / 80.0) 37594232 (499.0 / 99.0) 8592679	(8.36, 1.00) (0.00, N/A, 0.0)	2042.7 3023.4	0.2286 103.3 103.3	18.3565 [18.5499]	99.0%			
PFNS	(549.0 / 80.0) 40002905 (549.0 / 99.0) 10885578	(8.78, 1.05) (N/A, 0.00, 0.0)	9789.3 69993.2	0.2721 124.1 124.1	17.3803 [19.1977]	90.5%			
PFDS	(599.0 / 80.0) 43319573 (599.0 / 99.0) 11405776	(9.02, 1.08) (N/A, 0.00, 0.0)	4704.2 4394.0	0.2633 120.8 120.8	17.3024 [19.2621]	89.8%			
PFDoS	(699.0 / 80.0) 31495074 (699.0 / 99.0) 7427296	(9.37, 1.12) (N/A, 0.00, 0.0)	3407.1 3335.6	0.2358 113.3 113.3	19.7235 [19.3913]	101.7%			
4:2FTS	(327.0 / 307.0) 19385545 (327.0 / 81.0) 13393654	(5.20, 1.00) (0.00, N/A, 0.0)	4804.2 3388.8	0.6909 102.4 102.4	72.0914 [74.7622]	96.4%			
6:2FTS	(427.0 / 407.0) 12377441 (427.0 / 81.0) 9446075	(6.72, 1.00) (0.00, N/A, 0.0)	3948.2 3770.7	0.7632 92.2 92.2	81.9573 [75.9234]	107.9%			
8:2FTS	(527.0 / 507.0) 13494970 (527.0 / 81.0) 11411983	(7.89, 1.00) (0.00, N/A, 0.0)	3531.0 3647.8	0.8456 101.7 101.7	78.5620 [76.6631]	102.5%			

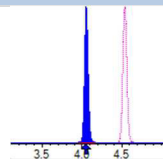
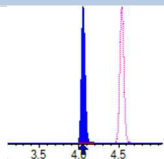
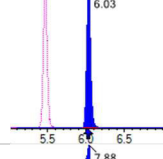
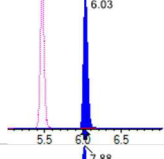
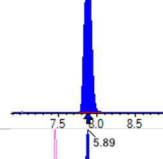
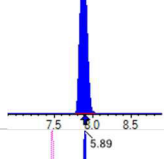
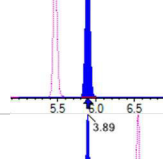
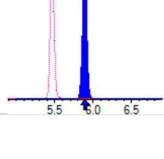
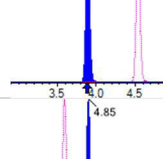
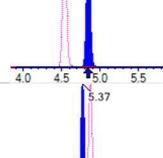
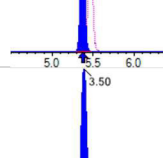
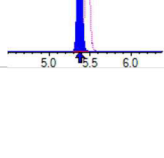
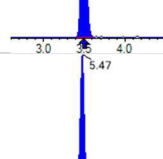
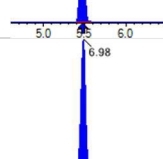
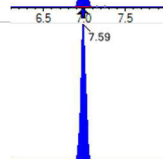
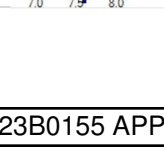


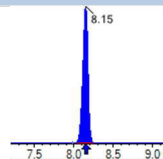
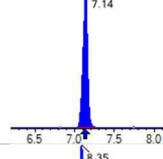
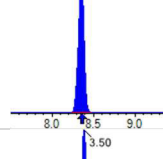
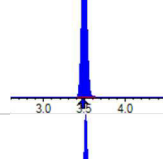
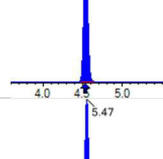
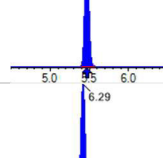
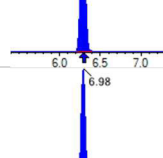
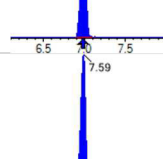
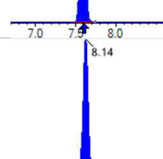
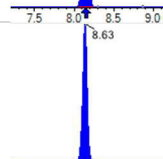
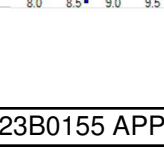
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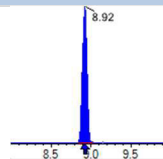
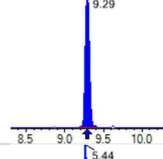
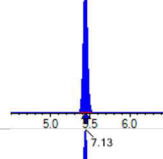
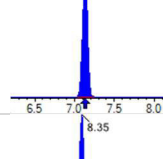
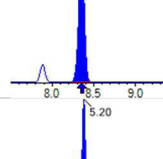
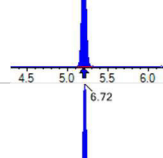
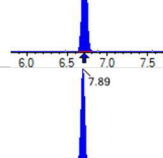
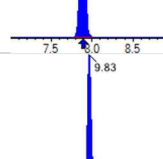
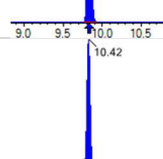
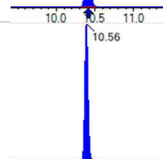
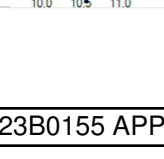
Sample I.D.: SC00647-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (7)
 Acquired: 2023/02/14 - 18:36

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 45374007 (498.0 / 478.0) 1211984	(9.83 , 1.00) (0.00 , N/A , 0.1)	3138.6 2816.6	0.0267 130.0 130.0	15.7940 [20.0000]	79.0%			
NMeFOSA	(512.0 / 219.0) 46430830 (512.0 / 169.0) 38979424	(10.41 , 1.00) (-0.01 , N/A , 0.6)	3026.9 3553.6	0.8395 102.5 102.5	75.0182 [80.0000]	93.8%			
NEIFOSA	(526.0 / 219.0) 49087453 (526.0 / 169.0) 56621172	(10.55 , 1.00) (-0.01 , N/A , 0.3)	16025.9 16309.8	1.1535 90.9 90.9	78.9558 [80.0000]	98.7%			
NMeFOSAA	(570.0 / 419.0) 4928976 (570.0 / 483.0) 2272830	(8.29 , 1.00) (0.00 , N/A , -0.1)	3144.1 1671.5	0.4611 97.1 97.1	20.3987 [20.0000]	102.0%			
NEIFOSAA	(584.0 / 419.0) 4563311 (584.0 / 526.0) 2631013	(8.54 , 1.00) (0.01 , N/A , 0.1)	2694.2 2137.1	0.5766 113.0 113.0	20.4343 [20.0000]	102.2%			
NMeFOSE	(616.0 / 59.0) 24449401	(10.36 , 1.00) (0.01 , N/A , 0.0)	4286.5	N/A 0.0 0.0	82.4264 [80.0000]	103.0%			
NEtFOSE	(630.0 / 59.0) 28256391	(10.51 , 1.00) (0.01 , N/A , 0.0)	1566.1	N/A 0.0 0.0	79.8411 [80.0000]	99.8%			
HFPO-DA	(285.0 / 169.0) 13130220 (285.0 / 185.0) 32292921	(5.78 , 1.00) (0.00 , N/A , 0.0)	4252.9 4645.1	2.4594 89.3 89.3	41.6650 [40.0000]	104.2%			
ADONA	(377.0 / 85.0) 38742745 (377.0 / 251.0) 3813720	(6.57 , 1.14) (N/A , 0.00 , 0.0)	4573.0 2959.6	0.0984 111.6 111.6	35.7483 [37.7080]	94.8%			
9CI-Pf3ONS	(531.0 / 351.0) 75971960 (533.0 / 353.0) 33582790	(8.70 , 1.50) (N/A , 0.00 , 0.0)	2457.2 3506.4	0.4420 126.9 126.9	35.2512 [37.3302]	94.4%			
11CI-PF3OUDS	(631.0 / 451.0) 55193805 (633.0 / 453.0) 22582441	(9.17 , 1.59) (N/A , 0.00 , -0.1)	3979.8 3614.0	0.4091 113.1 113.1	31.2618 [37.7283]	82.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 902077 (241.0 / 117.0) 1433216	(4.05, 0.89) (N/A, 0.01, 0.1)	2153.7 2284.4	1.5888 100.7 100.7	77.8383 [80.0000]	97.3%			
5:3FTCA	(341.0 / 236.7) 6878497 (341.0 / 217.0) 11289214	(6.03, 1.10) (N/A, 0.01, 0.1)	3227.4 2937.3	1.6412 96.2 96.2	90.8834 [80.0000]	113.6%			
7:3FTCA	(441.0 / 317.0) 12072417 (441.0 / 337.0) 10707762	(7.88, 1.44) (N/A, 0.00, 0.0)	1547.1 2006.4	0.8870 103.1 103.1	86.3460 [80.0000]	107.9%			
PFEESA	(315.0 / 135.0) 24328200 (315.0 / 83.0) 6999908	(5.89, 1.08) (N/A, 0.00, 0.0)	5805.7 4209.3	0.2877 112.7 112.7	36.5918 [35.6984]	102.5%			
PFMPA	(229.0 / 85.0) 3687422	(3.89, 0.86) (N/A, 0.01, 0.0)	5387.3	N/A 0.0 0.0	40.8816 [40.0000]	102.2%			
PFMBA	(279.0 / 85.0) 15245914	(4.85, 1.07) (N/A, 0.00, 0.0)	6035.2	N/A 0.0 0.0	40.3060 [40.0000]	100.8%			
NFDHA	(295.0 / 201.0) 12950881 (295.0 / 85.0) 12829443	(5.37, 0.98) (N/A, 0.00, 0.0)	4942.1 5261.9	0.9906 98.9 98.9	42.1582 [40.0000]	105.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 185676	(3.50, N/A) (N/A, 0.01, N/A)	986.1	N/A	0.8289 [1.0000]	82.9% { 82.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 474941	(5.47, N/A) (N/A, 0.00, N/A)	6192.6	N/A	0.9408 [1.0000]	94.1% { 98.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 608223	(6.98, N/A) (N/A, 0.01, N/A)	3392.9	N/A	0.9597 [1.0000]	96.0% { 102.5% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 546126	(7.59, N/A) (N/A, 0.00, N/A)	43952.5	N/A	0.9038 [1.0000]	90.4% { 92.1% }			

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) 584998	(8.15, N/A) (N/A, 0.00, N/A)	1234.2	N/A	1.0110 [1.0000]	101.1% { 107.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 824707	(7.14, N/A) (N/A, 0.01, N/A)	1224.7	N/A	0.9630 [1.0000]	96.3% { 97.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1345342	(8.35, N/A) (N/A, 0.00, N/A)	1649.3	N/A	0.8937 [1.0000]	89.4% { 89.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1802619	(3.50, N/A) (N/A, 0.01, N/A)	4896.0	N/A	8.1618 [8.0000]	102.0% { 77.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2007646	(4.54, N/A) (N/A, 0.01, N/A)	3229.3	N/A	3.8635 [4.0000]	96.6% { 83.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1259108	(5.47, N/A) (N/A, 0.00, N/A)	2504.4	N/A	1.9355 [2.0000]	96.8% { 82.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1081833	(6.29, N/A) (N/A, 0.00, N/A)	5563.9	N/A	1.9193 [2.0000]	96.0% { 85.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1280381	(6.98, N/A) (N/A, 0.00, N/A)	1843.3	N/A	1.8588 [2.0000]	92.9% { 83.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 622463	(7.59, N/A) (N/A, 0.00, N/A)	1881.4	N/A	1.0757 [1.0000]	107.6% { 88.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 736065	(8.14, N/A) (N/A, 0.00, N/A)	1519.2	N/A	0.9979 [1.0000]	99.8% { 94.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 663506	(8.63, N/A) (N/A, 0.00, N/A)	2209.0	N/A	0.9046 [1.0000]	90.5% { 86.0% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 583320	(8.92, N/A) (N/A, 0.00, N/A)	4662.7	N/A	0.9273 [1.0000]	92.7% { 88.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 544806	(9.29, N/A) (N/A, 0.00, N/A)	1065.6	N/A	0.9451 [1.0000]	94.5% { 89.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3348089	(5.44, N/A) (N/A, 0.00, N/A)	2918.5	N/A	1.9398 [2.0000]	97.0% { 84.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1715256	(7.13, N/A) (N/A, 0.00, N/A)	1905.6	N/A	1.9132 [2.0000]	95.7% { 86.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3884369	(8.35, N/A) (N/A, 0.00, N/A)	849.6	N/A	2.1031 [2.0000]	105.2% { 87.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 393824	(5.20, N/A) (N/A, 0.00, N/A)	1464.1	N/A	4.1337 [4.0000]	103.3% { 96.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 425746	(6.72, N/A) (N/A, 0.01, N/A)	1188.0	N/A	4.0710 [4.0000]	101.8% { 92.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 630798	(7.89, N/A) (N/A, 0.00, N/A)	1493.4	N/A	4.2693 [4.0000]	106.7% { 104.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7183878	(9.83, N/A) (N/A, 0.00, N/A)	3258.9	N/A	2.0954 [2.0000]	104.8% { 83.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 1698408	(10.42, N/A) (N/A, 0.00, N/A)	2308.8	N/A	2.1027 [2.0000]	105.1% { 93.1% }			
D5_NEiFOsa_EIS	(531.0 / 169.0) 1330948	(10.56, N/A) (N/A, 0.01, N/A)	3073.0	N/A	1.8414 [2.0000]	92.1% { 77.2% }			

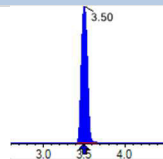
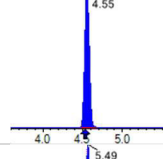
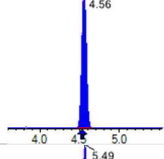
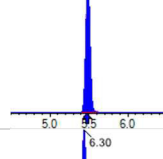
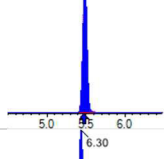
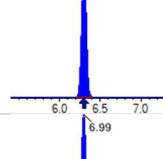
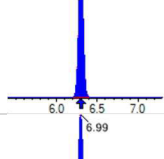
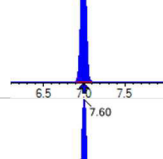
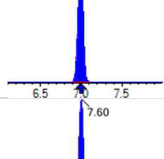
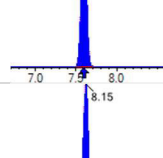
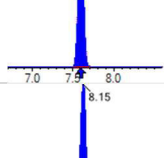
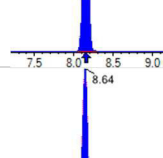
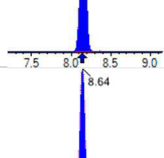
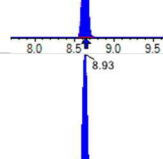
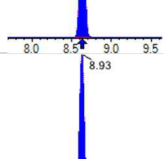
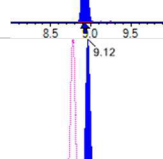
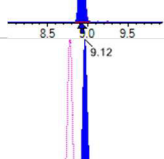
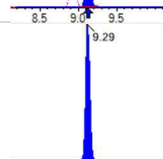
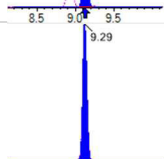
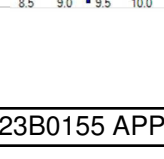
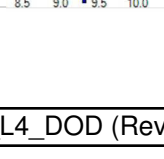


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL7
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (7)
 Acquired: 2023/02/14 - 18:36

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1231612	(8.29 , N/A) (N/A , 0.00 , N/A)	2039.8	N/A	4.1206 [4.0000]	103.0% { 82.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1063539	(8.53 , N/A) (N/A , 0.00 , N/A)	7788.5	N/A	4.3456 [4.0000]	108.6% { 94.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5933968	(10.35 , N/A) (N/A , 0.00 , N/A)	2294.5	N/A	20.1507 [20.0000]	100.8% { 82.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7437914	(10.51 , N/A) (N/A , 0.00 , N/A)	2061.1	N/A	19.7230 [20.0000]	98.6% { 78.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3188049	(5.78 , N/A) (N/A , 0.00 , N/A)	2502.4	N/A	8.0487 [8.0000]	100.6% { 87.1% }			

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
PFBA	(213.0 / 169.0) 30157574	(3.50, 1.00) (0.00, N/A, 0.0)	199.4	N/A 0.0 0.0	199.3851 [200.0000]	99.7%			
PFPeA	(263.0 / 219.0) 33180312 (263.0 / 69.0) 437514	(4.55, 1.00) (0.00, N/A, -0.1)	7659.6 4196.6	0.0132 123.1 123.1	99.0620 [100.0000]	99.1%			
PFHxA	(313.0 / 269.0) 24352789 (313.0 / 119.0) 2602017	(5.49, 1.00) (0.00, N/A, 0.0)	9698.3 258522.9	0.1068 107.3 107.3	48.3136 [50.0000]	96.6%			
PFHpA	(363.0 / 319.0) 23305554 (363.0 / 169.0) 6794628	(6.30, 1.00) (0.00, N/A, 0.1)	13241.3 34181.2	0.2915 90.9 90.9	54.6205 [50.0000]	109.2%			
PFOA	(413.0 / 369.0) 27748645 (413.0 / 169.0) 9269777	(6.99, 1.00) (0.00, N/A, 0.0)	9517.6 12954.3	0.3341 99.8 99.8	48.7358 [50.0000]	97.5%			
PFNA	(463.0 / 419.0) 26643346 (463.0 / 169.0) 5700123	(7.60, 1.00) (0.00, N/A, -0.1)	10839.5 55499.9	0.2139 95.6 95.6	53.9772 [50.0000]	108.0%			
PFDA	(513.0 / 469.0) 27897726 (513.0 / 169.0) 3358162	(8.15, 1.00) (0.00, N/A, 0.0)	3311.3 2578.7	0.1204 99.0 99.0	49.9184 [50.0000]	99.8%			
PFUnA	(563.0 / 519.0) 25375749 (563.0 / 169.0) 3201701	(8.64, 1.00) (0.00, N/A, 0.0)	4015.5 2264.0	0.1262 120.3 120.3	47.9194 [50.0000]	95.8%			
PFDoA	(613.0 / 569.0) 22253713 (613.0 / 169.0) 3793752	(8.93, 1.00) (0.00, N/A, 0.0)	3711.7 3062.5	0.1705 104.2 104.2	47.0721 [50.0000]	94.1%			
PFTrDA	(663.0 / 619.0) 17139294 (663.0 / 169.0) 4669255	(9.12, 1.02) (N/A, 0.00, 0.0)	2774.9 2031.0	0.2724 114.0 114.0	40.0412 [50.0000]	80.1%			
PFTeDA	(713.0 / 669.0) 21814245 (713.0 / 169.0) 4999446	(9.29, 1.00) (0.00, N/A, 0.0)	2027.5 1844.5	0.2292 110.9 110.9	47.8819 [50.0000]	95.8%			



Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL8
DF, IV: 1, 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (8)
Acquired: 2023/02/14 - 18:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 33764092 (299.0 / 99.0) 22999680	(5.45, 1.00) (0.00, N/A, 0.0)	4850.9 4549.7	0.6812 105.3 105.3	39.7222 [44.2367]	89.8%			
PFPeS	(349.0 / 80.0) 57760543 (349.0 / 99.0) 25912545	(6.38, 0.89) (N/A, 0.01, -0.1)	11585.7 28547.7	0.4486 125.7 125.7	37.2690 [46.9191]	79.4%			
PFHxS	(399.0 / 80.0) 54967905 (399.0 / 99.0) 19970270	(7.14, 1.00) (0.00, N/A, 0.1)	7010.9 10956.1	0.3633 111.9 111.9	44.4819 [45.5491]	97.7%			
PFHpS	(449.0 / 80.0) 55548911 (449.0 / 99.0) 18510688	(7.78, 0.93) (N/A, 0.01, 0.0)	14572.4 49735.1	0.3332 122.4 122.4	41.7551 [47.5703]	87.8%			
PFOS	(499.0 / 80.0) 74516074 (499.0 / 99.0) 18648612	(8.36, 1.00) (0.00, N/A, -0.1)	2183.8 3445.8	0.2503 113.1 113.1	40.4730 [46.3746]	87.3%			
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 [47.9943]	N/A%			QC,
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) 54329438 (699.0 / 99.0) 16259426	(9.37, 1.12) (N/A, 0.01, 0.1)	2658.8 3615.0	0.2993 143.8 143.8	37.8463 [48.4781]	78.1%			
4:2FTS	(327.0 / 307.0) 39943309 (327.0 / 81.0) 29603285	(5.22, 1.00) (0.00, N/A, 0.0)	5776.1 5249.2	0.7411 109.8 109.8	153.2757 [186.9055]	82.0%			
6:2FTS	(427.0 / 407.0) 29385691 (427.0 / 81.0) 23406118	(6.73, 1.00) (0.00, N/A, 0.0)	3922.8 5055.0	0.7965 96.2 96.2	188.8167 [189.8085]	99.5%			
8:2FTS	(527.0 / 507.0) 32033130 (527.0 / 81.0) 26056569	(7.89, 1.00) (0.00, N/A, 0.1)	2531.0 3355.4	0.8134 97.9 97.9	169.8673 [191.6577]	88.6%			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (8)
 Acquired: 2023/02/14 - 18:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 76556778 (512.0 / 169.0) 65118925	(10.41, 1.00) (-0.02, N/A, 0.3)	2387.5 3511.2	0.8506 103.8 103.8	206.1452 [200.0000]	103.1%			
NEIFOSA	(526.0 / 219.0) 82865198 (526.0 / 169.0) 88002594	(10.55, 1.00) (-0.02, N/A, 0.1)	16651.6 18744.9	1.0620 83.7 83.7	160.3500 [200.0000]	80.2%			
NMeFOSAA	(570.0 / 419.0) 12224827 (570.0 / 483.0) 5469499	(8.30, 1.00) (0.00, N/A, 0.1)	4664.0 2463.8	0.4474 94.2 94.2	48.3498 [50.0000]	96.7%			
NEIFOSAA	(584.0 / 419.0) 10977527 (584.0 / 526.0) 6240818	(8.54, 1.00) (0.01, N/A, 0.0)	2642.6 1856.2	0.5685 111.4 111.4	51.7785 [50.0000]	103.6%			
NMeFOSE	(616.0 / 59.0) 45235489	(10.35, 1.00) (0.00, N/A, 0.0)	3201.0	N/A 0.0 0.0	186.7620 [200.0000]	93.4%			
NEtFOSE	(630.0 / 59.0) 47659476	(10.51, 1.00) (0.00, N/A, 0.0)	1276.6	N/A 0.0 0.0	175.0607 [200.0000]	87.5%			
HFPO-DA	(285.0 / 169.0) 27064622 (285.0 / 185.0) 56107744	(5.80, 1.00) (0.00, N/A, 0.0)	4176.1 4089.0	2.0731 75.3 75.3	98.6051 [100.0000]	98.6%			
ADONA	(377.0 / 85.0) 63651267 (377.0 / 251.0) 8645557	(6.58, 1.14) (N/A, 0.01, 0.0)	2896.3 3684.8	0.1358 154.0 154.0	67.4326 [94.2700]	71.5%			IR2,
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 [93.3254]	N/A%			QC,
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 [94.3208]	N/A%			QC,

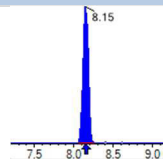
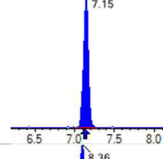
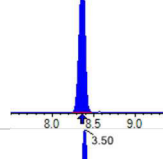
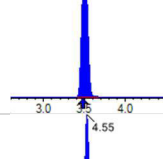
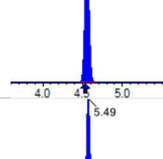
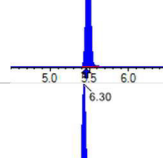
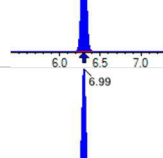
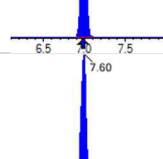
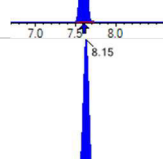
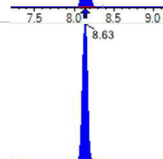
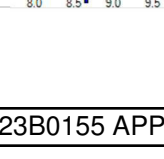


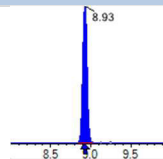
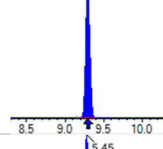
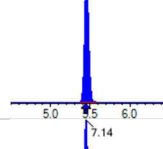
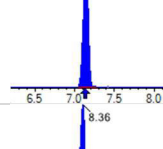
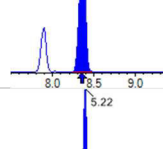
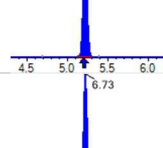
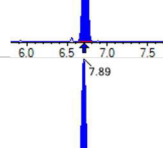
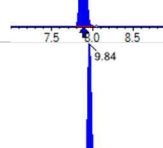
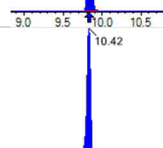
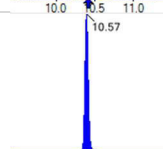
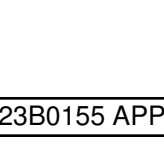
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (8)
 Acquired: 2023/02/14 - 18:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 2348441 (241.0 / 117.0) 3695398	(4.06, 0.89) (N/A, 0.02, 0.0)	2293.1 2774.8	1.5736 99.7 99.7	200.2861 [200.0000]	100.1%			
5:3FTCA	(341.0 / 236.7) 16701638 (341.0 / 217.0) 27334931	(6.05, 1.10) (N/A, 0.02, 0.0)	2530.4 3328.2	1.6367 96.0 96.0	242.3031 [200.0000]	121.2%			
7:3FTCA	(441.0 / 317.0) 30019668 (441.0 / 337.0) 25999080	(7.89, 1.44) (N/A, 0.01, 0.0)	1616.8 1863.7	0.8661 100.6 100.6	235.7560 [200.0000]	117.9%			
PFEESA	(315.0 / 135.0) 44504868 (315.0 / 83.0) 14830352	(5.90, 1.08) (N/A, 0.02, 0.0)	3473.2 4026.5	0.3332 130.5 130.5	73.5006 [89.2459]	82.4%			
PFMPA	(229.0 / 85.0) 8205055	(3.90, 0.86) (N/A, 0.02, 0.0)	5685.5	N/A 0.0 0.0	112.1506 [100.0000]	112.2%			
PFMBA	(279.0 / 85.0) 30499882	(4.86, 1.07) (N/A, 0.02, 0.0)	5844.0	N/A 0.0 0.0	99.4098 [100.0000]	99.4%			
NFDHA	(295.0 / 201.0) 26402610 (295.0 / 85.0) 26363507	(5.39, 0.98) (N/A, 0.02, 0.0)	3971.6 5150.6	0.9985 99.7 99.7	94.3710 [100.0000]	94.4%			
13C3_PFBa_IIS	(216.0 / 172.0) 158427	(3.50, N/A) (N/A, 0.01, N/A)	747.3	N/A	0.7073 [1.0000]	70.7% {70.3%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 454892	(5.49, N/A) (N/A, 0.02, N/A)	3086.9	N/A	0.9011 [1.0000]	90.1% {94.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 531465	(7.00, N/A) (N/A, 0.02, N/A)	2829.3	N/A	0.8386 [1.0000]	83.9% {89.6%}			
13C5_PFNAl_IIS	(468.0 / 423.0) 563682	(7.60, N/A) (N/A, 0.01, N/A)	1482.9	N/A	0.9328 [1.0000]	93.3% {95.1%}			

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) 548948	(8.15, N/A) (N/A, 0.00, N/A)	1038.3	N/A	0.9487 [1.0000]	94.9% { 100.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 779148	(7.15, N/A) (N/A, 0.01, N/A)	934.0	N/A	0.9098 [1.0000]	91.0% { 92.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1418626	(8.36, N/A) (N/A, 0.01, N/A)	1316.0	N/A	0.9424 [1.0000]	94.2% { 93.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1460766	(3.50, N/A) (N/A, 0.01, N/A)	3458.8	N/A	7.7515 [8.0000]	96.9% { 62.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1628440	(4.55, N/A) (N/A, 0.02, N/A)	2993.6	N/A	3.2719 [4.0000]	81.8% { 67.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1146711	(5.49, N/A) (N/A, 0.02, N/A)	3359.8	N/A	1.8404 [2.0000]	92.0% { 74.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1010584	(6.30, N/A) (N/A, 0.01, N/A)	1691.9	N/A	1.8719 [2.0000]	93.6% { 80.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1278931	(6.99, N/A) (N/A, 0.01, N/A)	2254.9	N/A	2.1248 [2.0000]	106.2% { 83.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 557891	(7.60, N/A) (N/A, 0.01, N/A)	2610.8	N/A	0.9341 [1.0000]	93.4% { 79.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 635337	(8.15, N/A) (N/A, 0.00, N/A)	2044.6	N/A	0.9179 [1.0000]	91.8% { 81.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 637370	(8.63, N/A) (N/A, 0.00, N/A)	1798.4	N/A	0.9261 [1.0000]	92.6% { 82.6% }			

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) 537611	(8.93, N/A) (N/A, 0.01, N/A)	1771.9	N/A	0.9107 [1.0000]	91.1% { 81.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 526472	(9.29, N/A) (N/A, 0.00, N/A)	1321.1	N/A	0.9733 [1.0000]	97.3% { 86.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2735550	(5.45, N/A) (N/A, 0.02, N/A)	3421.3	N/A	1.6775 [2.0000]	83.9% { 69.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1607241	(7.14, N/A) (N/A, 0.01, N/A)	2197.8	N/A	1.8976 [2.0000]	94.9% { 80.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3491992	(8.36, N/A) (N/A, 0.01, N/A)	536.1	N/A	1.7930 [2.0000]	89.7% { 79.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 381662	(5.22, N/A) (N/A, 0.02, N/A)	1246.7	N/A	4.2402 [4.0000]	106.0% { 93.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 438735	(6.73, N/A) (N/A, 0.01, N/A)	1279.4	N/A	4.4405 [4.0000]	111.0% { 95.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 692502	(7.89, N/A) (N/A, 0.01, N/A)	2008.3	N/A	4.9610 [4.0000]	124.0% { 114.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 5474172	(9.84, N/A) (N/A, 0.01, N/A)	2848.0	N/A	1.5142 [2.0000]	75.7% { 63.9% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 1535713	(10.42, N/A) (N/A, 0.01, N/A)	1409.7	N/A	1.8030 [2.0000]	90.2% { 84.2% }			
D5_NEiFOsa_EIS	(531.0 / 169.0) 1106313	(10.57, N/A) (N/A, 0.01, N/A)	2709.4	N/A	1.4515 [2.0000]	72.6% { 64.2% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL8
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (8)
 Acquired: 2023/02/14 - 18:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1288746	(8.29 , N/A) (N/A , 0.01 , N/A)	2014.3	N/A	4.0890 [4.0000]	102.2% { 86.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1009687	(8.54 , N/A) (N/A , 0.01 , N/A)	2733.1	N/A	3.9125 [4.0000]	97.8% { 90.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4845449	(10.35 , N/A) (N/A , 0.01 , N/A)	1915.8	N/A	15.6043 [20.0000]	78.0% { 67.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5721656	(10.51 , N/A) (N/A , 0.01 , N/A)	1896.2	N/A	14.3883 [20.0000]	71.9% { 60.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2776685	(5.79 , N/A) (N/A , 0.02 , N/A)	2495.0	N/A	7.3191 [8.0000]	91.5% { 75.8% }			

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2307007**Laboratory ID:** SC00647-SCV1**Sequence:** SC00647**Standard ID:** 23B0089

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	7.72	-3.5	30.00
PFPEA	4.00	4.05	1.3	30.00
PFHXA	2.00	1.91	-4.5	30.00
PFHPA	2.00	2.00	-0.04	30.00
PFOA	2.00	1.96	-1.9	30.00
PFNA	2.00	2.05	2.3	30.00
PFDA	2.00	1.89	-5.7	30.00
PFUnA	2.00	1.99	-0.5	30.00
PFDOA	2.00	1.94	-3.1	30.00
PFTRDA	2.00	2.07	3.5	30.00
PFTEDA	2.00	1.79	-10.5	30.00
PFBS	1.77	1.71	-3.2	30.00
PFPEs	1.88	1.97	4.9	30.00
PFHXS	1.83	1.79	-2.1	30.00
PFHPS	1.91	1.86	-2.5	30.00
PFOS	1.86	1.76	-5.3	30.00
PFNS	1.92	1.88	-1.8	30.00
PFDS	1.93	1.96	1.4	30.00
PFDOS	1.94	2.02	3.9	30.00
4:2FTS	7.50	7.61	1.5	30.00
6:2FTS	7.60	7.11	-6.4	30.00
8:2FTS	7.68	7.91	3.1	30.00
PFOSA	2.00	2.06	2.8	30.00
NMeFOSA	8.00	7.51	-6.1	30.00
NEtFOSA	8.00	7.19	-10.2	30.00
NMeFOSAA	2.00	1.87	-6.4	30.00
NEtFOSAA	2.00	1.96	-2.2	30.00

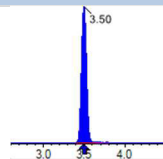
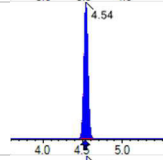
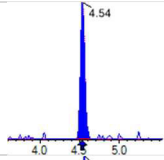
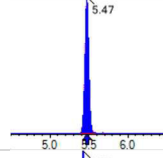
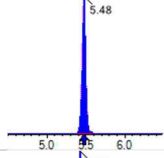
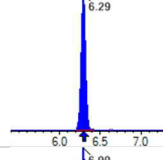
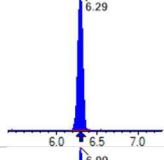
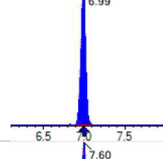
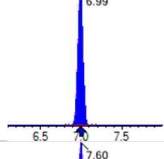
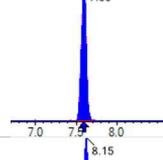
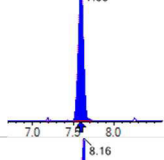
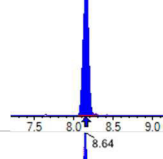
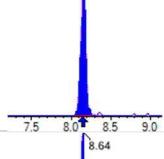
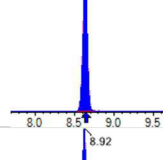
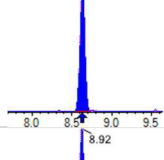
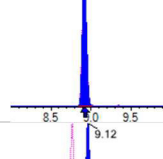
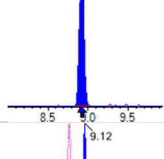
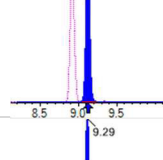
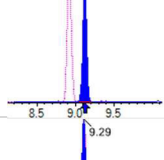
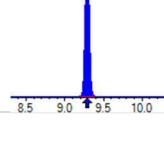
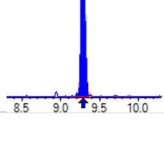
SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2307007**Laboratory ID:** SC00647-SCV1**Sequence:** SC00647**Standard ID:** 23B0089

NMeFOSE	8.00	8.19	2.4	30.00
NEtFOSE	8.00	8.29	3.6	30.00
HFPO-DA	4.00	3.67	-8.2	30.00
ADONA	3.78	4.12	9.1	30.00
PFEESA	3.56	3.63	1.9	30.00
PFMPA	4.00	4.17	4.3	30.00
PFMBA	4.00	3.96	-1.0	30.00
NFDHA	4.00	3.90	-2.4	30.00
9CL-PF3ONS	3.74	3.74	-0.03	30.00
11CL-PF3OUDS	3.78	4.31	13.9	30.00
3:3FTCA	8.00	8.22	2.7	30.00
5:3FTCA	8.00	7.53	-5.9	30.00
7:3FTCA	8.00	7.65	-4.4	30.00
13C4-PFBA	8.00	8.13	1.6	30.00
13C5-PFPEA	4.00	4.18	4.5	30.00
13C5-PFHXA	2.00	2.14	6.9	30.00
13C4-PFHPA	2.00	2.05	2.7	30.00
13C8-PFOA	2.00	1.91	-4.5	30.00
13C9-PFNA	1.00	1.05	5.5	30.00
13C6-PFDA	1.00	1.08	8.4	30.00
13C7-PFUnA	1.00	1.02	1.9	30.00
13C2-PFDOA	1.00	0.992	-0.8	30.00
13C2-PFTEDA	1.00	1.11	10.6	30.00
13C3-PFBS	2.00	2.17	8.5	30.00
13C3-PFHXS	2.00	2.09	4.6	30.00
13C8-PFOS	2.00	1.98	-0.8	30.00
13C2-4:2FTS	4.00	3.89	-2.9	30.00
13C2-6:2FTS	4.00	4.20	5.1	30.00
13C2-8:2FTS	4.00	3.89	-2.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2307007**Laboratory ID:** SC00647-SCV1**Sequence:** SC00647**Standard ID:** 23B0089

13C8-PFOSA	2.00	2.05	2.4	30.00
D3-NMEFOSA	2.00	2.02	1.1	30.00
D5-NETFOSA	2.00	2.07	3.3	30.00
D3-NMEFOSAA	4.00	3.99	-0.2	30.00
D5-NETFOSAA	4.00	3.83	-4.3	30.00
D7-NMEFOSE	20.0	20.3	1.7	30.00
D9-NETFOSSE	20.0	19.8	-1.2	30.00
13C3-HFPO-DA	8.00	8.77	9.6	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) 1855837	(3.50, 1.00) (0.00, N/A, 0.0)	214.2	N/A 0.0 0.0	7.7193 [8.0000]	96.5%			
PFPeA	(263.0 / 219.0) 1816304 (263.0 / 69.0) 22222	(4.54, 1.00) (0.00, N/A, 0.3)	2797.4 227.3	0.0122 114.3 114.3	4.0506 [4.0000]	101.3%			
PFHxA	(313.0 / 269.0) 1172574 (313.0 / 119.0) 109802	(5.47, 1.00) (0.00, N/A, -0.2)	5660.8 4014564.1	0.0936 94.0 94.0	1.9097 [2.0000]	95.5%			
PFHpA	(363.0 / 319.0) 980875 (363.0 / 169.0) 294159	(6.29, 1.00) (0.00, N/A, 0.0)	43558.2 199114.1	0.2999 93.5 93.5	1.9991 [2.0000]	100.0%			
PFOA	(413.0 / 369.0) 1269405 (413.0 / 169.0) 434013	(6.99, 1.00) (0.00, N/A, -0.1)	9343.6 2964.4	0.3419 102.2 102.2	1.9616 [2.0000]	98.1%			
PFNA	(463.0 / 419.0) 1176960 (463.0 / 169.0) 257649	(7.60, 1.00) (0.00, N/A, 0.0)	10298.1 5708.0	0.2189 97.8 97.8	2.0460 [2.0000]	102.3%			
PFDA	(513.0 / 469.0) 1273474 (513.0 / 169.0) 146381	(8.15, 1.00) (0.00, N/A, -0.3)	1241.8 651.1	0.1149 94.5 94.5	1.8850 [2.0000]	94.3%			
PFUnA	(563.0 / 519.0) 1187758 (563.0 / 169.0) 148979	(8.64, 1.00) (0.00, N/A, 0.0)	1593.9 1026.2	0.1254 119.6 119.6	1.9902 [2.0000]	99.5%			
PFDoA	(613.0 / 569.0) 1022182 (613.0 / 169.0) 171947	(8.92, 1.00) (0.00, N/A, -0.4)	1893.1 1840.4	0.1682 102.8 102.8	1.9381 [2.0000]	96.9%			
PFTrDA	(663.0 / 619.0) 988300 (663.0 / 169.0) 288733	(9.12, 1.02) (N/A, 0.00, 0.1)	1735.7 884.1	0.2922 122.2 122.2	2.0696 [2.0000]	103.5%			
PFTeDA	(713.0 / 669.0) 948401 (713.0 / 169.0) 229129	(9.29, 1.00) (0.00, N/A, 0.3)	1207.7 516.0	0.2416 116.9 116.9	1.7896 [2.0000]	89.5%			

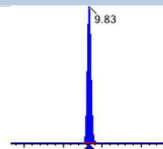
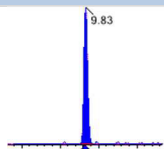
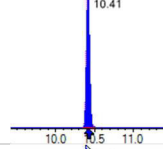
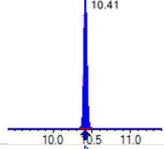
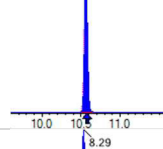
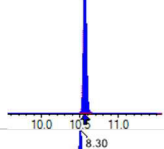
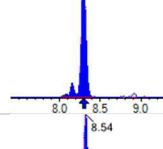
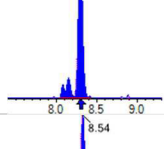
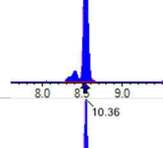
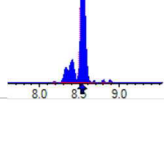
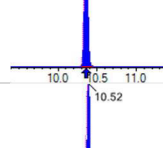
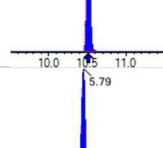
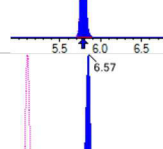
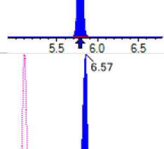
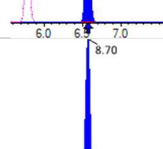
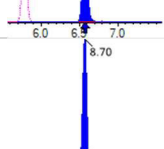
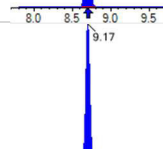
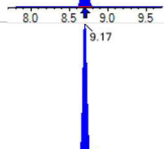
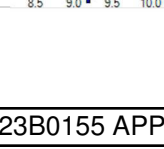
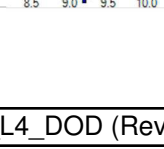


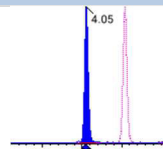
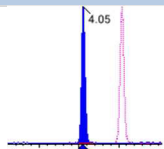
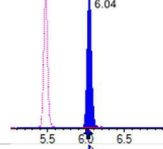
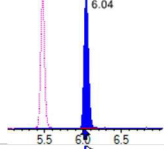
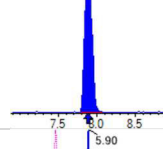
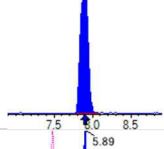
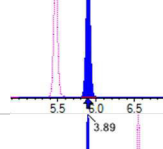
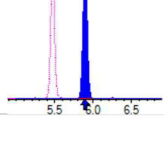
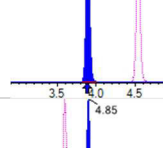
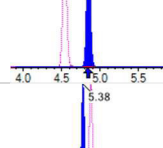
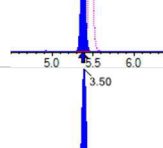
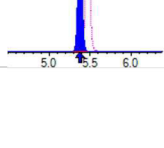
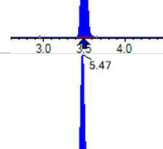
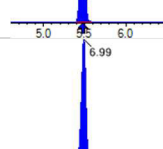
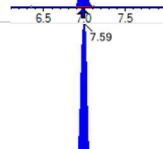
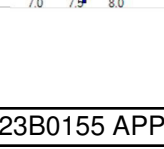
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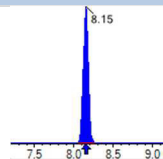
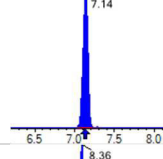
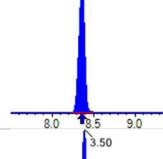
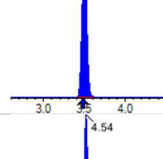
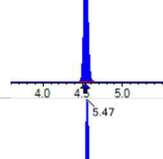
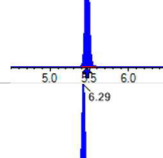
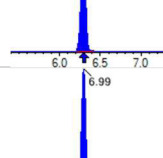
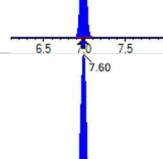
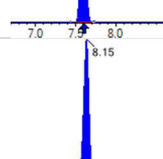
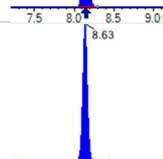
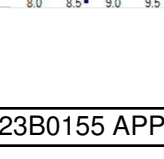
Sample I.D.: SC00647-SCV1
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 Acquisition Method: 1633 2023-02-14.dam

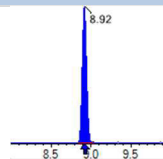
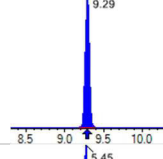
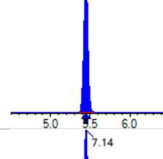
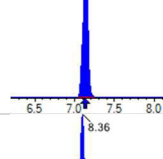
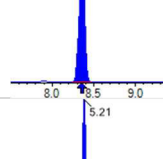
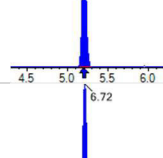
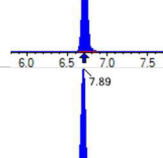
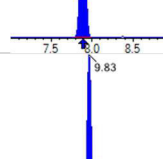
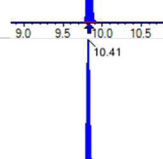
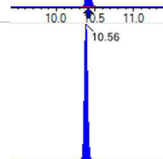
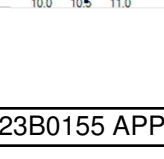
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 Path: S2023-02-14C (10)
 Acquired: 2023/02/14 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1944081 (299.0 / 99.0) 1240225	(5.45, 1.00) (0.00, N/A, 0.0)	3671.2 2990.3	0.6379 98.7 98.7	1.7133 [1.7695]	96.8%			
PFPeS	(349.0 / 80.0) 3474653 (349.0 / 99.0) 1195565	(6.38, 0.89) (N/A, 0.01, 0.0)	40358961.1 12054.4	0.3441 96.4 96.4	1.9714 [1.8768]	105.0%			
PFHxS	(399.0 / 80.0) 2517471 (399.0 / 99.0) 811394	(7.14, 1.00) (0.00, N/A, 0.0)	63031.5 6250.9	0.3223 99.2 99.2	1.7914 [1.8220]	98.3%			
PFHpS	(449.0 / 80.0) 3034087 (449.0 / 99.0) 825667	(7.78, 0.93) (N/A, 0.01, 0.1)	22648185.7 36047.8	0.2721 100.0 100.0	1.8631 [1.9028]	97.9%			
PFOS	(499.0 / 80.0) 3970613 (499.0 / 99.0) 875204	(8.36, 1.00) (0.00, N/A, -0.1)	1176.9 1242.3	0.2204 99.6 99.6	1.7618 [1.8550]	95.0%			
PFNS	(549.0 / 80.0) 4773847 (549.0 / 99.0) 1126371	(8.78, 1.05) (N/A, 0.00, 0.1)	16422.3 9408.7	0.2359 107.6 107.6	1.8848 [1.9198]	98.2%			
PFDS	(599.0 / 80.0) 5389437 (599.0 / 99.0) 1155934	(9.02, 1.08) (N/A, 0.00, 0.0)	3964.5 1730.1	0.2145 98.4 98.4	1.9561 [1.9262]	101.6%			
PFDoS	(699.0 / 80.0) 3541779 (699.0 / 99.0) 730787	(9.36, 1.12) (N/A, 0.00, 0.0)	1827.6 950.3	0.2063 99.1 99.1	2.0155 [1.9391]	103.9%			
4:2FTS	(327.0 / 307.0) 1875591 (327.0 / 81.0) 1270793	(5.21, 1.00) (0.00, N/A, -0.1)	4384.0 2751.3	0.6775 100.4 100.4	7.6108 [7.4762]	101.8%			
6:2FTS	(427.0 / 407.0) 1081545 (427.0 / 81.0) 826407	(6.72, 1.00) (0.00, N/A, -0.1)	2419.4 1671.5	0.7641 92.3 92.3	7.1118 [7.5923]	93.7%			
8:2FTS	(527.0 / 507.0) 1206144 (527.0 / 81.0) 1085149	(7.89, 1.00) (0.00, N/A, -0.2)	1836.7 1318.7	0.8997 108.2 108.2	7.9144 [7.6663]	103.2%			

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
PFOSA	(498.0 / 78.0) 6738795 (498.0 / 478.0) 139185	(9.83, 1.00) (0.00, N/A, 0.1)	3420.6 518.2	0.0207 100.6 100.6	2.0569 [2.0000]	102.8%			
NMeFOSA	(512.0 / 219.0) 6068879 (512.0 / 169.0) 4266094	(10.41, 1.00) (0.00, N/A, 0.0)	8283.1 7296.2	0.7029 85.8 85.8	7.5097 [8.0000]	93.9%			
NEIFOSA	(526.0 / 219.0) 5846000 (526.0 / 169.0) 6647247	(10.56, 1.00) (0.01, N/A, 0.0)	12368.8 8629.6	1.1371 89.6 89.6	7.1864 [8.0000]	89.8%			
NMeFOSAA	(570.0 / 419.0) 511022 (570.0 / 483.0) 237635	(8.29, 1.00) (0.00, N/A, -0.1)	1494.6 1575.2	0.4650 98.0 98.0	1.8726 [2.0000]	93.6%			
NEIFOSAA	(584.0 / 419.0) 448836 (584.0 / 526.0) 239853	(8.54, 1.00) (0.01, N/A, 0.0)	9002.5 186834.1	0.5344 104.7 104.7	1.9560 [2.0000]	97.8%			
NMeFOSE	(616.0 / 59.0) 2858949	(10.36, 1.00) (0.01, N/A, 0.0)	2885.4	N/A 0.0 0.0	8.1903 [8.0000]	102.4%			
NEIFOSE	(630.0 / 59.0) 3426435	(10.52, 1.00) (0.01, N/A, 0.0)	2679.0	N/A 0.0 0.0	8.2899 [8.0000]	103.6%			
HFPO-DA	(285.0 / 169.0) 1266072 (285.0 / 185.0) 3773275	(5.79, 1.00) (0.00, N/A, 0.0)	2016.7 3174.2	2.9803 108.2 108.2	3.6730 [4.0000]	91.8%			
ADONA	(377.0 / 85.0) 4888516 (377.0 / 251.0) 451545	(6.57, 1.14) (N/A, 0.00, 0.0)	2673.1 1707.9	0.0924 104.8 104.8	4.1239 [3.7708]	109.4%			
9CI-Pf3ONS	(531.0 / 351.0) 13910227 (533.0 / 353.0) 4138206	(8.70, 1.50) (N/A, 0.00, 0.1)	3737.3 2578.6	0.2975 85.4 85.4	3.7389 [3.7330]	100.2%			
11CI-PF3OUDS	(631.0 / 451.0) 8315091 (633.0 / 453.0) 2851144	(9.17, 1.59) (N/A, 0.00, 0.0)	2700.8 2174.5	0.3429 94.8 94.8	4.3058 [3.7728]	114.1%			

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
3:3FTCA	(241.0 / 177.0) 88786 (241.0 / 117.0) 140594	(4.05, 0.89) (N/A, 0.01, 0.1)	767.3 708.5	1.5835 100.4 100.4	8.2179 [8.0000]	102.7%			
5:3FTCA	(341.0 / 236.7) 631861 (341.0 / 217.0) 1085339	(6.04, 1.10) (N/A, 0.01, 0.1)	1441.5 1128.7	1.7177 100.7 100.7	7.5252 [8.0000]	94.1%			
7:3FTCA	(441.0 / 317.0) 1186511 (441.0 / 337.0) 1063466	(7.89, 1.44) (N/A, 0.01, -0.3)	696.0 619.9	0.8963 104.2 104.2	7.6493 [8.0000]	95.6%			
PFEESA	(315.0 / 135.0) 2674575 (315.0 / 83.0) 698671	(5.90, 1.08) (N/A, 0.01, 0.0)	4876.6 1560.2	0.2612 102.3 102.3	3.6260 [3.5698]	101.6%			
PFMPA	(229.0 / 85.0) 408761	(3.89, 0.86) (N/A, 0.01, 0.0)	2687.6	N/A 0.0 0.0	4.1734 [4.0000]	104.3%			
PFMBA	(279.0 / 85.0) 1626572	(4.85, 1.07) (N/A, 0.01, 0.0)	2449.4	N/A 0.0 0.0	3.9601 [4.0000]	99.0%			
NFDHA	(295.0 / 201.0) 1330784 (295.0 / 85.0) 1362923	(5.38, 0.98) (N/A, 0.01, 0.0)	2155.6 2870.7	1.0242 102.3 102.3	3.9048 [4.0000]	97.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 240066	(3.50, N/A) (N/A, 0.01, N/A)	1412.3	N/A	1.0718 [1.0000]	107.2% { 106.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 476905	(5.47, N/A) (N/A, 0.01, N/A)	2780.9	N/A	0.9447 [1.0000]	94.5% { 99.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 672267	(6.99, N/A) (N/A, 0.01, N/A)	1232.7	N/A	1.0607 [1.0000]	106.1% { 113.3% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 581759	(7.59, N/A) (N/A, 0.01, N/A)	3145.9	N/A	0.9628 [1.0000]	96.3% { 98.1% }			

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) 562140	(8.15, N/A) (N/A, 0.00, N/A)	25539.1	N/A	0.9715 [1.0000]	97.1% { 103.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 804048	(7.14, N/A) (N/A, 0.01, N/A)	2686.8	N/A	0.9389 [1.0000]	93.9% { 95.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1569000	(8.36, N/A) (N/A, 0.01, N/A)	1276.6	N/A	1.0423 [1.0000]	104.2% { 103.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2321888	(3.50, N/A) (N/A, 0.01, N/A)	4695.7	N/A	8.1311 [8.0000]	101.6% { 99.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2180078	(4.54, N/A) (N/A, 0.01, N/A)	3494.2	N/A	4.1780 [4.0000]	104.5% { 90.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1396881	(5.47, N/A) (N/A, 0.01, N/A)	2597.4	N/A	2.1384 [2.0000]	106.9% { 91.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1162104	(6.29, N/A) (N/A, 0.00, N/A)	3086.1	N/A	2.0532 [2.0000]	102.7% { 92.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1453557	(6.99, N/A) (N/A, 0.01, N/A)	6980.9	N/A	1.9092 [2.0000]	95.5% { 94.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 650184	(7.60, N/A) (N/A, 0.00, N/A)	4374.6	N/A	1.0548 [1.0000]	105.5% { 92.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 768006	(8.15, N/A) (N/A, 0.01, N/A)	1522.6	N/A	1.0836 [1.0000]	108.4% { 98.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 718332	(8.63, N/A) (N/A, 0.00, N/A)	1490.8	N/A	1.0192 [1.0000]	101.9% { 93.1% }			

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) 599764	(8.92, N/A) (N/A, 0.00, N/A)	1573.7	N/A	0.9922 [1.0000]	99.2% { 91.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 612411	(9.29, N/A) (N/A, 0.00, N/A)	2166.8	N/A	1.1056 [1.0000]	110.6% { 100.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3651854	(5.45, N/A) (N/A, 0.01, N/A)	3505.6	N/A	2.1701 [2.0000]	108.5% { 92.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1827789	(7.14, N/A) (N/A, 0.01, N/A)	2735.6	N/A	2.0911 [2.0000]	104.6% { 91.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4274649	(8.36, N/A) (N/A, 0.01, N/A)	1379.1	N/A	1.9845 [2.0000]	99.2% { 96.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 360923	(5.21, N/A) (N/A, 0.01, N/A)	1374.9	N/A	3.8857 [4.0000]	97.1% { 88.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 428716	(6.72, N/A) (N/A, 0.01, N/A)	1900.2	N/A	4.2047 [4.0000]	105.1% { 93.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 559642	(7.89, N/A) (N/A, 0.00, N/A)	1311.1	N/A	3.8850 [4.0000]	97.1% { 92.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8192381	(9.83, N/A) (N/A, 0.00, N/A)	3577.3	N/A	2.0489 [2.0000]	102.4% { 95.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1905355	(10.41, N/A) (N/A, 0.00, N/A)	2669.3	N/A	2.0226 [2.0000]	101.1% { 104.4% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 1741498	(10.56, N/A) (N/A, 0.00, N/A)	3801.6	N/A	2.0659 [2.0000]	103.3% { 101.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-SCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (10)
 Acquired: 2023/02/14 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1390921	(8.29 , N/A) (N/A , 0.01 , N/A)	2287.2	N/A	3.9903 [4.0000]	99.8% { 93.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1092823	(8.54 , N/A) (N/A , 0.00 , N/A)	20352.5	N/A	3.8288 [4.0000]	95.7% { 97.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6983155	(10.35 , N/A) (N/A , 0.00 , N/A)	2149.5	N/A	20.3332 [20.0000]	101.7% { 97.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8686678	(10.50 , N/A) (N/A , 0.00 , N/A)	2029.5	N/A	19.7508 [20.0000]	98.8% { 91.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3487091	(5.78 , N/A) (N/A , 0.01 , N/A)	4321.4	N/A	8.7674 [8.0000]	109.6% { 95.2% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2307007**Laboratory ID:** SC00790-LCV1**Sequence:** SC00790**Standard ID:** 23B0080

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.353	-11.7	30.00
PFPEA	0.200	0.190	-5.0	30.00
PFHXA	0.100	0.105	4.6	30.00
PFHPA	0.100	0.125	25.0	30.00
PFOA	0.100	0.102	1.5	30.00
PFNA	0.100	0.110	10.2	30.00
PFDA	0.100	0.0891	-10.9	30.00
PFUnA	0.100	0.0859	-14.1	30.00
PFDOA	0.100	0.108	8.2	30.00
PFTRDA	0.100	0.115	15.3	30.00
PFTEDA	0.100	0.109	8.8	30.00
PFBS	0.0885	0.0801	-9.5	30.00
PFPEs	0.0940	0.0831	-11.6	30.00
PFHXS	0.0915	0.0797	-12.9	30.00
PFHPS	0.0955	0.0918	-3.9	30.00
PFOS	0.0930	0.0787	-15.4	30.00
PFNS	0.0960	0.0804	-16.3	30.00
PFDS	0.0965	0.0775	-19.7	30.00
PFDOS	0.0970	0.0766	-21.0	30.00
4:2FTS	0.375	0.339	-9.5	30.00
6:2FTS	0.380	0.339	-10.7	30.00
8:2FTS	0.384	0.387	0.7	30.00
PFOSA	0.100	0.0966	-3.4	30.00
NMeFOSA	0.400	0.402	0.5	30.00
NEtFOSA	0.400	0.359	-10.2	30.00
NMeFOSAA	0.100	0.103	2.6	30.00
NEtFOSAA	0.100	0.107	7.4	30.00
NMeFOSE	0.400	0.353	-11.6	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION**EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2307007**Laboratory ID:** SC00790-LCV1**Sequence:** SC00790**Standard ID:** 23B0080

NEtFOSE	0.400	0.383	-4.2	30.00
HFPO-DA	0.200	0.174	-13.2	30.00
ADONA	0.189	0.169	-10.7	30.00
PFEESA	0.178	0.160	-10.4	30.00
PFMPA	0.200	0.194	-3.2	30.00
PFMBA	0.200	0.181	-9.7	30.00
NFDHA	0.200	0.194	-3.1	30.00
9CL-PF3ONS	0.187	0.205	9.4	30.00
11CL-PF3OUDS	0.189	0.185	-2.0	30.00
3:3FTCA	0.400	0.434	8.6	30.00
5:3FTCA	0.400	0.340	-15.0	30.00
7:3FTCA	0.400	0.342	-14.6	30.00

* Values outside of QC limits

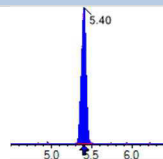
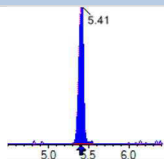
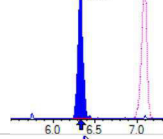
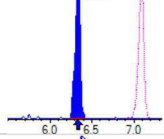
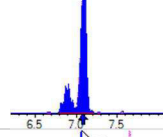
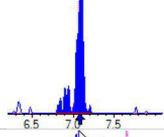
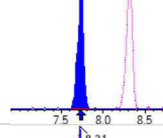
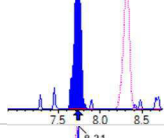
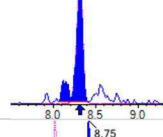
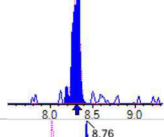
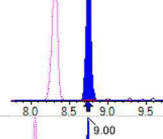
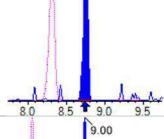
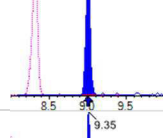
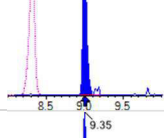
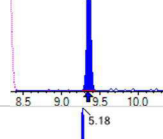
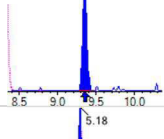
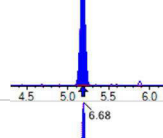
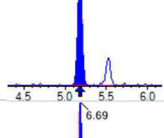
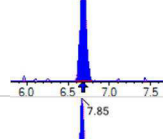
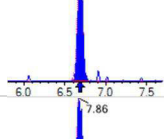
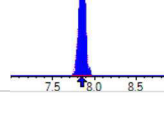
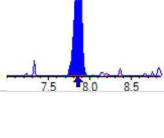


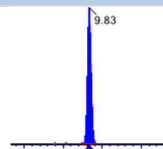
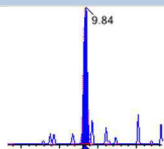
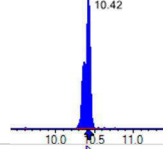
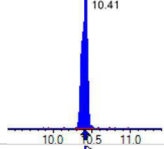
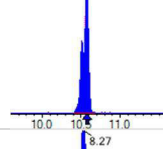
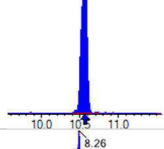
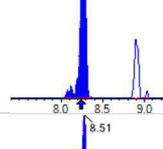
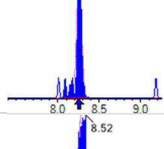
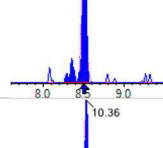
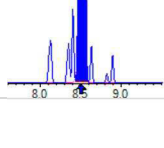
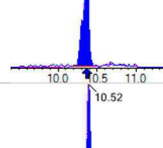
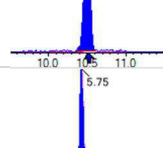
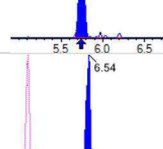
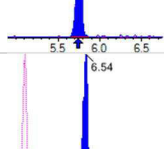
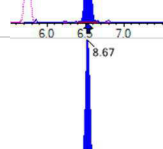
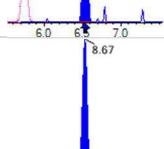
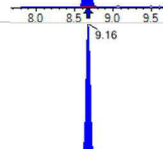
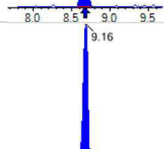
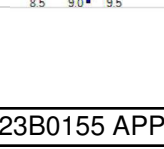
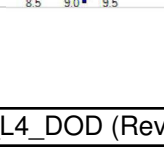
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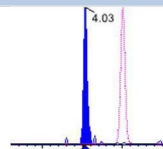
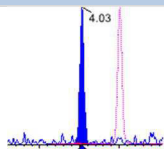
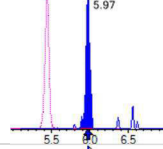
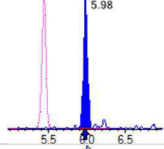
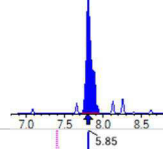
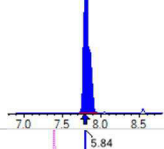
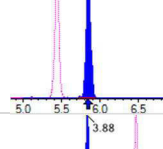
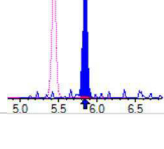
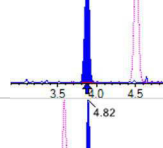
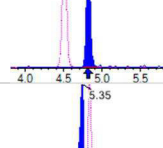
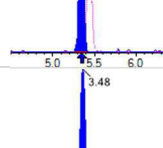
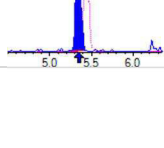
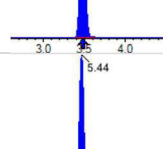
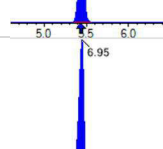
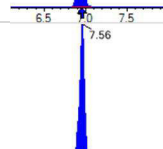
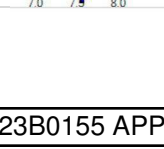
Sample I.D.: SC00790-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

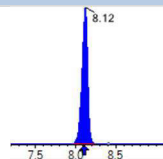
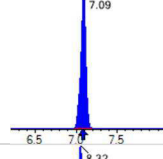
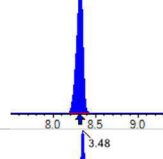
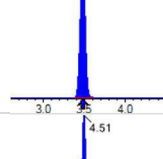
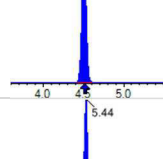
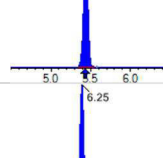
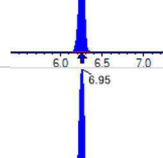
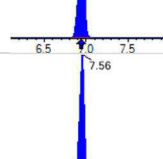
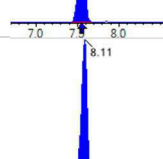
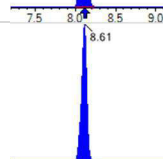
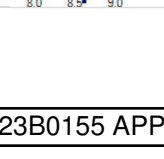
Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (2)
 Acquired: 2023/02/23 - 22:35

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) 112156	(3.48, 1.00) (0.00, N/A, 0.0)	79.9	N/A 0.0 0.0	0.3533 [0.4000]	88.3%			
PFPeA	(263.0 / 219.0) 106722 (263.0 / 69.0) 1786	(4.51, 1.00) (0.00, N/A, 1.4)	189.1 37.0	0.0167 156.2 138.9	0.1900 [0.2000]	95.0%			
PFHxA	(313.0 / 269.0) 76483 (313.0 / 119.0) 11495	(5.44, 1.00) (0.00, N/A, 0.0)	91.5 362.9	0.1503 150.9 145.0	0.1046 [0.1000]	104.6%			IR2,
PFHpA	(363.0 / 319.0) 78310 (363.0 / 169.0) 17919	(6.26, 1.00) (0.01, N/A, 0.2)	346.0 2134.0	0.2288 71.4 72.6	0.1250 [0.1000]	125.0%			
PFOA	(413.0 / 369.0) 75935 (413.0 / 169.0) 24717	(6.95, 1.00) (0.00, N/A, -0.5)	222.1 809470.2	0.3255 97.3 105.7	0.1015 [0.1000]	101.5%			
PFNA	(463.0 / 419.0) 83877 (463.0 / 169.0) 19595	(7.55, 1.00) (-0.01, N/A, 0.2)	2614.2 45125.2	0.2336 104.4 107.4	0.1102 [0.1000]	110.2%			
PFDA	(513.0 / 469.0) 74234 (513.0 / 169.0) 8287	(8.11, 1.00) (0.00, N/A, 1.5)	167.5 120.4	0.1116 91.8 104.9	0.0891 [0.1000]	89.1%			
PFUnA	(563.0 / 519.0) 67723 (563.0 / 169.0) 6221	(8.61, 1.00) (0.00, N/A, 0.9)	173.1 1327.2	0.0919 87.6 72.2	0.0859 [0.1000]	85.9%			
PFDoA	(613.0 / 569.0) 81346 (613.0 / 169.0) 11873	(8.90, 1.00) (0.00, N/A, 0.3)	478.2 393.1	0.1460 89.2 89.6	0.1082 [0.1000]	108.2%			
PFTrDA	(663.0 / 619.0) 78489 (663.0 / 169.0) 20045	(9.10, 1.02) (N/A, 0.00, -0.5)	213.5 310.8	0.2554 106.9 103.6	0.1153 [0.1000]	115.3%			
PFTeDA	(713.0 / 669.0) 71477 (713.0 / 169.0) 12524	(9.28, 1.00) (0.00, N/A, 0.9)	225.1 2580.9	0.1752 84.8 79.7	0.1088 [0.1000]	108.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 116333 (299.0 / 99.0) 77314	(5.40, 1.00) (0.00, N/A, -0.4)	1065.9 314.2	0.6646 102.8 108.0	0.0801 [0.0885]	90.6%			
PFPeS	(349.0 / 80.0) 203224 (349.0 / 99.0) 66956	(6.33, 0.89) (N/A, 0.00, -0.6)	13059.9 8126.8	0.3295 92.3 100.6	0.0831 [0.0938]	88.6%			
PFHxS	(399.0 / 80.0) 155376 (399.0 / 99.0) 51506	(7.09, 1.00) (0.00, N/A, 0.1)	364.9 274.4	0.3315 102.1 102.8	0.0797 [0.0911]	87.5%			
PFHpS	(449.0 / 80.0) 188578 (449.0 / 99.0) 42884	(7.73, 0.93) (N/A, 0.01, 0.3)	217408.4 335.7	0.2274 83.5 85.9	0.0918 [0.0951]	96.5%			
PFOS	(499.0 / 80.0) 223704 (499.0 / 99.0) 48657	(8.31, 1.00) (0.00, N/A, 0.0)	151.0 176.2	0.2175 98.3 104.8	0.0787 [0.0927]	84.8%			
PFNS	(549.0 / 80.0) 256865 (549.0 / 99.0) 45428	(8.75, 1.05) (N/A, 0.00, -0.4)	353317.1 79021.0	0.1769 80.7 78.8	0.0804 [0.0960]	83.8%			
PFDS	(599.0 / 80.0) 269228 (599.0 / 99.0) 64554	(9.00, 1.08) (N/A, 0.01, 0.3)	491.7 369.3	0.2398 110.0 120.5	0.0775 [0.0963]	80.4%			
PFDoS	(699.0 / 80.0) 169876 (699.0 / 99.0) 40656	(9.35, 1.12) (N/A, 0.01, 0.2)	521.8 322.4	0.2393 115.0 116.1	0.0766 [0.0970]	79.0%			
4:2FTS	(327.0 / 307.0) 133392 (327.0 / 81.0) 90725	(5.18, 1.00) (0.00, N/A, 0.1)	755.5 282.1	0.6801 100.8 106.2	0.3395 [0.3738]	90.8%			
6:2FTS	(427.0 / 407.0) 83248 (427.0 / 81.0) 79869	(6.68, 1.00) (0.00, N/A, -0.3)	673.2 504.2	0.9594 115.9 117.6	0.3394 [0.3796]	89.4%			
8:2FTS	(527.0 / 507.0) 77557 (527.0 / 81.0) 79466	(7.85, 1.00) (0.00, N/A, -0.7)	149.1 160.1	1.0246 123.3 125.7	0.3865 [0.3833]	100.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 377018 (498.0 / 478.0) 7374	(9.83, 1.00) (0.00, N/A, -0.4)	1065.2 107.4	0.0196 95.2 100.6	0.0966 [0.1000]	96.6%			
NMeFOSA	(512.0 / 219.0) 302202 (512.0 / 169.0) 268465	(10.42, 1.00) (0.00, N/A, 0.7)	1476.7 1628.1	0.8884 108.4 107.8	0.4020 [0.4000]	100.5%			
NEtFOSA	(526.0 / 219.0) 336754 (526.0 / 169.0) 429978	(10.57, 1.00) (0.00, N/A, 1.0)	1595.1 1211.9	1.2768 100.6 101.2	0.3593 [0.4000]	89.8%			
NMeFOSAA	(570.0 / 419.0) 37813 (570.0 / 483.0) 10318	(8.27, 1.00) (0.01, N/A, 0.4)	145.0 308.3	0.2729 57.5 58.4	0.1026 [0.1000]	102.6%			
NEtFOSAA	(584.0 / 419.0) 34661 (584.0 / 526.0) 12103	(8.51, 1.00) (0.01, N/A, -0.6)	5212.3 44.8	0.3492 68.4 64.0	0.1074 [0.1000]	107.4%			
NMeFOSE	(616.0 / 59.0) 148762	(10.36, 1.00) (0.01, N/A, 0.0)	270.5	N/A 0.0 0.0	0.3534 [0.4000]	88.4%			
NEtFOSE	(630.0 / 59.0) 159223	(10.52, 1.00) (0.01, N/A, 0.0)	277.1	N/A 0.0 0.0	0.3834 [0.4000]	95.8%			
HFPO-DA	(285.0 / 169.0) 71560 (285.0 / 185.0) 196598	(5.75, 1.00) (0.00, N/A, -0.5)	650.5 376.2	2.7473 99.7 101.8	0.1737 [0.2000]	86.8%			
ADONA	(377.0 / 85.0) 239105 (377.0 / 251.0) 23138	(6.54, 1.14) (N/A, 0.01, -0.3)	616.1 1258.2	0.0968 109.8 104.0	0.1688 [0.1885]	89.5%			
9CI-Pf3ONS	(531.0 / 351.0) 723208 (533.0 / 353.0) 235613	(8.67, 1.51) (N/A, 0.01, -0.1)	807.7 499.5	0.3258 93.6 94.2	0.2046 [0.1867]	109.6%			
11CI-PF3OUDS	(631.0 / 451.0) 427720 (633.0 / 453.0) 147797	(9.16, 1.59) (N/A, 0.00, -0.4)	1954.3 597.0	0.3455 95.5 97.7	0.1853 [0.1886]	98.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 5650 (241.0 / 117.0) 8599	(4.03, 0.90) (N/A, 0.00, 0.2)	265.8 81.0	1.5220 96.4 98.5	0.4343 [0.4000]	108.6%			
5:3FTCA	(341.0 / 236.7) 34005 (341.0 / 217.0) 65743	(5.97, 1.10) (N/A, 0.00, -0.5)	569.3 233.5	1.9333 113.4 109.4	0.3401 [0.4000]	85.0%			
7:3FTCA	(441.0 / 317.0) 63104 (441.0 / 337.0) 54569	(7.81, 1.43) (N/A, 0.00, 0.1)	203.9 1659.9	0.8647 100.5 104.6	0.3416 [0.4000]	85.4%			
PFEESA	(315.0 / 135.0) 140152 (315.0 / 83.0) 40488	(5.85, 1.07) (N/A, 0.01, 0.1)	2139964.7 116.0	0.2889 113.1 104.2	0.1596 [0.1785]	89.4%			
PFMPA	(229.0 / 85.0) 23755	(3.88, 0.86) (N/A, 0.01, 0.0)	352.3	N/A 0.0 0.0	0.1936 [0.2000]	96.8%			
PFMBA	(279.0 / 85.0) 92866	(4.82, 1.07) (N/A, 0.00, 0.0)	539.4	N/A 0.0 0.0	0.1805 [0.2000]	90.3%			
NFDHA	(295.0 / 201.0) 78668 (295.0 / 85.0) 80195	(5.35, 0.98) (N/A, 0.01, 0.6)	487.8 268.4	1.0194 101.8 101.1	0.1938 [0.2000]	96.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 309121	(3.48, N/A) (N/A, 0.00, N/A)	1561.6	N/A	1.3801 [1.0000]	138.0% {113.2%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 586296	(5.44, N/A) (N/A, 0.01, N/A)	1521.2	N/A	1.1614 [1.0000]	116.1% {109.6%}			
13C4_PFOA_IIS	(417.0 / 372.0) 843741	(6.95, N/A) (N/A, 0.01, N/A)	1775.4	N/A	1.3313 [1.0000]	133.1% {118.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 709016	(7.56, N/A) (N/A, 0.01, N/A)	1369.0	N/A	1.1733 [1.0000]	117.3% {111.9%}			

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) 774811	(8.12, N/A) (N/A, 0.01, N/A)	1434.4	N/A	1.3390 [1.0000]	133.9% { 122.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1215667	(7.09, N/A) (N/A, 0.01, N/A)	3355.3	N/A	1.4196 [1.0000]	142.0% { 113.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1906740	(8.32, N/A) (N/A, 0.01, N/A)	1379.9	N/A	1.2666 [1.0000]	126.7% { 115.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 3065704	(3.48, N/A) (N/A, 0.00, N/A)	4308.0	N/A	8.3376 [8.0000]	104.2% { 107.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2730472	(4.51, N/A) (N/A, 0.00, N/A)	3081.8	N/A	4.2565 [4.0000]	106.4% { 99.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1663431	(5.44, N/A) (N/A, 0.00, N/A)	2306.3	N/A	2.0713 [2.0000]	103.6% { 103.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1484053	(6.25, N/A) (N/A, 0.01, N/A)	1877.5	N/A	2.1328 [2.0000]	106.6% { 96.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1679729	(6.95, N/A) (N/A, 0.01, N/A)	2692.6	N/A	1.7578 [2.0000]	87.9% { 99.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 860394	(7.56, N/A) (N/A, 0.01, N/A)	1404.9	N/A	1.1453 [1.0000]	114.5% { 114.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 947215	(8.11, N/A) (N/A, 0.01, N/A)	1153.9	N/A	0.9696 [1.0000]	97.0% { 102.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 948452	(8.61, N/A) (N/A, 0.01, N/A)	2042.6	N/A	0.9763 [1.0000]	97.6% { 102.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (2)
 Acquired: 2023/02/23 - 22:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 855224	(8.90, N/A) (N/A, 0.00, N/A)	1397.3	N/A	1.0264 [1.0000]	102.6% { 103.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 759323	(9.28, N/A) (N/A, 0.01, N/A)	1547.8	N/A	0.9946 [1.0000]	99.5% { 96.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4672726	(5.40, N/A) (N/A, 0.00, N/A)	3391.9	N/A	1.8366 [2.0000]	91.8% { 96.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2535217	(7.09, N/A) (N/A, 0.01, N/A)	1964.4	N/A	1.9184 [2.0000]	95.9% { 104.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5391901	(8.31, N/A) (N/A, 0.01, N/A)	2077.7	N/A	2.0598 [2.0000]	103.0% { 101.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 575457	(5.18, N/A) (N/A, 0.00, N/A)	1299.4	N/A	4.0976 [4.0000]	102.4% { 103.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 691506	(6.68, N/A) (N/A, 0.01, N/A)	1086.5	N/A	4.4857 [4.0000]	112.1% { 100.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 736824	(7.85, N/A) (N/A, 0.01, N/A)	1242.8	N/A	3.3831 [4.0000]	84.6% { 86.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9758399	(9.84, N/A) (N/A, 0.01, N/A)	3305.2	N/A	2.0083 [2.0000]	100.4% { 107.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 2078308	(10.42, N/A) (N/A, 0.00, N/A)	3247.4	N/A	1.8154 [2.0000]	90.8% { 107.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 2006389	(10.57, N/A) (N/A, 0.01, N/A)	3805.3	N/A	1.9585 [2.0000]	97.9% { 111.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-LCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (2)
 Acquired: 2023/02/23 - 22:35

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1877884	(8.26, N/A) (N/A, 0.01, N/A)	1581.8	N/A	4.4330 [4.0000]	110.8% { 108.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1536403	(8.50, N/A) (N/A, 0.01, N/A)	4864.0	N/A	4.4294 [4.0000]	110.7% { 107.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 8420855	(10.36, N/A) (N/A, 0.01, N/A)	678.0	N/A	20.1763 [20.0000]	100.9% { 110.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8728243	(10.51, N/A) (N/A, 0.01, N/A)	1850.3	N/A	16.3301 [20.0000]	81.7% { 95.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4167897	(5.75, N/A) (N/A, 0.01, N/A)	2941.0	N/A	8.5239 [8.0000]	106.5% { 99.8% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

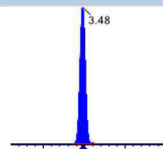
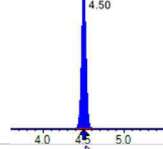
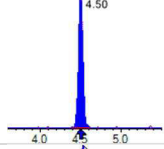
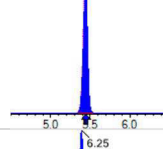
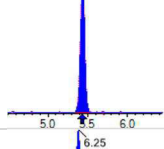
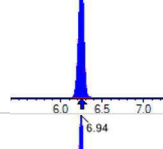
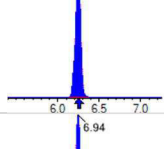
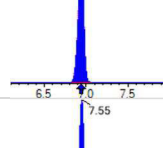
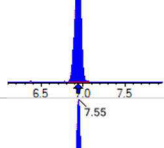
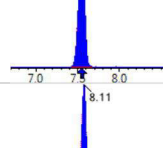
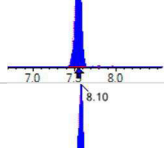
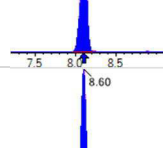
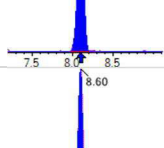
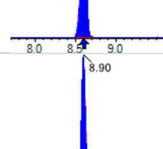
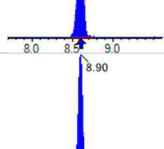
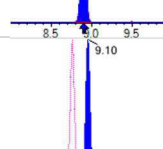
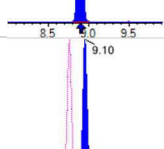
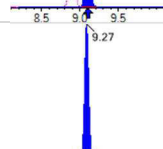
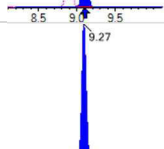
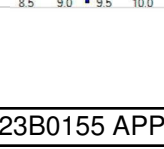
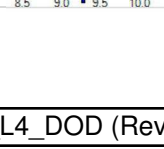
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV1	PFBA	20.0	18.9	94.6	ng/mL	+/- 30.00%
	PFPEA	10.0	9.12	91.2	ng/mL	+/- 30.00%
	PFHXA	5.00	4.88	97.5	ng/mL	+/- 30.00%
	PFHPA	5.00	4.26	85.1	ng/mL	+/- 30.00%
	PFOA	5.00	4.87	97.5	ng/mL	+/- 30.00%
	PFNA	5.00	4.86	97.2	ng/mL	+/- 30.00%
	PFDA	5.00	4.79	95.8	ng/mL	+/- 30.00%
	PFUnA	5.00	4.21	84.3	ng/mL	+/- 30.00%
	PFDOA	5.00	4.50	90.1	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.56	91.2	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.13	82.6	ng/mL	+/- 30.00%
	PFBS	4.42	3.91	88.6	ng/mL	+/- 30.00%
	PFPEs	4.70	4.49	95.6	ng/mL	+/- 30.00%
	PFHXS	4.58	4.36	95.3	ng/mL	+/- 30.00%
	PFHPS	4.78	4.80	100	ng/mL	+/- 30.00%
	PFOS	4.65	4.23	91.0	ng/mL	+/- 30.00%
	PFNS	4.80	4.29	89.3	ng/mL	+/- 30.00%
	PFDS	4.82	4.70	97.4	ng/mL	+/- 30.00%
	PFDOS	4.85	4.15	85.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.3	103	ng/mL	+/- 30.00%
	6:2FTS	19.0	16.8	88.3	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.0	98.8	ng/mL	+/- 30.00%
	PFOSA	5.00	5.07	101	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.8	98.9	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.4	102	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.95	99.0	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.05	101	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.8	94.1	ng/mL	+/- 30.00%
	NEtFOSE	20.0	20.0	100	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.09	90.9	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV1	ADONA	9.45	9.41	99.5	ng/mL	+/- 30.00%
	PFEESA	8.90	9.16	103	ng/mL	+/- 30.00%
	PFMPA	10.0	9.55	95.5	ng/mL	+/- 30.00%
	PFMBA	10.0	9.15	91.5	ng/mL	+/- 30.00%
	NFDHA	10.0	9.96	99.6	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.34	89.2	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.90	94.2	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.7	98.7	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.3	96.6	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.8	93.9	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) 5573736	(3.48, 1.00) (0.00, N/A, 0.0)	212.8	N/A 0.0 0.0	18.9219 [20.0000]	94.6%			
PFPeA	(263.0 / 219.0) 5165390 (263.0 / 69.0) 62237	(4.50, 1.00) (0.00, N/A, 0.1)	3837.7 946.2	0.0120 112.5 100.0	9.1234 [10.0000]	91.2%			
PFHxA	(313.0 / 269.0) 3461460 (313.0 / 119.0) 358823	(5.44, 1.00) (0.00, N/A, 0.1)	2530.1 3419.4	0.1037 104.1 100.0	4.8774 [5.0000]	97.5%			
PFHpA	(363.0 / 319.0) 2751398 (363.0 / 169.0) 866653	(6.25, 1.00) (0.00, N/A, 0.0)	3446.1 63416.2	0.3150 98.2 100.0	4.2551 [5.0000]	85.1%			
PFOA	(413.0 / 369.0) 3675097 (413.0 / 169.0) 1131855	(6.94, 1.00) (0.00, N/A, -0.1)	2879.0 14599.9	0.3080 92.0 100.0	4.8737 [5.0000]	97.5%			
PFNA	(463.0 / 419.0) 3222519 (463.0 / 169.0) 701286	(7.55, 1.00) (0.00, N/A, -0.2)	149014.8 4043.3	0.2176 97.3 100.0	4.8583 [5.0000]	97.2%			
PFDA	(513.0 / 469.0) 3893271 (513.0 / 169.0) 414176	(8.11, 1.00) (0.00, N/A, 0.1)	1848.2 1199.5	0.1064 87.5 100.0	4.7915 [5.0000]	95.8%			
PFUnA	(563.0 / 519.0) 3233069 (563.0 / 169.0) 411374	(8.60, 1.00) (0.00, N/A, 0.1)	2503.0 870.9	0.1272 121.4 100.0	4.2129 [5.0000]	84.3%			
PFDoA	(613.0 / 569.0) 3275377 (613.0 / 169.0) 533501	(8.90, 1.00) (0.00, N/A, 0.0)	2649.7 7248.3	0.1629 99.6 100.0	4.5040 [5.0000]	90.1%			
PFTrDA	(663.0 / 619.0) 3003113 (663.0 / 169.0) 740445	(9.10, 1.02) (N/A, 0.00, -0.1)	2141.4 1973.0	0.2466 103.2 100.0	4.5610 [5.0000]	91.2%			
PFTeDA	(713.0 / 669.0) 2802604 (713.0 / 169.0) 615765	(9.27, 1.00) (0.00, N/A, 0.0)	2006.5 1113.5	0.2197 106.3 100.0	4.1319 [5.0000]	82.6%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (3)
 Acquired: 2023/02/23 - 22:48

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) 5920827 (299.0 / 99.0) 3643269	(5.40, 1.00) (0.00, N/A, 0.0)	4343.9 3359.4	0.6153 95.2 100.0	3.9147 [4.4237]	88.5%			
PFPeS	(349.0 / 80.0) 10475349 (349.0 / 99.0) 3429268	(6.32, 0.89) (N/A, 0.00, 0.0)	115520.0 6329.1	0.3274 91.7 100.0	4.4927 [4.6919]	95.8%			
PFHxS	(399.0 / 80.0) 8110748 (399.0 / 99.0) 2616197	(7.08, 1.00) (0.00, N/A, 0.0)	8286.4 1018557.8	0.3226 99.3 100.0	4.3628 [4.5549]	95.8%			
PFHpS	(449.0 / 80.0) 9679192 (449.0 / 99.0) 2562959	(7.73, 0.93) (N/A, 0.00, 0.0)	3703.3 1556575.7	0.2648 97.3 100.0	4.7964 [4.7570]	100.8%			
PFOS	(499.0 / 80.0) 11823732 (499.0 / 99.0) 2454472	(8.31, 1.00) (0.00, N/A, 0.1)	1525.1 1955.8	0.2076 93.8 100.0	4.2337 [4.6375]	91.3%			
PFNS	(549.0 / 80.0) 13459624 (549.0 / 99.0) 3020021	(8.75, 1.05) (N/A, 0.00, 0.0)	19894.4 2329728.1	0.2244 102.3 100.0	4.2884 [4.7994]	89.4%			
PFDS	(599.0 / 80.0) 16032907 (599.0 / 99.0) 3190924	(9.00, 1.08) (N/A, 0.00, 0.0)	4394.0 2681.2	0.1990 91.3 100.0	4.6960 [4.8155]	97.5%			
PFDoS	(699.0 / 80.0) 9034396 (699.0 / 99.0) 1861980	(9.35, 1.13) (N/A, 0.00, 0.0)	2999.9 1576.6	0.2061 99.0 100.0	4.1489 [4.8478]	85.6%			
4:2FTS	(327.0 / 307.0) 7339396 (327.0 / 81.0) 4698250	(5.18, 1.00) (0.00, N/A, 0.0)	3005.5 2283.5	0.6401 94.9 100.0	19.2840 [18.6906]	103.2%			
6:2FTS	(427.0 / 407.0) 4092921 (427.0 / 81.0) 3337693	(6.67, 1.00) (0.00, N/A, -0.1)	2313.0 1996.0	0.8155 98.5 100.0	16.7779 [18.9808]	88.4%			
8:2FTS	(527.0 / 507.0) 4400615 (527.0 / 81.0) 3585629	(7.84, 1.00) (0.00, N/A, -0.1)	2650.9 2121.3	0.8148 98.0 100.0	18.9671 [19.1658]	99.0%			

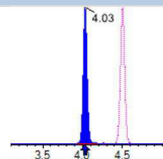
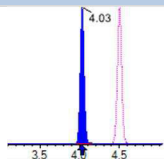
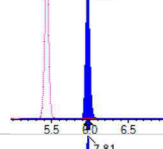
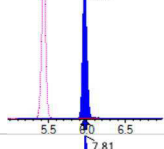
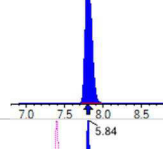
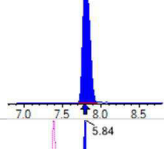
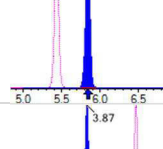
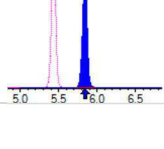
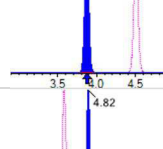
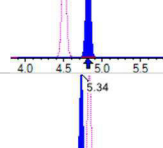
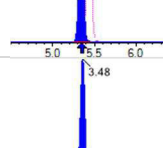
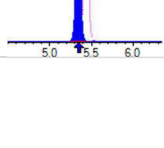
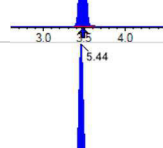
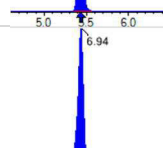
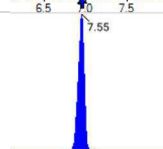
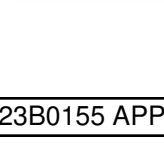


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (3)
 Acquired: 2023/02/23 - 22:48

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 18394853 (498.0 / 478.0) 357697	(9.83, 1.00) (0.00, N/A, 0.0)	2700.4 1003.6	0.0194 94.7 100.0	5.0689 [5.0000]	101.4%			
NMeFOSA	(512.0 / 219.0) 15940582 (512.0 / 169.0) 13134992	(10.42, 1.00) (0.00, N/A, 1.0)	4236.9 3816.3	0.8240 100.6 100.0	19.7865 [20.0000]	98.9%			
NEIFOSA	(526.0 / 219.0) 17104320 (526.0 / 169.0) 21588478	(10.56, 1.00) (-0.01, N/A, 0.6)	12561.8 14670.1	1.2622 99.4 100.0	20.4088 [20.0000]	102.0%			
NMeFOSAA	(570.0 / 419.0) 1674884 (570.0 / 483.0) 782674	(8.25, 1.00) (0.00, N/A, 0.0)	3596.9 5825094.6	0.4673 98.4 100.0	4.9504 [5.0000]	99.0%			
NEIFOSAA	(584.0 / 419.0) 1515667 (584.0 / 526.0) 827451	(8.50, 1.00) (0.01, N/A, -0.1)	2924.1 1508.9	0.5459 107.0 100.0	5.0543 [5.0000]	101.1%			
NMeFOSE	(616.0 / 59.0) 7185271	(10.36, 1.00) (0.01, N/A, 0.0)	3379.4	N/A 0.0 0.0	18.8173 [20.0000]	94.1%			
NEtFOSE	(630.0 / 59.0) 8740850	(10.52, 1.00) (0.01, N/A, 0.0)	1454.4	N/A 0.0 0.0	19.9965 [20.0000]	100.0%			
HFPO-DA	(285.0 / 169.0) 3752645 (285.0 / 185.0) 10124033	(5.74, 1.00) (0.00, N/A, 0.0)	2761.0 3808.2	2.6978 97.9 100.0	9.0931 [10.0000]	90.9%			
ADONA	(377.0 / 85.0) 13350713 (377.0 / 251.0) 1242804	(6.53, 1.14) (N/A, 0.00, 0.0)	3992.3 1949.1	0.0931 105.6 100.0	9.4069 [9.4270]	99.8%			
9CI-Pf3ONS	(531.0 / 351.0) 35374867 (533.0 / 353.0) 12239338	(8.66, 1.51) (N/A, 0.00, 0.0)	2681.6 3069.7	0.3460 99.4 100.0	8.3371 [9.3325]	89.3%			
11CI-PF3OUDS	(631.0 / 451.0) 20573599 (633.0 / 453.0) 7277031	(9.15, 1.59) (N/A, 0.00, 0.1)	3650.9 3109.7	0.3537 97.8 100.0	8.8984 [9.4321]	94.3%			

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
3:3FTCA	(241.0 / 177.0) 276792 (241.0 / 117.0) 427856	(4.03, 0.90) (N/A, 0.00, 0.0)	1494.2 1892.5	1.5458 98.0 100.0	19.7424 [20.0000]	98.7%			
5:3FTCA	(341.0 / 236.7) 1874246 (341.0 / 217.0) 3313619	(5.97, 1.10) (N/A, 0.00, 0.1)	1543.2 2183.6	1.7680 103.7 100.0	19.3124 [20.0000]	96.6%			
7:3FTCA	(441.0 / 317.0) 3365882 (441.0 / 337.0) 2781958	(7.81, 1.44) (N/A, 0.00, 0.0)	1375.0 1179.9	0.8265 96.0 100.0	18.7744 [20.0000]	93.9%			
PFEESA	(315.0 / 135.0) 7807142 (315.0 / 83.0) 2163673	(5.84, 1.07) (N/A, 0.00, 0.0)	4299.8 2569.8	0.2771 108.5 100.0	9.1577 [8.9246]	102.6%			
PFMPA	(229.0 / 85.0) 1180744	(3.87, 0.86) (N/A, 0.00, 0.0)	4647.1	N/A 0.0 0.0	9.5478 [10.0000]	95.5%			
PFMBA	(279.0 / 85.0) 4744642	(4.82, 1.07) (N/A, 0.00, 0.0)	4658.4	N/A 0.0 0.0	9.1487 [10.0000]	91.5%			
NFDHA	(295.0 / 201.0) 3922913 (295.0 / 85.0) 3953685	(5.34, 0.98) (N/A, 0.00, 0.0)	4460.6 3338.6	1.0078 100.7 100.0	9.9589 [10.0000]	99.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 273174	(3.48, N/A) (N/A, 0.00, N/A)	1545.3	N/A	1.2196 [1.0000]	122.0% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 535099	(5.44, N/A) (N/A, 0.00, N/A)	1945.8	N/A	1.0600 [1.0000]	106.0% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 710894	(6.94, N/A) (N/A, 0.00, N/A)	1431.0	N/A	1.1217 [1.0000]	112.2% { 100.0% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 633644	(7.55, N/A) (N/A, 0.00, N/A)	1763.9	N/A	1.0486 [1.0000]	104.9% { 100.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (3)
 Acquired: 2023/02/23 - 22:48

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
13C2_PFDA_IIS	(515.0 / 470.1) 632423	(8.11, N/A) (N/A, 0.00, N/A)	1202.5	N/A	1.0930 [1.0000]	109.3% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1074702	(7.08, N/A) (N/A, 0.00, N/A)	1887.9	N/A	1.2550 [1.0000]	125.5% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1658187	(8.31, N/A) (N/A, 0.00, N/A)	1191.1	N/A	1.1015 [1.0000]	110.2% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2844851	(3.48, N/A) (N/A, 0.00, N/A)	4296.1	N/A	8.7550 [8.0000]	109.4% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2752610	(4.50, N/A) (N/A, 0.00, N/A)	3201.5	N/A	4.7016 [4.0000]	117.5% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1614519	(5.44, N/A) (N/A, 0.00, N/A)	1848.3	N/A	2.2028 [2.0000]	110.1% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1531492	(6.25, N/A) (N/A, 0.00, N/A)	2594.5	N/A	2.4116 [2.0000]	120.6% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1693809	(6.94, N/A) (N/A, 0.00, N/A)	1994.4	N/A	2.1038 [2.0000]	105.2% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 749683	(7.55, N/A) (N/A, 0.00, N/A)	1333.7	N/A	1.1167 [1.0000]	111.7% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 923710	(8.10, N/A) (N/A, 0.00, N/A)	992.9	N/A	1.1584 [1.0000]	115.8% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 923664	(8.60, N/A) (N/A, 0.00, N/A)	1085.4	N/A	1.1649 [1.0000]	116.5% { 100.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (3)
 Acquired: 2023/02/23 - 22:48

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
13C2_PFDa_EIS	(615.0 / 570.0) 826976	(8.90, N/A) (N/A, 0.00, N/A)	1383.9	N/A	1.2160 [1.0000]	121.6% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 783831	(9.27, N/A) (N/A, 0.00, N/A)	2041.2	N/A	1.2578 [1.0000]	125.8% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4867487	(5.40, N/A) (N/A, 0.00, N/A)	4236.8	N/A	2.1640 [2.0000]	108.2% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2417988	(7.08, N/A) (N/A, 0.00, N/A)	1638.2	N/A	2.0697 [2.0000]	103.5% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5296969	(8.31, N/A) (N/A, 0.00, N/A)	1059.5	N/A	2.3269 [2.0000]	116.3% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 557405	(5.18, N/A) (N/A, 0.00, N/A)	2151.5	N/A	4.4897 [4.0000]	112.2% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 687704	(6.67, N/A) (N/A, 0.00, N/A)	1711.0	N/A	5.0461 [4.0000]	126.2% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 852010	(7.85, N/A) (N/A, 0.00, N/A)	1069.4	N/A	4.4251 [4.0000]	110.6% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9074628	(9.83, N/A) (N/A, 0.00, N/A)	2794.9	N/A	2.1475 [2.0000]	107.4% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1940972	(10.42, N/A) (N/A, 0.00, N/A)	2636.4	N/A	1.9496 [2.0000]	97.5% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1794165	(10.56, N/A) (N/A, 0.00, N/A)	3924.3	N/A	2.0139 [2.0000]	100.7% { 100.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (3)
 Acquired: 2023/02/23 - 22:48

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) 1724504	(8.25, N/A) (N/A, 0.00, N/A)	2002.1	N/A	4.6812 [4.0000]	117.0% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1428157	(8.49, N/A) (N/A, 0.00, N/A)	3170.0	N/A	4.7345 [4.0000]	118.4% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7638881	(10.35, N/A) (N/A, 0.00, N/A)	1353.1	N/A	21.0462 [20.0000]	105.2% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9186734	(10.51, N/A) (N/A, 0.00, N/A)	3003.0	N/A	19.7643 [20.0000]	98.8% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4174917	(5.74, N/A) (N/A, 0.00, N/A)	2843.8	N/A	9.3552 [8.0000]	116.9% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV2	PFBA	20.0	18.7	93.3	ng/mL	+/- 30.00%
	PFPEA	10.0	9.55	95.5	ng/mL	+/- 30.00%
	PFHXA	5.00	4.73	94.6	ng/mL	+/- 30.00%
	PFHPA	5.00	4.74	94.9	ng/mL	+/- 30.00%
	PFOA	5.00	4.62	92.5	ng/mL	+/- 30.00%
	PFNA	5.00	4.65	93.1	ng/mL	+/- 30.00%
	PFDA	5.00	4.38	87.7	ng/mL	+/- 30.00%
	PFUnA	5.00	5.04	101	ng/mL	+/- 30.00%
	PFDOA	5.00	4.49	89.8	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.55	91.0	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.30	86.0	ng/mL	+/- 30.00%
	PFBS	4.42	4.06	91.8	ng/mL	+/- 30.00%
	PFPEs	4.70	4.27	90.8	ng/mL	+/- 30.00%
	PFHXS	4.58	4.16	90.8	ng/mL	+/- 30.00%
	PFHPS	4.78	4.57	95.6	ng/mL	+/- 30.00%
	PFOS	4.65	4.08	87.7	ng/mL	+/- 30.00%
	PFNS	4.80	4.28	89.3	ng/mL	+/- 30.00%
	PFDS	4.82	4.46	92.6	ng/mL	+/- 30.00%
	PFDOS	4.85	4.22	87.1	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.0	107	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.6	98.0	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.3	101	ng/mL	+/- 30.00%
	PFOSA	5.00	4.97	99.4	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.5	97.7	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.4	102	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.79	95.8	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.50	89.9	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.2	96.0	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.0	94.8	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.67	86.7	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV2	ADONA	9.45	9.71	103	ng/mL	+/- 30.00%
	PFEESA	8.90	8.55	96.0	ng/mL	+/- 30.00%
	PFMPA	10.0	9.76	97.6	ng/mL	+/- 30.00%
	PFMBA	10.0	9.66	96.6	ng/mL	+/- 30.00%
	NFDHA	10.0	9.47	94.7	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.52	91.1	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.17	97.0	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.9	99.7	ng/mL	+/- 30.00%
	5:3FTCA	20.0	18.4	92.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.6	88.0	ng/mL	+/- 30.00%

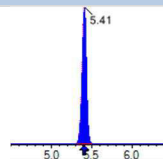
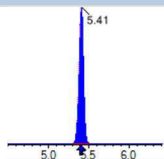
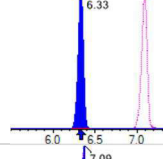
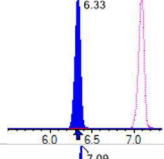
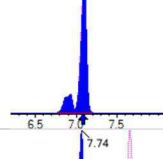
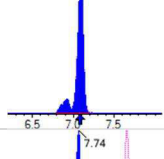
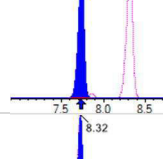
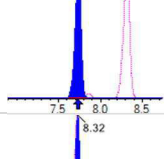
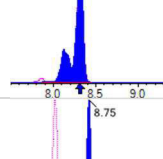
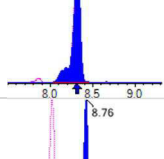
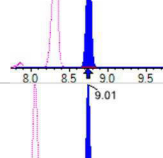
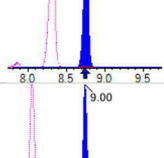
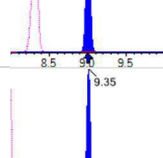
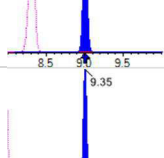
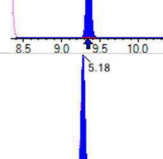
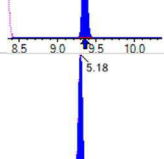
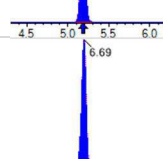
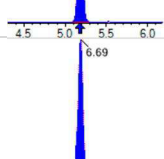
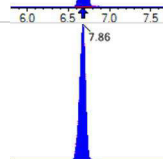
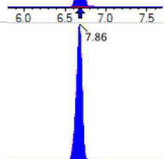
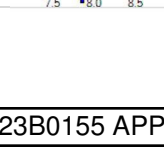
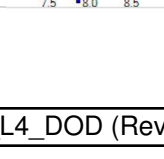


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (14)
 Acquired: 2023/02/24 - 01:10

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) 5320122	(3.48, 1.00) (0.00, N/A, 0.0)	250.3	N/A 0.0 0.0	18.6671 [20.0000]	93.3%			
PFPeA	(263.0 / 219.0) 5098401 (263.0 / 69.0) 64587	(4.51, 1.00) (0.00, N/A, -0.1)	3812.5 647.7	0.0127 118.3 105.1	9.5512 [10.0000]	95.5%			
PFHxA	(313.0 / 269.0) 3376313 (313.0 / 119.0) 348352	(5.45, 1.00) (0.00, N/A, 0.2)	2908.7 3108.2	0.1032 103.6 99.5	4.7307 [5.0000]	94.6%			
PFHpA	(363.0 / 319.0) 2748469 (363.0 / 169.0) 824812	(6.26, 1.00) (0.00, N/A, 0.1)	8204.9 138486116.1	0.3001 93.6 95.3	4.7434 [5.0000]	94.9%			
PFOA	(413.0 / 369.0) 3601621 (413.0 / 169.0) 1143419	(6.95, 1.00) (0.00, N/A, 0.2)	2940.4 49468.7	0.3175 94.9 103.1	4.6233 [5.0000]	92.5%			
PFNA	(463.0 / 419.0) 3005469 (463.0 / 169.0) 702927	(7.56, 1.00) (0.00, N/A, 0.0)	7358.7 14667.8	0.2339 104.5 107.5	4.6534 [5.0000]	93.1%			
PFDA	(513.0 / 469.0) 3622487 (513.0 / 169.0) 442161	(8.12, 1.00) (0.00, N/A, -0.1)	2189.0 939.3	0.1221 100.4 114.7	4.3839 [5.0000]	87.7%			
PFUnA	(563.0 / 519.0) 3441703 (563.0 / 169.0) 411808	(8.61, 1.00) (0.00, N/A, -0.2)	1929.7 1292.7	0.1197 114.1 94.0	5.0413 [5.0000]	100.8%			
PFDoA	(613.0 / 569.0) 3290323 (613.0 / 169.0) 529491	(8.91, 1.00) (0.00, N/A, 0.2)	2433.8 2193.1	0.1609 98.4 98.8	4.4921 [5.0000]	89.8%			
PFTrDA	(663.0 / 619.0) 3017272 (663.0 / 169.0) 766525	(9.11, 1.02) (N/A, 0.01, -0.1)	2759.7 1328.5	0.2540 106.3 103.0	4.5497 [5.0000]	91.0%			
PFTeDA	(713.0 / 669.0) 2696434 (713.0 / 169.0) 564838	(9.28, 1.00) (0.00, N/A, 0.1)	1747.0 884.4	0.2095 101.4 95.3	4.2991 [5.0000]	86.0%			

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
PFBS	(299.0 / 80.0) 5683140 (299.0 / 99.0) 3517283	(5.41, 1.00) (0.00, N/A, 0.0)	4077.5 2328.5	0.6189 95.7 100.6	4.0557 [4.4237]	91.7%			
PFPeS	(349.0 / 80.0) 9981373 (349.0 / 99.0) 3392962	(6.33, 0.89) (N/A, 0.01, 0.0)	40912.0 629194109.6	0.3399 95.2 103.8	4.2680 [4.6919]	91.0%			
PFHxS	(399.0 / 80.0) 7755125 (399.0 / 99.0) 2629471	(7.09, 1.00) (0.00, N/A, 0.1)	10327.8 512756.6	0.3391 104.4 105.1	4.1589 [4.5549]	91.3%			
PFHpS	(449.0 / 80.0) 9222088 (449.0 / 99.0) 2535612	(7.74, 0.93) (N/A, 0.01, 0.0)	2179978.9 3090.4	0.2749 101.0 103.8	4.5673 [4.7570]	96.0%			
PFOS	(499.0 / 80.0) 11400244 (499.0 / 99.0) 2437298	(8.32, 1.00) (0.00, N/A, -0.1)	1567.8 3137.1	0.2138 96.6 103.0	4.0797 [4.6375]	88.0%			
PFNS	(549.0 / 80.0) 13455890 (549.0 / 99.0) 3000953	(8.75, 1.05) (N/A, 0.01, -0.1)	7535.9 1258994.7	0.2230 101.7 99.4	4.2847 [4.7994]	89.3%			
PFDS	(599.0 / 80.0) 15251254 (599.0 / 99.0) 3313041	(9.01, 1.08) (N/A, 0.01, 0.1)	3666.8 2956.8	0.2172 99.7 109.1	4.4645 [4.8155]	92.7%			
PFDoS	(699.0 / 80.0) 9203755 (699.0 / 99.0) 1776112	(9.35, 1.12) (N/A, 0.00, -0.2)	3693.1 1850.3	0.1930 92.7 93.6	4.2243 [4.8478]	87.1%			
4:2FTS	(327.0 / 307.0) 7011856 (327.0 / 81.0) 4754202	(5.18, 1.00) (0.00, N/A, -0.1)	3417.0 2634.1	0.6780 100.5 105.9	20.0320 [18.6906]	107.2%			
6:2FTS	(427.0 / 407.0) 3880630 (427.0 / 81.0) 3016930	(6.69, 1.00) (0.00, N/A, 0.0)	2177.9 2091.2	0.7774 93.9 95.3	18.6239 [18.9808]	98.1%			
8:2FTS	(527.0 / 507.0) 4034125 (527.0 / 81.0) 3309759	(7.86, 1.00) (0.00, N/A, -0.1)	1762.4 1437.8	0.8204 98.7 100.7	19.3155 [19.1658]	100.8%			

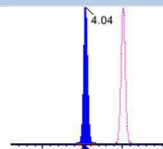
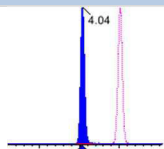
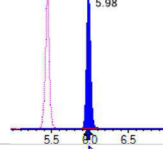
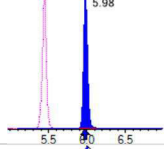
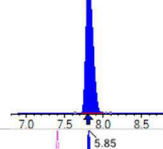
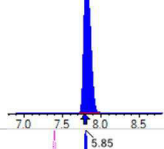
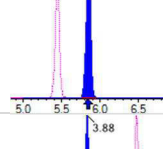
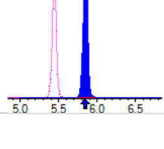
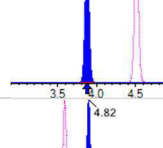
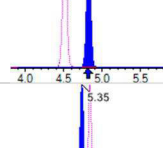
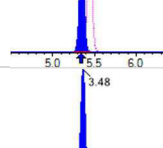
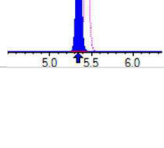
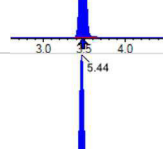
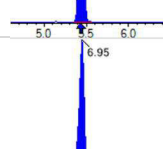
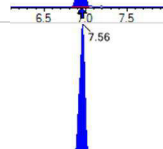
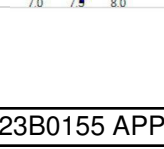


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (14)
 Acquired: 2023/02/24 - 01:10

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) 17334333 (498.0 / 478.0) 351572	(9.84, 1.00) (0.00, N/A, 0.0)	4001.8 1366.5	0.0203 98.7 104.3	4.9706 [5.0000]	99.4%			
NMeFOSA	(512.0 / 219.0) 15443014 (512.0 / 169.0) 12962949	(10.42, 1.00) (0.00, N/A, 1.0)	6247.5 3949.7	0.8394 102.5 101.9	19.5421 [20.0000]	97.7%			
NEIFOSA	(526.0 / 219.0) 16975714 (526.0 / 169.0) 21672725	(10.57, 1.00) (0.00, N/A, 0.7)	18501.7 15223.4	1.2767 100.6 101.2	20.4443 [20.0000]	102.2%			
NMeFOSAA	(570.0 / 419.0) 1673469 (570.0 / 483.0) 735786	(8.26, 1.00) (0.01, N/A, 0.2)	2567.1 2314.4	0.4397 92.6 94.1	4.7897 [5.0000]	95.8%			
NEIFOSAA	(584.0 / 419.0) 1429155 (584.0 / 526.0) 796166	(8.51, 1.00) (0.00, N/A, 0.1)	3735.8 1528.7	0.5571 109.2 102.0	4.4972 [5.0000]	89.9%			
NMeFOSE	(616.0 / 59.0) 7060877	(10.37, 1.00) (0.01, N/A, 0.0)	3233.2	N/A 0.0 0.0	19.2066 [20.0000]	96.0%			
NEtFOSE	(630.0 / 59.0) 8589361	(10.52, 1.00) (0.01, N/A, 0.0)	1710.9	N/A 0.0 0.0	18.9640 [20.0000]	94.8%			
HFPO-DA	(285.0 / 169.0) 3486015 (285.0 / 185.0) 9667374	(5.75, 1.00) (0.00, N/A, 0.0)	2498.9 3865.4	2.7732 100.7 102.8	8.6745 [10.0000]	86.7%			
ADONA	(377.0 / 85.0) 13421978 (377.0 / 251.0) 1221345	(6.54, 1.14) (N/A, 0.01, -0.1)	4272.3 2107.8	0.0910 103.2 97.8	9.7118 [9.4270]	103.0%			
9CI-Pf3ONS	(531.0 / 351.0) 35118318 (533.0 / 353.0) 11327021	(8.67, 1.51) (N/A, 0.01, 0.0)	3057.8 3244.4	0.3225 92.6 93.2	8.5177 [9.3325]	91.3%			
11CI-PF3OUDS	(631.0 / 451.0) 20648271 (633.0 / 453.0) 7034536	(9.16, 1.59) (N/A, 0.01, 0.0)	4293.4 3367.7	0.3407 94.2 96.3	9.1712 [9.4321]	97.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 263712 (241.0 / 117.0) 414674	(4.04, 0.90) (N/A, 0.01, 0.1)	1601.0 1369.2	1.5725 99.6 101.7	19.9410 [20.0000]	99.7%			
5:3FTCA	(341.0 / 236.7) 1796909 (341.0 / 217.0) 3175821	(5.98, 1.10) (N/A, 0.01, 0.0)	1351.7 2438.6	1.7674 103.6 100.0	18.4115 [20.0000]	92.1%			
7:3FTCA	(441.0 / 317.0) 3171772 (441.0 / 337.0) 2783690	(7.82, 1.44) (N/A, 0.01, -0.1)	1056.5 1263.2	0.8776 102.0 106.2	17.5923 [20.0000]	88.0%			
PFEESA	(315.0 / 135.0) 7326747 (315.0 / 83.0) 2044198	(5.85, 1.07) (N/A, 0.01, 0.0)	3559.9 2037.3	0.2790 109.2 100.7	8.5459 [8.9246]	95.8%			
PFMPA	(229.0 / 85.0) 1137869	(3.88, 0.86) (N/A, 0.00, 0.0)	5591.3	N/A 0.0 0.0	9.7591 [10.0000]	97.6%			
PFMBA	(279.0 / 85.0) 4725475	(4.82, 1.07) (N/A, 0.00, 0.0)	4492.3	N/A 0.0 0.0	9.6644 [10.0000]	96.6%			
NFDHA	(295.0 / 201.0) 3749495 (295.0 / 85.0) 3975030	(5.35, 0.98) (N/A, 0.01, 0.0)	3965.0 3602.2	1.0602 105.9 105.2	9.4651 [10.0000]	94.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 258636	(3.48, N/A) (N/A, 0.00, N/A)	1623.3	N/A	1.1547 [1.0000]	115.5% { 94.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 516764	(5.44, N/A) (N/A, 0.01, N/A)	1466.8	N/A	1.0237 [1.0000]	102.4% { 96.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 712678	(6.95, N/A) (N/A, 0.01, N/A)	1964.6	N/A	1.1245 [1.0000]	112.4% { 100.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 655972	(7.56, N/A) (N/A, 0.01, N/A)	2112.0	N/A	1.0856 [1.0000]	108.6% { 103.5% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (14)
 Acquired: 2023/02/24 - 01:10

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
13C2_PFDA_IIS	(515.0 / 470.1) 688762	(8.12, N/A) (N/A, 0.01, N/A)	1310.1	N/A	1.1903 [1.0000]	119.0% { 108.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1055282	(7.10, N/A) (N/A, 0.01, N/A)	3314.1	N/A	1.2323 [1.0000]	123.2% { 98.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1699046	(8.32, N/A) (N/A, 0.01, N/A)	1253.9	N/A	1.1286 [1.0000]	112.9% { 102.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2752461	(3.48, N/A) (N/A, 0.00, N/A)	4684.8	N/A	8.9469 [8.0000]	111.8% { 96.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2595210	(4.51, N/A) (N/A, 0.01, N/A)	3381.7	N/A	4.5900 [4.0000]	114.7% { 94.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1623645	(5.44, N/A) (N/A, 0.01, N/A)	3322.3	N/A	2.2938 [2.0000]	114.7% { 100.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1372365	(6.26, N/A) (N/A, 0.01, N/A)	2027.5	N/A	2.2377 [2.0000]	111.9% { 89.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1749860	(6.95, N/A) (N/A, 0.01, N/A)	1948.9	N/A	2.1680 [2.0000]	108.4% { 103.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 729978	(7.56, N/A) (N/A, 0.02, N/A)	1206.9	N/A	1.0503 [1.0000]	105.0% { 97.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 939376	(8.11, N/A) (N/A, 0.01, N/A)	2377.9	N/A	1.0817 [1.0000]	108.2% { 101.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 821703	(8.61, N/A) (N/A, 0.01, N/A)	1431.9	N/A	0.9515 [1.0000]	95.2% { 89.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (14)
 Acquired: 2023/02/24 - 01:10

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
13C2_PFDa_EIS	(615.0 / 570.0) 832941	(8.90, N/A) (N/A, 0.00, N/A)	3608.6	N/A	1.1246 [1.0000]	112.5% { 100.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 724807	(9.27, N/A) (N/A, 0.00, N/A)	1732.7	N/A	1.0680 [1.0000]	106.8% { 92.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4509688	(5.40, N/A) (N/A, 0.01, N/A)	3156.7	N/A	2.0419 [2.0000]	102.1% { 92.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2425298	(7.09, N/A) (N/A, 0.01, N/A)	1583.1	N/A	2.1141 [2.0000]	105.7% { 100.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5300000	(8.32, N/A) (N/A, 0.01, N/A)	1142.3	N/A	2.2722 [2.0000]	113.6% { 100.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 512644	(5.18, N/A) (N/A, 0.00, N/A)	1477.5	N/A	4.2051 [4.0000]	105.1% { 92.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 587407	(6.69, N/A) (N/A, 0.01, N/A)	1295.4	N/A	4.3895 [4.0000]	109.7% { 85.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 766961	(7.86, N/A) (N/A, 0.01, N/A)	1250.3	N/A	4.0567 [4.0000]	101.4% { 90.0% }			
13C8_PFOA_EIS	(506.0 / 78.0) 8720500	(9.84, N/A) (N/A, 0.01, N/A)	3705.9	N/A	2.0141 [2.0000]	100.7% { 96.1% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 1902934	(10.42, N/A) (N/A, 0.01, N/A)	2339.7	N/A	1.8654 [2.0000]	93.3% { 98.0% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 1777588	(10.57, N/A) (N/A, 0.01, N/A)	3453.3	N/A	1.9473 [2.0000]	97.4% { 99.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (14)
 Acquired: 2023/02/24 - 01:10

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) 1780856	(8.26, N/A) (N/A, 0.01, N/A)	1995.1	N/A	4.7179 [4.0000]	117.9% { 103.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1513461	(8.51, N/A) (N/A, 0.01, N/A)	4880.6	N/A	4.8966 [4.0000]	122.4% { 106.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7354483	(10.36, N/A) (N/A, 0.01, N/A)	1826.8	N/A	19.7753 [20.0000]	98.9% { 96.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9518994	(10.51, N/A) (N/A, 0.01, N/A)	2025.6	N/A	19.9866 [20.0000]	99.9% { 103.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4065447	(5.75, N/A) (N/A, 0.01, N/A)	3036.8	N/A	9.4331 [8.0000]	117.9% { 97.4% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV3	PFBA	20.0	18.6	93.2	ng/mL	+/- 30.00%
	PFPEA	10.0	9.35	93.5	ng/mL	+/- 30.00%
	PFHXA	5.00	4.75	94.9	ng/mL	+/- 30.00%
	PFHPA	5.00	4.42	88.4	ng/mL	+/- 30.00%
	PFOA	5.00	4.91	98.3	ng/mL	+/- 30.00%
	PFNA	5.00	4.80	95.9	ng/mL	+/- 30.00%
	PFDA	5.00	4.77	95.3	ng/mL	+/- 30.00%
	PFUnA	5.00	4.66	93.3	ng/mL	+/- 30.00%
	PFDOA	5.00	4.99	99.8	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.39	108	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.98	99.5	ng/mL	+/- 30.00%
	PFBS	4.42	3.83	86.7	ng/mL	+/- 30.00%
	PFPEs	4.70	4.41	93.8	ng/mL	+/- 30.00%
	PFHXS	4.58	4.27	93.1	ng/mL	+/- 30.00%
	PFHPS	4.78	4.84	101	ng/mL	+/- 30.00%
	PFOS	4.65	4.30	92.5	ng/mL	+/- 30.00%
	PFNS	4.80	4.54	94.5	ng/mL	+/- 30.00%
	PFDS	4.82	4.60	95.5	ng/mL	+/- 30.00%
	PFDOS	4.85	4.35	89.7	ng/mL	+/- 30.00%
	4:2FTS	18.8	18.1	96.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.4	91.7	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.5	91.3	ng/mL	+/- 30.00%
	PFOSA	5.00	4.88	97.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.0	94.9	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.0	105	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.84	96.8	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.68	93.7	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.7	93.5	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.7	98.7	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.48	84.8	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV3	ADONA	9.45	9.17	97.1	ng/mL	+/- 30.00%
	PFEESA	8.90	8.79	98.7	ng/mL	+/- 30.00%
	PFMPA	10.0	9.91	99.1	ng/mL	+/- 30.00%
	PFMBA	10.0	9.83	98.3	ng/mL	+/- 30.00%
	NFDHA	10.0	9.81	98.1	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	7.95	85.0	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.12	96.5	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.8	99.1	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.3	86.4	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.6	88.1	ng/mL	+/- 30.00%

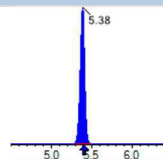
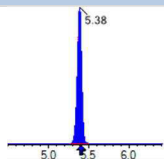
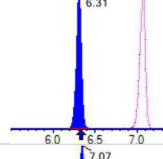
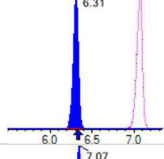
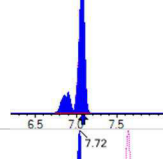
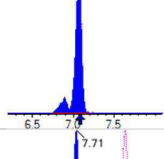
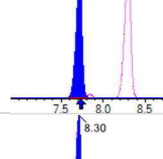
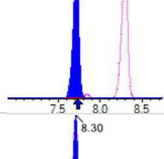
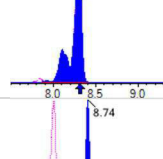
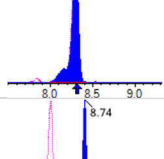
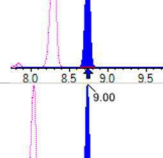
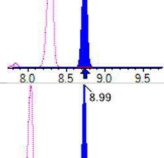
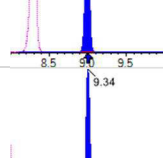
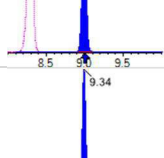
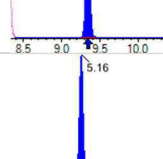
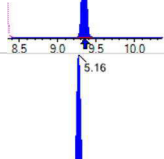
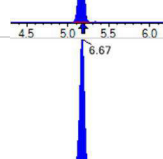
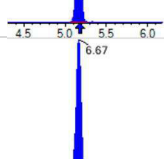
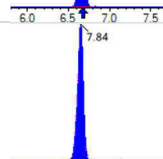
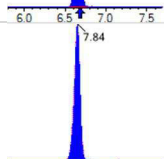
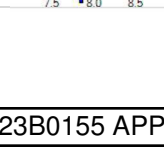
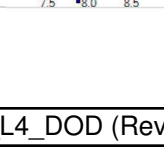


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (42)
 Acquired: 2023/02/24 - 07:10

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
PFBA	(213.0 / 169.0) 5232315	(3.47, 1.00) (0.00, N/A, 0.0)	204.1	N/A 0.0 0.0	18.6495 [20.0000]	93.2%			
PFPeA	(263.0 / 219.0) 4902127 (263.0 / 69.0) 62457	(4.49, 1.00) (0.00, N/A, 0.2)	4390.0 773.1	0.0127 119.0 105.7	9.3494 [10.0000]	93.5%			
PFHxA	(313.0 / 269.0) 3317843 (313.0 / 119.0) 335660	(5.42, 1.00) (0.00, N/A, 0.2)	3832.9 14268.1	0.1012 101.6 97.6	4.7459 [5.0000]	94.9%			
PFHpA	(363.0 / 319.0) 2561152 (363.0 / 169.0) 865285	(6.24, 1.00) (0.00, N/A, -0.1)	6944.3 146886.1	0.3378 105.4 107.3	4.4187 [5.0000]	88.4%			
PFOA	(413.0 / 369.0) 3399013 (413.0 / 169.0) 1093635	(6.93, 1.00) (0.00, N/A, 0.1)	3440.8 772532.3	0.3218 96.2 104.5	4.9139 [5.0000]	98.3%			
PFNA	(463.0 / 419.0) 3052628 (463.0 / 169.0) 653055	(7.54, 1.00) (0.00, N/A, -0.1)	5992.1 8186.9	0.2139 95.6 98.3	4.7974 [5.0000]	95.9%			
PFDA	(513.0 / 469.0) 3715902 (513.0 / 169.0) 420740	(8.10, 1.00) (0.00, N/A, -0.2)	1411.0 2875.5	0.1132 93.1 106.4	4.7662 [5.0000]	95.3%			
PFUnA	(563.0 / 519.0) 3194646 (563.0 / 169.0) 419423	(8.59, 1.00) (0.00, N/A, -0.3)	2275.2 737.0	0.1313 125.2 103.2	4.6635 [5.0000]	93.3%			
PFDoA	(613.0 / 569.0) 2842708 (613.0 / 169.0) 456991	(8.89, 1.00) (0.00, N/A, 0.3)	2201.0 1334.8	0.1608 98.3 98.7	4.9880 [5.0000]	99.8%			
PFTrDA	(663.0 / 619.0) 2782156 (663.0 / 169.0) 705656	(9.10, 1.02) (N/A, 0.00, 0.0)	2347.4 1380.1	0.2536 106.1 102.9	5.3917 [5.0000]	107.8%			
PFTeDA	(713.0 / 669.0) 2733237 (713.0 / 169.0) 564248	(9.27, 1.00) (0.00, N/A, 0.1)	2875.7 1390.6	0.2064 99.9 94.0	4.9766 [5.0000]	99.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5773611 (299.0 / 99.0) 3507268	(5.38, 1.00) (0.00, N/A, -0.1)	3016.4 2938.4	0.6075 93.9 98.7	3.8339 [4.4237]	86.7%			
PFPeS	(349.0 / 80.0) 9747096 (349.0 / 99.0) 3101852	(6.31, 0.89) (N/A, -0.01, 0.0)	71280.4 4519.1	0.3182 89.1 97.2	4.4107 [4.6919]	94.0%			
PFHxS	(399.0 / 80.0) 7516672 (399.0 / 99.0) 2509791	(7.07, 1.00) (0.00, N/A, 0.1)	5175.7 10897188.8	0.3339 102.8 103.5	4.2659 [4.5549]	93.7%			
PFHpS	(449.0 / 80.0) 9032695 (449.0 / 99.0) 2490629	(7.72, 0.93) (N/A, -0.01, 0.1)	41746.0 896145.5	0.2757 101.3 104.1	4.8351 [4.7570]	101.6%			
PFOS	(499.0 / 80.0) 11125435 (499.0 / 99.0) 2435970	(8.30, 1.00) (0.00, N/A, 0.0)	1302.1 1904.3	0.2190 98.9 105.5	4.3031 [4.6375]	92.8%			
PFNS	(549.0 / 80.0) 13177472 (549.0 / 99.0) 2932129	(8.74, 1.05) (N/A, -0.01, 0.0)	9543.7 128729.7	0.2225 101.5 99.2	4.5352 [4.7994]	94.5%			
PFDS	(599.0 / 80.0) 14543571 (599.0 / 99.0) 3032673	(9.00, 1.08) (N/A, 0.00, 0.1)	3286.4 2151.1	0.2085 95.7 104.8	4.6014 [4.8155]	95.6%			
PFDoS	(699.0 / 80.0) 8767450 (699.0 / 99.0) 1769822	(9.34, 1.13) (N/A, 0.00, 0.1)	2977.4 2955.4	0.2019 97.0 97.9	4.3492 [4.8478]	89.7%			
4:2FTS	(327.0 / 307.0) 6332555 (327.0 / 81.0) 4507254	(5.16, 1.00) (0.00, N/A, 0.0)	3895.3 2962.5	0.7118 105.5 111.2	18.0969 [18.6906]	96.8%			
6:2FTS	(427.0 / 407.0) 3783152 (427.0 / 81.0) 3158261	(6.67, 1.00) (0.00, N/A, 0.0)	2191.5 1836.6	0.8348 100.9 102.4	17.4257 [18.9808]	91.8%			
8:2FTS	(527.0 / 507.0) 3927520 (527.0 / 81.0) 3365264	(7.84, 1.00) (0.00, N/A, 0.0)	1643.6 2164.9	0.8568 103.1 105.2	17.5337 [19.1658]	91.5%			

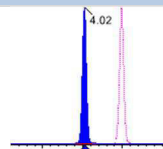
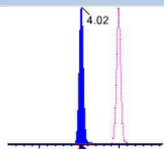
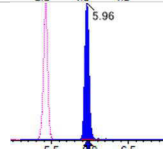
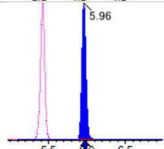
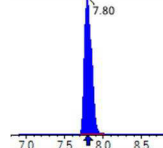
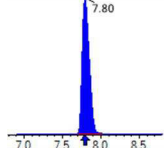
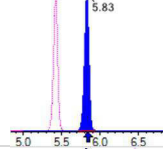
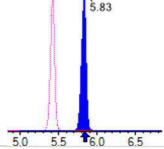
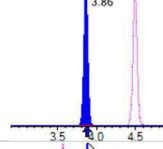
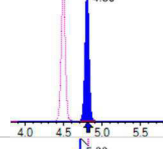
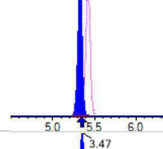
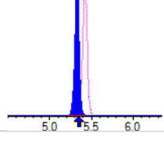
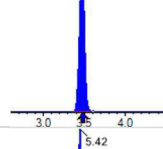
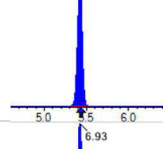
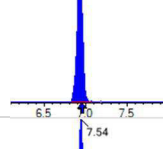
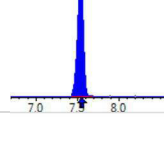


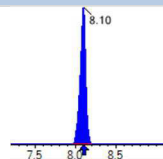
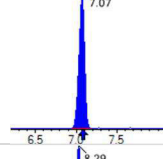
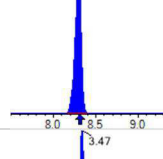
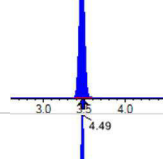
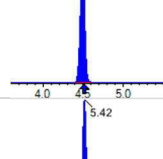
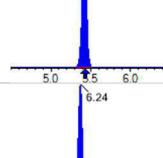
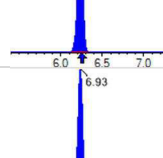
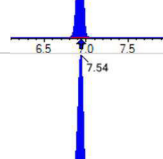
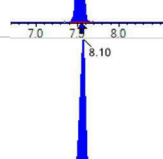
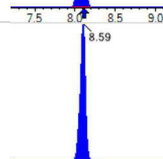
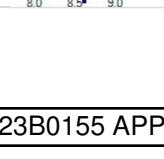
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (42)
 Acquired: 2023/02/24 - 07:10

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
PFOSA	(498.0 / 78.0) 17161824 (498.0 / 478.0) 369512	(9.83, 1.00) (0.00, N/A, 0.1)	2817.8 1186.4	0.0215 104.8 110.7	4.8759 [5.0000]	97.5%			
NMeFOSA	(512.0 / 219.0) 15381340 (512.0 / 169.0) 13036160	(10.42, 1.00) (0.00, N/A, 1.0)	4011.4 4110.8	0.8475 103.5 102.9	18.9787 [20.0000]	94.9%			
NEIFOSA	(526.0 / 219.0) 16776216 (526.0 / 169.0) 21516711	(10.56, 1.00) (0.00, N/A, 0.7)	14094.9 14820.1	1.2826 101.0 101.6	20.9816 [20.0000]	104.9%			
NMeFOSAA	(570.0 / 419.0) 1601722 (570.0 / 483.0) 700980	(8.24, 1.00) (0.00, N/A, -0.1)	1404.9 2739.4	0.4376 92.2 93.7	4.8376 [5.0000]	96.8%			
NEIFOSAA	(584.0 / 419.0) 1303191 (584.0 / 526.0) 760854	(8.50, 1.00) (0.01, N/A, 0.2)	5027.8 1766.5	0.5838 114.4 106.9	4.6832 [5.0000]	93.7%			
NMeFOSE	(616.0 / 59.0) 6574892	(10.36, 1.00) (0.01, N/A, 0.0)	2892.5	N/A 0.0 0.0	18.7003 [20.0000]	93.5%			
NEtFOSE	(630.0 / 59.0) 8142535	(10.52, 1.00) (0.01, N/A, 0.0)	1278.8	N/A 0.0 0.0	19.7472 [20.0000]	98.7%			
HFPO-DA	(285.0 / 169.0) 3384038 (285.0 / 185.0) 9875298	(5.73, 1.00) (0.00, N/A, 0.1)	2765.6 4778.2	2.9182 105.9 108.2	8.4758 [10.0000]	84.8%			
ADONA	(377.0 / 85.0) 12596807 (377.0 / 251.0) 1055143	(6.52, 1.14) (N/A, -0.01, -0.1)	3657.7 1904.9	0.0838 95.0 90.0	9.1742 [9.4270]	97.3%			
9CI-Pf3ONS	(531.0 / 351.0) 32783993 (533.0 / 353.0) 11138838	(8.66, 1.51) (N/A, -0.01, 0.1)	2982.7 2883.2	0.3398 97.6 98.2	7.9501 [9.3325]	85.2%			
11CI-PF3OUDS	(631.0 / 451.0) 20396532 (633.0 / 453.0) 6880967	(9.15, 1.60) (N/A, 0.00, 0.0)	3687.6 2878.3	0.3374 93.2 95.4	9.1185 [9.4321]	96.7%			

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) 257422 (241.0 / 117.0) 399103	(4.02, 0.90) (N/A, -0.01, 0.1)	1545.7 1400.3	1.5504 98.3 100.3	19.8224 [20.0000]	99.1%			
5:3FTCA	(341.0 / 236.7) 1652239 (341.0 / 217.0) 2975114	(5.96, 1.10) (N/A, -0.01, 0.1)	1246.4 2103.4	1.8007 105.6 101.8	17.2828 [20.0000]	86.4%			
7:3FTCA	(441.0 / 317.0) 3110572 (441.0 / 337.0) 2655325	(7.80, 1.44) (N/A, -0.01, 0.0)	1354.1 1465.0	0.8536 99.2 103.3	17.6132 [20.0000]	88.1%			
PFEESA	(315.0 / 135.0) 7379924 (315.0 / 83.0) 2004924	(5.83, 1.07) (N/A, -0.01, -0.1)	3528.5 2395.7	0.2717 106.4 98.0	8.7877 [8.9246]	98.5%			
PFMPA	(229.0 / 85.0) 1135487	(3.86, 0.86) (N/A, -0.01, 0.0)	3767.2	N/A 0.0 0.0	9.9146 [10.0000]	99.1%			
PFMBA	(279.0 / 85.0) 4721163	(4.80, 1.07) (N/A, -0.02, 0.0)	3405.4	N/A 0.0 0.0	9.8300 [10.0000]	98.3%			
NFDHA	(295.0 / 201.0) 3806699 (295.0 / 85.0) 3964898	(5.33, 0.98) (N/A, -0.01, 0.0)	3175.3 3620.2	1.0416 104.0 103.3	9.8103 [10.0000]	98.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 253523	(3.47, N/A) (N/A, -0.01, N/A)	1617.8	N/A	1.1318 [1.0000]	113.2% { 92.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 501531	(5.42, N/A) (N/A, -0.01, N/A)	3313.1	N/A	0.9935 [1.0000]	99.4% { 93.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 648234	(6.93, N/A) (N/A, -0.01, N/A)	1597.6	N/A	1.0228 [1.0000]	102.3% { 91.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 664106	(7.54, N/A) (N/A, -0.01, N/A)	1328.2	N/A	1.0990 [1.0000]	109.9% { 104.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 646572	(8.10, N/A) (N/A, -0.01, N/A)	197.0	N/A	1.1174 [1.0000]	111.7% { 102.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 933824	(7.07, N/A) (N/A, -0.01, N/A)	1170.2	N/A	1.0905 [1.0000]	109.0% { 86.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1667083	(8.29, N/A) (N/A, -0.01, N/A)	1738.2	N/A	1.1074 [1.0000]	110.7% { 100.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2709597	(3.47, N/A) (N/A, -0.01, N/A)	3965.2	N/A	8.9851 [8.0000]	112.3% { 95.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2549168	(4.49, N/A) (N/A, -0.01, N/A)	3262.6	N/A	4.6455 [4.0000]	116.1% { 92.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1590426	(5.42, N/A) (N/A, -0.01, N/A)	2422.1	N/A	2.3152 [2.0000]	115.8% { 98.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1372805	(6.24, N/A) (N/A, -0.01, N/A)	3179.9	N/A	2.3064 [2.0000]	115.3% { 89.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1553741	(6.93, N/A) (N/A, -0.01, N/A)	2199.2	N/A	2.1164 [2.0000]	105.8% { 91.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 719182	(7.54, N/A) (N/A, -0.01, N/A)	1690.0	N/A	1.0221 [1.0000]	102.2% { 95.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 886314	(8.10, N/A) (N/A, -0.01, N/A)	1504.1	N/A	1.0872 [1.0000]	108.7% { 96.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 824511	(8.59, N/A) (N/A, -0.01, N/A)	1865.4	N/A	1.0171 [1.0000]	101.7% { 89.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (42)
 Acquired: 2023/02/24 - 07:10

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
13C2_PFDa_EIS	(615.0 / 570.0) 648088	(8.89, N/A) (N/A, -0.01, N/A)	2062.5	N/A	0.9321 [1.0000]	93.2% { 78.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 634673	(9.27, N/A) (N/A, 0.00, N/A)	1510.0	N/A	0.9962 [1.0000]	99.6% { 81.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4846543	(5.38, N/A) (N/A, -0.01, N/A)	3400.0	N/A	2.4798 [2.0000]	124.0% { 99.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2291739	(7.07, N/A) (N/A, -0.01, N/A)	1859.6	N/A	2.2575 [2.0000]	112.9% { 94.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4903696	(8.29, N/A) (N/A, -0.01, N/A)	1162.3	N/A	2.1426 [2.0000]	107.1% { 92.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 512486	(5.16, N/A) (N/A, -0.02, N/A)	1443.6	N/A	4.7506 [4.0000]	118.8% { 91.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 612026	(6.67, N/A) (N/A, -0.01, N/A)	2416.0	N/A	5.1683 [4.0000]	129.2% { 89.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 822575	(7.84, N/A) (N/A, -0.01, N/A)	1160.8	N/A	4.9167 [4.0000]	122.9% { 96.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8801444	(9.83, N/A) (N/A, 0.00, N/A)	3037.5	N/A	2.0717 [2.0000]	103.6% { 97.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1949333	(10.41, N/A) (N/A, 0.00, N/A)	3109.0	N/A	1.9475 [2.0000]	97.4% { 100.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1711711	(10.56, N/A) (N/A, 0.00, N/A)	2893.7	N/A	1.9111 [2.0000]	95.6% { 95.4% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (42)
 Acquired: 2023/02/24 - 07:10

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) 1687627	(8.24, N/A) (N/A, -0.01, N/A)	1764.9	N/A	4.5566 [4.0000]	113.9% { 97.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1325252	(8.49, N/A) (N/A, -0.01, N/A)	1243714.4	N/A	4.3699 [4.0000]	109.2% { 92.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7033680	(10.35, N/A) (N/A, 0.00, N/A)	2685.4	N/A	19.2754 [20.0000]	96.4% { 92.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8665932	(10.51, N/A) (N/A, 0.00, N/A)	1903.2	N/A	18.5444 [20.0000]	92.7% { 94.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4039058	(5.73, N/A) (N/A, -0.01, N/A)	3194.0	N/A	9.6566 [8.0000]	120.7% { 96.7% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV4	PFBA	20.0	18.5	92.3	ng/mL	+/- 30.00%
	PFPEA	10.0	8.90	89.0	ng/mL	+/- 30.00%
	PFHXA	5.00	4.54	90.8	ng/mL	+/- 30.00%
	PFHPA	5.00	4.30	86.0	ng/mL	+/- 30.00%
	PFOA	5.00	4.63	92.6	ng/mL	+/- 30.00%
	PFNA	5.00	4.89	97.9	ng/mL	+/- 30.00%
	PFDA	5.00	5.35	107	ng/mL	+/- 30.00%
	PFUnA	5.00	4.49	89.8	ng/mL	+/- 30.00%
	PFDOA	5.00	4.55	91.0	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.01	100	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.50	89.9	ng/mL	+/- 30.00%
	PFBS	4.42	4.04	91.4	ng/mL	+/- 30.00%
	PFPEs	4.70	4.46	95.0	ng/mL	+/- 30.00%
	PFHXS	4.58	4.25	92.7	ng/mL	+/- 30.00%
	PFHPS	4.78	4.72	98.7	ng/mL	+/- 30.00%
	PFOS	4.65	4.50	96.9	ng/mL	+/- 30.00%
	PFNS	4.80	4.42	92.1	ng/mL	+/- 30.00%
	PFDS	4.82	4.64	96.2	ng/mL	+/- 30.00%
	PFDOS	4.85	3.99	82.4	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.7	94.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.9	99.4	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.3	101	ng/mL	+/- 30.00%
	PFOSA	5.00	4.96	99.1	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.6	98.1	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.4	102	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.43	88.7	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.87	97.5	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.2	96.1	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.9	99.7	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.18	91.8	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV4	ADONA	9.45	9.66	102	ng/mL	+/- 30.00%
	PFEESA	8.90	8.84	99.4	ng/mL	+/- 30.00%
	PFMPA	10.0	9.63	96.3	ng/mL	+/- 30.00%
	PFMBA	10.0	9.62	96.2	ng/mL	+/- 30.00%
	NFDHA	10.0	9.68	96.8	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.72	93.3	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.49	100	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.8	99.2	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.7	88.7	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.7	88.5	ng/mL	+/- 30.00%



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (48)
 Acquired: 2023/02/24 - 08:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT-CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4686953	(3.48, 1.00) (0.00, N/A, 0.0)	211.9	N/A 0.0 0.0	18.4519 [20.0000]	92.3%			
PFPeA	(263.0 / 219.0) 4284000 (263.0 / 69.0) 50577	(4.50, 1.00) (0.00, N/A, 0.2)	3459.3 455.6	0.0118 110.2 98.0	8.9035 [10.0000]	89.0%			
PFHxA	(313.0 / 269.0) 2833163 (313.0 / 119.0) 306628	(5.44, 1.00) (0.00, N/A, 0.0)	2829.4 7941.7	0.1082 108.7 104.4	4.5422 [5.0000]	90.8%			
PFHpA	(363.0 / 319.0) 2312453 (363.0 / 169.0) 762946	(6.26, 1.00) (0.00, N/A, 0.1)	5417.9 953664.7	0.3299 102.9 104.7	4.2976 [5.0000]	86.0%			
PFOA	(413.0 / 369.0) 3148963 (413.0 / 169.0) 1016448	(6.95, 1.00) (0.00, N/A, 0.0)	4681.6 5445.9	0.3228 96.5 104.8	4.6305 [5.0000]	92.6%			
PFNA	(463.0 / 419.0) 2835484 (463.0 / 169.0) 611646	(7.56, 1.00) (0.00, N/A, 0.2)	8711.0 9052.5	0.2157 96.4 99.1	4.8927 [5.0000]	97.9%			
PFDA	(513.0 / 469.0) 3551768 (513.0 / 169.0) 438821	(8.12, 1.00) (0.00, N/A, 0.0)	1901.5 7176.9	0.1236 101.6 116.1	5.3482 [5.0000]	107.0%			
PFUnA	(563.0 / 519.0) 3078452 (563.0 / 169.0) 348183	(8.61, 1.00) (0.00, N/A, 0.4)	2139.4 1452.9	0.1131 107.9 88.9	4.4887 [5.0000]	89.8%			
PFDoA	(613.0 / 569.0) 2606563 (613.0 / 169.0) 437473	(8.90, 1.00) (0.00, N/A, -0.1)	3125.6 1721.9	0.1678 102.6 103.0	4.5500 [5.0000]	91.0%			
PFTrDA	(663.0 / 619.0) 2596276 (663.0 / 169.0) 610668	(9.11, 1.02) (N/A, 0.00, 0.0)	2690.0 1106.9	0.2352 98.4 95.4	5.0055 [5.0000]	100.1%			
PFTeDA	(713.0 / 669.0) 2614752 (713.0 / 169.0) 546279	(9.27, 1.00) (0.00, N/A, 0.1)	2410.9 1197.6	0.2089 101.1 95.1	4.4967 [5.0000]	89.9%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (48)
 Acquired: 2023/02/24 - 08:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5146979 (299.0 / 99.0) 3131170	(5.40, 1.00) (0.00, N/A, 0.0)	3660.1 4098.3	0.6084 94.1 98.9	4.0394 [4.4237]	91.3%			
PFPeS	(349.0 / 80.0) 8715401 (349.0 / 99.0) 2962771	(6.33, 0.89) (N/A, 0.01, 0.0)	48335.8 18508284.4	0.3399 95.2 103.8	4.4646 [4.6919]	95.2%			
PFHxS	(399.0 / 80.0) 6611377 (399.0 / 99.0) 2223464	(7.09, 1.00) (0.00, N/A, 0.2)	5051.0 15409970.4	0.3363 103.6 104.3	4.2477 [4.5549]	93.3%			
PFHpS	(449.0 / 80.0) 7902465 (449.0 / 99.0) 2177532	(7.74, 0.93) (N/A, 0.01, 0.0)	22544.9 1756181.4	0.2756 101.2 104.1	4.7194 [4.7570]	99.2%			
PFOS	(499.0 / 80.0) 10437326 (499.0 / 99.0) 2284973	(8.32, 1.00) (0.00, N/A, 0.0)	1364.0 1674.2	0.2189 98.9 105.5	4.5040 [4.6375]	97.1%			
PFNS	(549.0 / 80.0) 11517040 (549.0 / 99.0) 2562138	(8.75, 1.05) (N/A, 0.01, 0.0)	7129.4 161476.9	0.2225 101.5 99.1	4.4223 [4.7994]	92.1%			
PFDS	(599.0 / 80.0) 13134491 (599.0 / 99.0) 2795303	(9.00, 1.08) (N/A, 0.01, 0.0)	3755.8 2179.4	0.2128 97.6 106.9	4.6364 [4.8155]	96.3%			
PFDoS	(699.0 / 80.0) 7216567 (699.0 / 99.0) 1460578	(9.35, 1.12) (N/A, 0.00, 0.0)	2689.0 2269.5	0.2024 97.2 98.2	3.9941 [4.8478]	82.4%			
4:2FTS	(327.0 / 307.0) 5939351 (327.0 / 81.0) 3966949	(5.18, 1.00) (0.00, N/A, 0.0)	3764.5 2900.8	0.6679 99.0 104.3	17.7351 [18.6906]	94.9%			
6:2FTS	(427.0 / 407.0) 3310546 (427.0 / 81.0) 2472738	(6.69, 1.00) (0.00, N/A, 0.0)	2115.5 2076.9	0.7469 90.2 91.6	18.8824 [18.9808]	99.5%			
8:2FTS	(527.0 / 507.0) 3529019 (527.0 / 81.0) 2933914	(7.87, 1.00) (0.00, N/A, 0.1)	1783.3 1613.4	0.8314 100.0 102.0	19.3049 [19.1658]	100.7%			

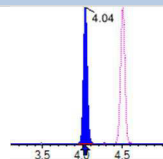
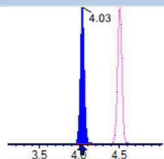
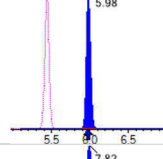
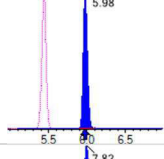
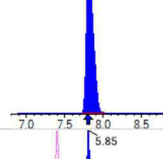
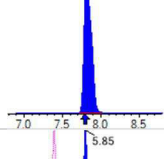
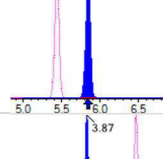
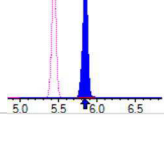
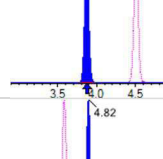
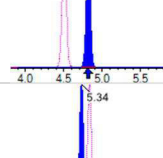
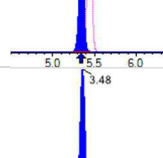
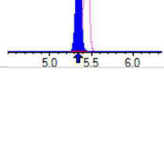
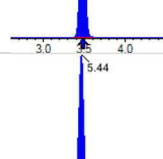
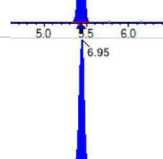
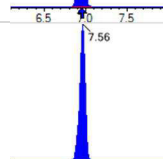
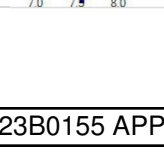


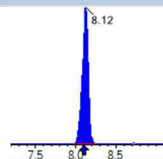
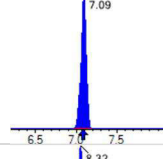
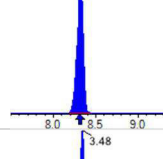
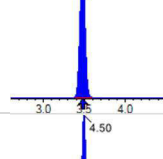
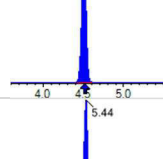
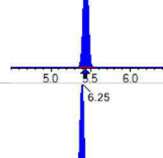
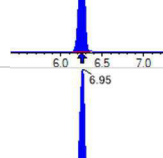
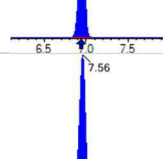
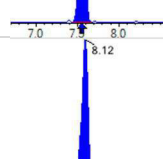
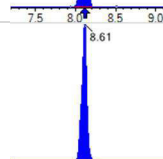
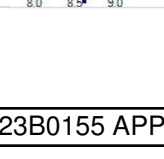
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

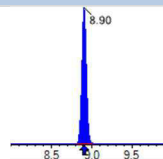
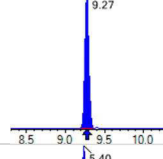
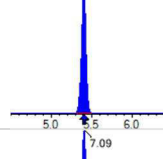
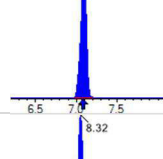
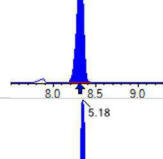
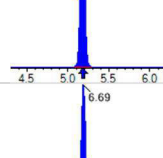
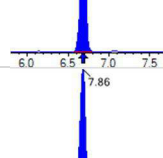
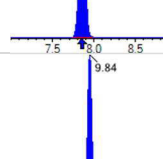
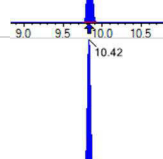
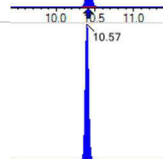
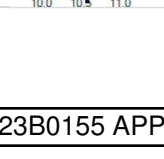
Sample I.D.: SC00790-CCV4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (48)
 Acquired: 2023/02/24 - 08:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 15869556 (498.0 / 478.0) 326963	(9.84, 1.00) (0.00, N/A, 0.0)	4143.4 1130.7	0.0206 100.3 106.0	4.9554 [5.0000]	99.1%			
NMeFOSA	(512.0 / 219.0) 14385412 (512.0 / 169.0) 11999320	(10.42, 1.00) (0.00, N/A, 1.1)	4994.6 5219.8	0.8341 101.8 101.2	19.6188 [20.0000]	98.1%			
NEiFOSA	(526.0 / 219.0) 15212533 (526.0 / 169.0) 19311078	(10.56, 1.00) (0.00, N/A, 0.8)	19491.8 15233.6	1.2694 100.0 100.6	20.4353 [20.0000]	102.2%			
NMeFOSAA	(570.0 / 419.0) 1350863 (570.0 / 483.0) 680670	(8.27, 1.00) (0.00, N/A, -0.1)	2562.7 1443.5	0.5039 106.1 107.8	4.4332 [5.0000]	88.7%			
NEiFOSAA	(584.0 / 419.0) 1291748 (584.0 / 526.0) 707562	(8.52, 1.00) (0.01, N/A, 0.1)	4305.5 1377.1	0.5478 107.3 100.3	4.8744 [5.0000]	97.5%			
NMeFOSE	(616.0 / 59.0) 6058324	(10.37, 1.00) (0.01, N/A, 0.0)	3403.3	N/A 0.0 0.0	19.2175 [20.0000]	96.1%			
NEiFOSE	(630.0 / 59.0) 7440145	(10.52, 1.00) (0.01, N/A, 0.0)	1407.8	N/A 0.0 0.0	19.9469 [20.0000]	99.7%			
HFPO-DA	(285.0 / 169.0) 3222069 (285.0 / 185.0) 8770622	(5.75, 1.00) (0.00, N/A, 0.0)	2835.3 4905.0	2.7220 98.8 100.9	9.1765 [10.0000]	91.8%			
ADONA	(377.0 / 85.0) 11665819 (377.0 / 251.0) 1006029	(6.54, 1.14) (N/A, 0.01, 0.0)	4102.0 1903.9	0.0862 97.8 92.6	9.6610 [9.4270]	102.5%			
9CI-Pf3ONS	(531.0 / 351.0) 31347185 (533.0 / 353.0) 9722682	(8.67, 1.51) (N/A, 0.01, 0.0)	2595.0 3398.6	0.3102 89.1 89.6	8.7233 [9.3325]	93.5%			
11CI-PF3OUDS	(631.0 / 451.0) 18676803 (633.0 / 453.0) 6101523	(9.15, 1.59) (N/A, 0.00, 0.1)	2832.4 3200.3	0.3267 90.3 92.4	9.4945 [9.4321]	100.7%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 236517 (241.0 / 117.0) 369610	(4.04, 0.90) (N/A, 0.00, 0.0)	1233.2 1735.4	1.5627 99.0 101.1	19.8454 [20.0000]	99.2%			
5:3FTCA	(341.0 / 236.7) 1513889 (341.0 / 217.0) 2761072	(5.98, 1.10) (N/A, 0.01, 0.1)	1572.1 2196.3	1.8238 107.0 103.2	17.7489 [20.0000]	88.7%			
7:3FTCA	(441.0 / 317.0) 2789195 (441.0 / 337.0) 2314608	(7.82, 1.44) (N/A, 0.02, 0.0)	1113.6 1092.2	0.8298 96.4 100.4	17.7017 [20.0000]	88.5%			
PFEESA	(315.0 / 135.0) 6625328 (315.0 / 83.0) 1689900	(5.85, 1.07) (N/A, 0.00, -0.1)	3535.6 2062.3	0.2551 99.9 92.0	8.8424 [8.9246]	99.1%			
PFMPA	(229.0 / 85.0) 1012546	(3.87, 0.86) (N/A, 0.00, 0.0)	4844.4	N/A 0.0 0.0	9.6343 [10.0000]	96.3%			
PFMBA	(279.0 / 85.0) 4238019	(4.82, 1.07) (N/A, 0.00, 0.0)	3807.1	N/A 0.0 0.0	9.6156 [10.0000]	96.2%			
NFDHA	(295.0 / 201.0) 3352963 (295.0 / 85.0) 3423073	(5.34, 0.98) (N/A, 0.00, 0.0)	3108.1 3516.8	1.0209 102.0 101.3	9.6850 [10.0000]	96.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 232961	(3.48, N/A) (N/A, 0.00, N/A)	1771.2	N/A	1.0400 [1.0000]	104.0% { 85.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 449292	(5.44, N/A) (N/A, 0.00, N/A)	2227.1	N/A	0.8900 [1.0000]	89.0% { 84.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 612823	(6.95, N/A) (N/A, 0.01, N/A)	1618.7	N/A	0.9669 [1.0000]	96.7% { 86.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 567021	(7.56, N/A) (N/A, 0.01, N/A)	1166.7	N/A	0.9384 [1.0000]	93.8% { 89.5% }			

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
13C2_PFDA_IIS	(515.0 / 470.1) 586528	(8.12, N/A) (N/A, 0.02, N/A)	1160.6	N/A	1.0136 [1.0000]	101.4% { 92.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 847718	(7.09, N/A) (N/A, 0.01, N/A)	2286.3	N/A	0.9899 [1.0000]	99.0% { 78.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1493994	(8.32, N/A) (N/A, 0.01, N/A)	1745.4	N/A	0.9924 [1.0000]	99.2% { 90.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2453167	(3.48, N/A) (N/A, 0.00, N/A)	5224.6	N/A	8.8528 [8.0000]	110.7% { 86.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2339312	(4.50, N/A) (N/A, 0.00, N/A)	4198.4	N/A	4.7587 [4.0000]	119.0% { 85.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1418979	(5.44, N/A) (N/A, 0.00, N/A)	2135.9	N/A	2.3057 [2.0000]	115.3% { 87.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1274415	(6.25, N/A) (N/A, 0.01, N/A)	2504.6	N/A	2.3900 [2.0000]	119.5% { 83.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1527540	(6.95, N/A) (N/A, 0.02, N/A)	1907.7	N/A	2.2009 [2.0000]	110.0% { 90.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 655017	(7.56, N/A) (N/A, 0.01, N/A)	875.7	N/A	1.0903 [1.0000]	109.0% { 87.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 754975	(8.12, N/A) (N/A, 0.02, N/A)	1174.0	N/A	1.0209 [1.0000]	102.1% { 81.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 825450	(8.61, N/A) (N/A, 0.01, N/A)	7656.8	N/A	1.1225 [1.0000]	112.2% { 89.4% }			

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) 651453	(8.90, N/A) (N/A, 0.00, N/A)	25596.0	N/A	1.0329 [1.0000]	103.3% { 78.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 671955	(9.27, N/A) (N/A, 0.00, N/A)	2331.7	N/A	1.1627 [1.0000]	116.3% { 85.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4100744	(5.40, N/A) (N/A, 0.00, N/A)	4176.8	N/A	2.3113 [2.0000]	115.6% { 84.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2024408	(7.09, N/A) (N/A, 0.01, N/A)	1694.1	N/A	2.1968 [2.0000]	109.8% { 83.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4395201	(8.32, N/A) (N/A, 0.01, N/A)	893.5	N/A	2.1429 [2.0000]	107.1% { 83.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 490470	(5.18, N/A) (N/A, 0.00, N/A)	2044.8	N/A	5.0083 [4.0000]	125.2% { 88.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 494253	(6.69, N/A) (N/A, 0.01, N/A)	816.7	N/A	4.5977 [4.0000]	114.9% { 71.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 671301	(7.86, N/A) (N/A, 0.02, N/A)	1426.4	N/A	4.4201 [4.0000]	110.5% { 78.8% }			
13C8_PFOA_EIS	(506.0 / 78.0) 8008143	(9.84, N/A) (N/A, 0.01, N/A)	3236.7	N/A	2.1034 [2.0000]	105.2% { 88.2% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 1765962	(10.42, N/A) (N/A, 0.01, N/A)	2773.7	N/A	1.9688 [2.0000]	98.4% { 91.0% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 1593656	(10.57, N/A) (N/A, 0.01, N/A)	3422.1	N/A	1.9854 [2.0000]	99.3% { 88.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (48)
 Acquired: 2023/02/24 - 08:28

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) 1553159	(8.26, N/A) (N/A, 0.01, N/A)	1551.8	N/A	4.6794 [4.0000]	117.0% { 90.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1262073	(8.51, N/A) (N/A, 0.02, N/A)	3735.4	N/A	4.6437 [4.0000]	116.1% { 88.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6306640	(10.36, N/A) (N/A, 0.01, N/A)	2554.6	N/A	19.2853 [20.0000]	96.4% { 82.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7839112	(10.51, N/A) (N/A, 0.01, N/A)	2187.0	N/A	18.7186 [20.0000]	93.6% { 85.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3552067	(5.75, N/A) (N/A, 0.01, N/A)	2224.3	N/A	9.4797 [8.0000]	118.5% { 85.1% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

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

Work Order: 23B0155
 Project: Red Hill AFFF Assessment Sampling
 Calibration: 2307007
 Sequence: SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV5	PFBA	20.0	18.7	93.5	ng/mL	+/- 30.00%
	PFPEA	10.0	9.17	91.7	ng/mL	+/- 30.00%
	PFHXA	5.00	4.90	98.1	ng/mL	+/- 30.00%
	PFHPA	5.00	4.19	83.7	ng/mL	+/- 30.00%
	PFOA	5.00	4.71	94.2	ng/mL	+/- 30.00%
	PFNA	5.00	4.97	99.4	ng/mL	+/- 30.00%
	PFDA	5.00	5.11	102	ng/mL	+/- 30.00%
	PFUnA	5.00	4.15	83.1	ng/mL	+/- 30.00%
	PFDOA	5.00	4.51	90.2	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.08	102	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.52	90.4	ng/mL	+/- 30.00%
	PFBS	4.42	3.77	85.3	ng/mL	+/- 30.00%
	PFPEs	4.70	4.20	89.3	ng/mL	+/- 30.00%
	PFHXS	4.58	4.09	89.3	ng/mL	+/- 30.00%
	PFHPS	4.78	4.60	96.3	ng/mL	+/- 30.00%
	PFOS	4.65	4.10	88.2	ng/mL	+/- 30.00%
	PFNS	4.80	4.30	89.6	ng/mL	+/- 30.00%
	PFDS	4.82	4.27	88.5	ng/mL	+/- 30.00%
	PFDOS	4.85	3.95	81.4	ng/mL	+/- 30.00%
	4:2FTS	18.8	18.2	96.6	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.2	95.7	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.2	100	ng/mL	+/- 30.00%
	PFOSA	5.00	5.06	101	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.7	98.3	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.6	103	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.60	92.0	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.78	95.7	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.1	90.3	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.2	96.1	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.62	86.2	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00790

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00790-CCV5	ADONA	9.45	9.22	97.5	ng/mL	+/- 30.00%
	PFEESA	8.90	9.54	107	ng/mL	+/- 30.00%
	PFMPA	10.0	9.10	91.0	ng/mL	+/- 30.00%
	PFMBA	10.0	9.38	93.8	ng/mL	+/- 30.00%
	NFDHA	10.0	9.46	94.6	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.28	88.5	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.23	97.7	ng/mL	+/- 30.00%
	3:3FTCA	20.0	18.5	92.6	ng/mL	+/- 30.00%
	5:3FTCA	20.0	18.4	92.2	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.9	94.4	ng/mL	+/- 30.00%



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (67)
 Acquired: 2023/02/24 - 12:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 5007360	(3.47, 1.00) (0.00, N/A, 0.0)	247.9	N/A 0.0 0.0	18.7096 [20.0000]	93.5%			
PFPeA	(263.0 / 219.0) 4658208 (263.0 / 69.0) 51650	(4.49, 1.00) (0.00, N/A, 0.1)	4624.4 524.4	0.0111 103.5 92.0	9.1689 [10.0000]	91.7%			
PFHxA	(313.0 / 269.0) 3061132 (313.0 / 119.0) 329499	(5.42, 1.00) (0.00, N/A, 0.0)	2694.4 5431.4	0.1076 108.1 103.8	4.9044 [5.0000]	98.1%			
PFHpA	(363.0 / 319.0) 2276938 (363.0 / 169.0) 837896	(6.24, 1.00) (0.00, N/A, 0.0)	7192.1 458973.0	0.3680 114.8 116.8	4.1863 [5.0000]	83.7%			
PFOA	(413.0 / 369.0) 3132959 (413.0 / 169.0) 1083894	(6.94, 1.00) (0.00, N/A, 0.0)	4474.0 11690.3	0.3460 103.4 112.3	4.7109 [5.0000]	94.2%			
PFNA	(463.0 / 419.0) 2883463 (463.0 / 169.0) 655995	(7.55, 1.00) (0.00, N/A, 0.0)	19138.0 7914.3	0.2275 101.7 104.5	4.9709 [5.0000]	99.4%			
PFDA	(513.0 / 469.0) 3546723 (513.0 / 169.0) 373998	(8.11, 1.00) (0.00, N/A, 0.0)	1939.0 1131.7	0.1054 86.7 99.1	5.1066 [5.0000]	102.1%			
PFUnA	(563.0 / 519.0) 2815249 (563.0 / 169.0) 384732	(8.60, 1.00) (0.00, N/A, 0.4)	1890.8 1238.9	0.1367 130.4 107.4	4.1536 [5.0000]	83.1%			
PFDoA	(613.0 / 569.0) 2679439 (613.0 / 169.0) 494213	(8.90, 1.00) (0.00, N/A, 0.3)	2040.0 1858.6	0.1844 112.8 113.2	4.5075 [5.0000]	90.2%			
PFTrDA	(663.0 / 619.0) 2735160 (663.0 / 169.0) 654186	(9.10, 1.02) (N/A, 0.00, 0.0)	2026.4 1738.7	0.2392 100.1 97.0	5.0820 [5.0000]	101.6%			
PFTeDA	(713.0 / 669.0) 2629187 (713.0 / 169.0) 562339	(9.27, 1.00) (0.00, N/A, -0.2)	2551.5 1581.8	0.2139 103.5 97.3	4.5201 [5.0000]	90.4%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (67)
 Acquired: 2023/02/24 - 12:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5406739 (299.0 / 99.0) 3204562	(5.38, 1.00) (0.00, N/A, 0.1)	3691.1 3612.7	0.5927 91.7 96.3	3.7699 [4.4237]	85.2%			
PFPeS	(349.0 / 80.0) 8924334 (349.0 / 99.0) 3114462	(6.31, 0.89) (N/A, -0.01, 0.0)	69381.0 22056776.4	0.3490 97.8 106.6	4.1954 [4.6919]	89.4%			
PFHxS	(399.0 / 80.0) 6938296 (399.0 / 99.0) 2403874	(7.08, 1.00) (0.00, N/A, 0.0)	8387.7 25763472.3	0.3465 106.7 107.4	4.0908 [4.5549]	89.8%			
PFHpS	(449.0 / 80.0) 8463927 (449.0 / 99.0) 2344762	(7.73, 0.93) (N/A, 0.00, -0.1)	9155.5 6411.2	0.2770 101.8 104.6	4.6036 [4.7570]	96.8%			
PFOS	(499.0 / 80.0) 10438376 (499.0 / 99.0) 2275508	(8.31, 1.00) (0.00, N/A, -0.1)	1555.9 1853.5	0.2180 98.5 105.0	4.1024 [4.6375]	88.5%			
PFNS	(549.0 / 80.0) 12293711 (549.0 / 99.0) 2816737	(8.75, 1.05) (N/A, 0.00, -0.1)	9425.2 218190.7	0.2291 104.5 102.1	4.2992 [4.7994]	89.6%			
PFDS	(599.0 / 80.0) 13273831 (599.0 / 99.0) 2920204	(9.00, 1.08) (N/A, 0.00, -0.1)	3769.0 2628.0	0.2200 100.9 110.5	4.2673 [4.8155]	88.6%			
PFDoS	(699.0 / 80.0) 7832259 (699.0 / 99.0) 1652920	(9.34, 1.13) (N/A, 0.00, 0.0)	4019.9 1801.8	0.2110 101.4 102.4	3.9479 [4.8478]	81.4%			
4:2FTS	(327.0 / 307.0) 6004826 (327.0 / 81.0) 3956734	(5.16, 1.00) (0.00, N/A, -0.1)	3600.8 2572.7	0.6589 97.7 102.9	18.1578 [18.6906]	97.1%			
6:2FTS	(427.0 / 407.0) 3397157 (427.0 / 81.0) 2689034	(6.67, 1.00) (0.00, N/A, 0.0)	1614.4 2299.7	0.7916 95.6 97.1	18.1898 [18.9808]	95.8%			
8:2FTS	(527.0 / 507.0) 3561559 (527.0 / 81.0) 2845414	(7.85, 1.00) (0.00, N/A, 0.0)	3117.8 1556.5	0.7989 96.1 98.1	19.1940 [19.1658]	100.1%			

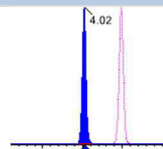
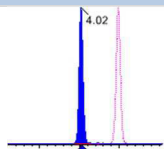
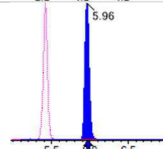
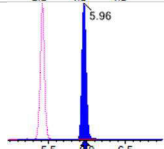
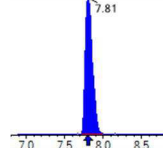
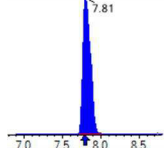
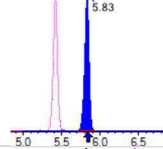
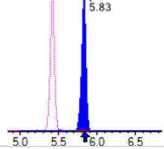
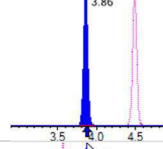
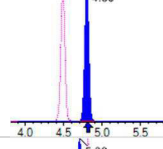
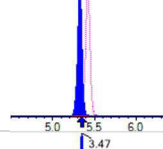
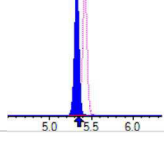
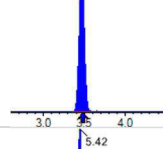
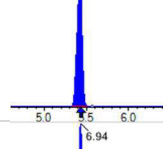
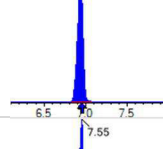
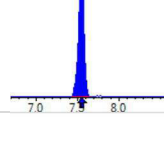


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (67)
 Acquired: 2023/02/24 - 12:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 16410958 (498.0 / 478.0) 327388	(9.83, 1.00) (0.00, N/A, 0.0)	3074.5 1414.6	0.0199 97.1 102.6	5.0625 [5.0000]	101.3%			
NMeFOSA	(512.0 / 219.0) 14537794 (512.0 / 169.0) 12016118	(10.42, 1.00) (0.00, N/A, 1.0)	4568.0 4690.5	0.8265 100.9 100.3	19.6610 [20.0000]	98.3%			
NEIFOSA	(526.0 / 219.0) 15334798 (526.0 / 169.0) 19824585	(10.56, 1.00) (-0.01, N/A, 0.7)	12598.7 9940.9	1.2928 101.8 102.4	20.6246 [20.0000]	103.1%			
NMeFOSAA	(570.0 / 419.0) 1407177 (570.0 / 483.0) 661719	(8.26, 1.00) (0.00, N/A, 0.1)	1646.2 3243.2	0.4702 99.1 100.6	4.6020 [5.0000]	92.0%			
NEIFOSAA	(584.0 / 419.0) 1206674 (584.0 / 526.0) 669568	(8.51, 1.00) (0.01, N/A, 0.2)	2446.5 1033.4	0.5549 108.7 101.6	4.7831 [5.0000]	95.7%			
NMeFOSE	(616.0 / 59.0) 5915706	(10.36, 1.00) (0.01, N/A, 0.0)	3229.3	N/A 0.0 0.0	18.0655 [20.0000]	90.3%			
NEtFOSE	(630.0 / 59.0) 7252315	(10.52, 1.00) (0.01, N/A, 0.0)	1475.7	N/A 0.0 0.0	19.2217 [20.0000]	96.1%			
HFPO-DA	(285.0 / 169.0) 3232578 (285.0 / 185.0) 9380221	(5.73, 1.00) (0.00, N/A, 0.0)	3400.2 4382.2	2.9018 105.4 107.6	8.6234 [10.0000]	86.2%			
ADONA	(377.0 / 85.0) 11883574 (377.0 / 251.0) 1083328	(6.52, 1.14) (N/A, 0.00, 0.0)	4425.7 4632.1	0.0912 103.4 97.9	9.2181 [9.4270]	97.8%			
9CI-Pf3ONS	(531.0 / 351.0) 31930754 (533.0 / 353.0) 10812393	(8.66, 1.51) (N/A, 0.00, 0.0)	2363.8 2576.3	0.3386 97.2 97.9	8.2791 [9.3325]	88.7%			
11CI-PF3OUDS	(631.0 / 451.0) 19391330 (633.0 / 453.0) 6345425	(9.15, 1.60) (N/A, 0.00, 0.1)	2454.5 3180.1	0.3272 90.4 92.5	9.2334 [9.4321]	97.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-I[μ min], Δ RT-CV[μ min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 232356 (241.0 / 117.0) 381370	(4.02, 0.90) (N/A, -0.01, 0.2)	1391.9 1308.6	1.6413 104.0 106.2	18.5214 [20.0000]	92.6%			
5:3FTCA	(341.0 / 236.7) 1573685 (341.0 / 217.0) 2829367	(5.96, 1.10) (N/A, -0.01, 0.0)	1772.9 2108.4	1.7979 105.4 101.7	18.4373 [20.0000]	92.2%			
7:3FTCA	(441.0 / 317.0) 2976573 (441.0 / 337.0) 2577958	(7.81, 1.44) (N/A, 0.00, -0.1)	880.1 997.0	0.8661 100.6 104.8	18.8779 [20.0000]	94.4%			
PFEESA	(315.0 / 135.0) 7149887 (315.0 / 83.0) 1890373	(5.83, 1.08) (N/A, -0.01, 0.0)	2476.2 2223.8	0.2644 103.5 95.4	9.5359 [8.9246]	106.8%			
PFMPA	(229.0 / 85.0) 1009721	(3.86, 0.86) (N/A, -0.01, 0.0)	3477.8	N/A 0.0 0.0	9.0990 [10.0000]	91.0%			
PFMBA	(279.0 / 85.0) 4365461	(4.80, 1.07) (N/A, -0.02, 0.0)	4148.0	N/A 0.0 0.0	9.3807 [10.0000]	93.8%			
NFDHA	(295.0 / 201.0) 3277916 (295.0 / 85.0) 3605831	(5.32, 0.98) (N/A, -0.02, 0.1)	4631.2 3813.0	1.1000 109.9 109.1	9.4617 [10.0000]	94.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 247859	(3.47, N/A) (N/A, -0.01, N/A)	1974.6	N/A	1.1066 [1.0000]	110.7% { 90.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 472106	(5.42, N/A) (N/A, -0.02, N/A)	2388.3	N/A	0.9352 [1.0000]	93.5% { 88.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 636485	(6.94, N/A) (N/A, 0.00, N/A)	2192.6	N/A	1.0043 [1.0000]	100.4% { 89.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 631691	(7.55, N/A) (N/A, 0.00, N/A)	1492.3	N/A	1.0454 [1.0000]	104.5% { 99.7% }			

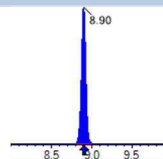
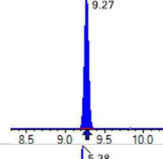
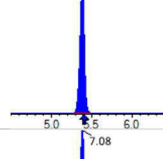
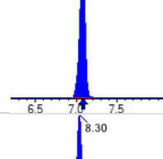
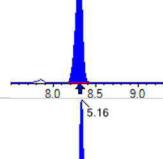
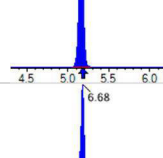
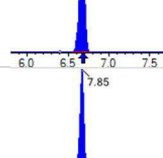
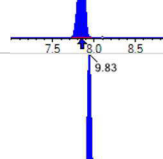
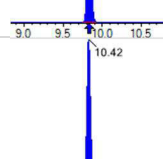
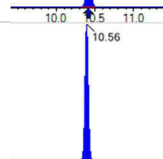
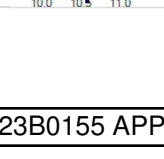


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (67)
 Acquired: 2023/02/24 - 12:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 563466	(8.11, N/A) (N/A, 0.00, N/A)	1413.9	N/A	0.9738 [1.0000]	97.4% { 89.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 952896	(7.08, N/A) (N/A, 0.00, N/A)	1364.1	N/A	1.1127 [1.0000]	111.3% { 88.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1607959	(8.31, N/A) (N/A, 0.00, N/A)	1420.3	N/A	1.0681 [1.0000]	106.8% { 97.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2584769	(3.47, N/A) (N/A, -0.01, N/A)	5849.5	N/A	8.7671 [8.0000]	109.6% { 90.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2470012	(4.49, N/A) (N/A, -0.02, N/A)	3580.7	N/A	4.7818 [4.0000]	119.5% { 89.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1419955	(5.42, N/A) (N/A, -0.02, N/A)	3074.2	N/A	2.1958 [2.0000]	109.8% { 87.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1288207	(6.24, N/A) (N/A, -0.01, N/A)	2285.6	N/A	2.2992 [2.0000]	115.0% { 84.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1493843	(6.94, N/A) (N/A, 0.00, N/A)	2386.3	N/A	2.0724 [2.0000]	103.6% { 88.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 655624	(7.55, N/A) (N/A, 0.00, N/A)	1367.2	N/A	0.9796 [1.0000]	98.0% { 87.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 789571	(8.11, N/A) (N/A, 0.01, N/A)	804.2	N/A	1.1114 [1.0000]	111.1% { 85.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 815789	(8.60, N/A) (N/A, 0.00, N/A)	1350.0	N/A	1.1548 [1.0000]	115.5% { 88.3% }			

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_EIS	(615.0 / 570.0) 675977	(8.90, N/A) (N/A, 0.00, N/A)	2530.9	N/A	1.1156 [1.0000]	111.6% { 81.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 672174	(9.27, N/A) (N/A, 0.00, N/A)	1526.4	N/A	1.2107 [1.0000]	121.1% { 85.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4615567	(5.38, N/A) (N/A, -0.02, N/A)	3342.9	N/A	2.3143 [2.0000]	115.7% { 94.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2205996	(7.08, N/A) (N/A, 0.00, N/A)	2080.2	N/A	2.1296 [2.0000]	106.5% { 91.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4825987	(8.30, N/A) (N/A, 0.00, N/A)	1024.3	N/A	2.1862 [2.0000]	109.3% { 91.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 484334	(5.16, N/A) (N/A, -0.02, N/A)	1624.1	N/A	4.3998 [4.0000]	110.0% { 86.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 526496	(6.68, N/A) (N/A, 0.00, N/A)	1260.9	N/A	4.3571 [4.0000]	108.9% { 76.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 681406	(7.85, N/A) (N/A, 0.01, N/A)	1503.2	N/A	3.9914 [4.0000]	99.8% { 80.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8106053	(9.83, N/A) (N/A, 0.00, N/A)	3156.5	N/A	1.9782 [2.0000]	98.9% { 89.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1780998	(10.42, N/A) (N/A, 0.00, N/A)	2673.9	N/A	1.8448 [2.0000]	92.2% { 91.8% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1591723	(10.56, N/A) (N/A, 0.00, N/A)	3210.1	N/A	1.8425 [2.0000]	92.1% { 88.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCV5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (67)
 Acquired: 2023/02/24 - 12:33

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) 1558547	(8.25, N/A) (N/A, 0.01, N/A)	1524.2	N/A	4.3628 [4.0000]	109.1% { 90.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1201478	(8.50, N/A) (N/A, 0.00, N/A)	6206.3	N/A	4.1075 [4.0000]	102.7% { 84.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6550896	(10.35, N/A) (N/A, 0.00, N/A)	2192.2	N/A	18.6124 [20.0000]	93.1% { 85.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7929484	(10.51, N/A) (N/A, 0.00, N/A)	1958.1	N/A	17.5924 [20.0000]	88.0% { 86.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3792250	(5.73, N/A) (N/A, -0.01, N/A)	3173.4	N/A	9.6316 [8.0000]	120.4% { 90.8% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00647
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00647-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	0.0123	ng/mL	0.10	U
	NMeFOSA	0.109	ng/mL	0.40	U
	NEtFOSA	0.0498	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.0837	ng/mL	0.40	U
	NEtFOSE	0.106	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: SC00647
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00647-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.0571	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	7.15	ng/mL		
	13C5-PFPEA	3.47	ng/mL		
	13C5-PFHXA	1.78	ng/mL		
	13C4-PFHPA	1.83	ng/mL		
	13C8-PFOA	1.67	ng/mL		
	13C9-PFNA	0.833	ng/mL		
	13C6-PFDA	0.819	ng/mL		
	13C7-PFUnA	0.896	ng/mL		
	13C2-PFDOA	0.867	ng/mL		
	13C2-PFTEDA	0.969	ng/mL		
	13C3-PFBS	1.74	ng/mL		
	13C3-PFHXS	1.69	ng/mL		
	13C8-PFOS	1.74	ng/mL		
	13C2-4:2FTS	3.19	ng/mL		
	13C2-6:2FTS	3.35	ng/mL		
	13C2-8:2FTS	3.12	ng/mL		
	13C8-PFOSA	1.87	ng/mL		
	D3-NMEFOSA	1.87	ng/mL		
	D5-NETFOSA	2.07	ng/mL		
	D3-NMEFOSAA	3.55	ng/mL		
	D5-NETFOSAA	3.73	ng/mL		
	D7-NMEFOSE	19.7	ng/mL		
	D9-NETFOSSE	21.3	ng/mL		
	13C3-HFPO-DA	7.12	ng/mL		



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (9)
 Acquired: 2023/02/14 - 19:02

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			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

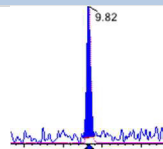
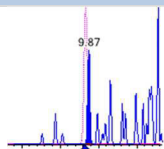
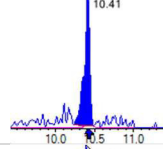
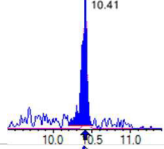
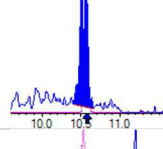
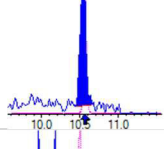
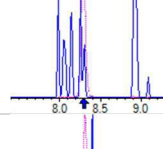
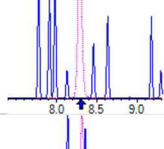
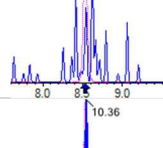
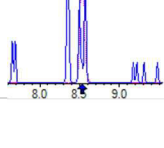
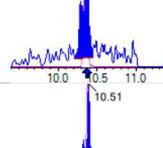
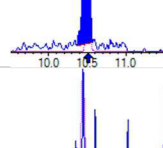
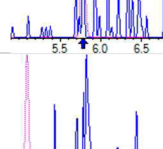
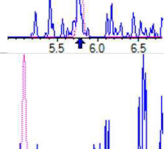
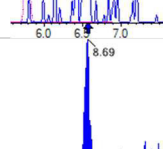
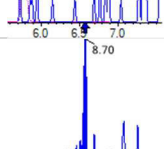
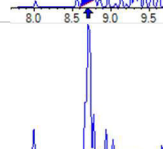
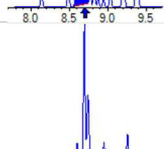
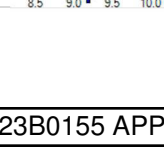
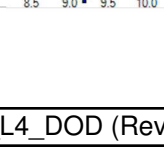


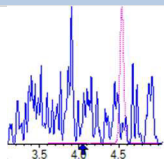
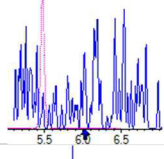
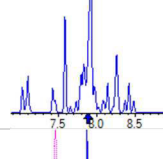
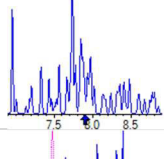
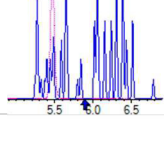
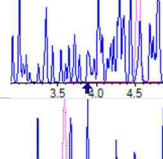
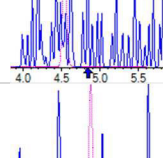
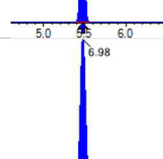
Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (9)
 Acquired: 2023/02/14 - 19:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (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) 36099 (498.0 / 478.0) 1141	(9.82, 1.00) (-0.01, N/A, -2.9)	51.5 15.8	0.0316 153.8 153.8	0.0123	N/A			
NMeFOSA	(512.0 / 219.0) 31110 (512.0 / 169.0) 24756	(10.41, 1.00) (0.00, N/A, 0.2)	86.7 72.0	0.7958 97.1 97.1	0.1090	N/A			
NEIFOSA	(526.0 / 219.0) 39728 (526.0 / 169.0) 47072	(10.54, 1.00) (-0.02, N/A, 0.0)	78.5 84.5	1.1849 93.3 93.3	0.0498	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) 27735	(10.36, 1.00) (0.01, N/A, 0.0)	48.4	N/A 0.0 0.0	0.0837	N/A			
NEIFOSE	(630.0 / 59.0) 46434	(10.51, 1.00) (0.01, N/A, 0.0)	78.7	N/A 0.0 0.0	0.1060	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) 22131 (533.0 / 353.0) 7410	(8.69, 1.50) (N/A, -0.01, -0.9)	35.0 34.2	0.3348 96.2 96.2	0.0571	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) 241689	(3.49, N/A) (N/A, 0.01, N/A)	1351.1	N/A	1.0790 [1.0000]	107.9% { 107.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 514335	(5.47, N/A) (N/A, 0.01, N/A)	1753.8	N/A	1.0189 [1.0000]	101.9% { 107.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 664713	(6.98, N/A) (N/A, 0.00, N/A)	2350.9	N/A	1.0488 [1.0000]	104.9% { 112.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 633844	(7.59, N/A) (N/A, 0.00, N/A)	2441.3	N/A	1.0489 [1.0000]	104.9% { 106.9% }			

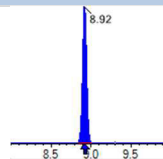
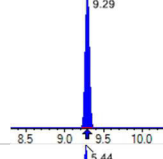
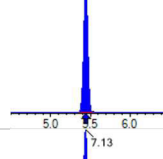
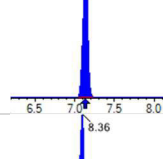
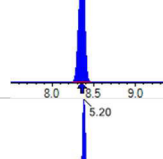
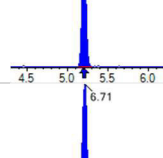
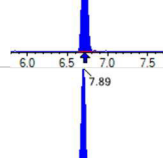
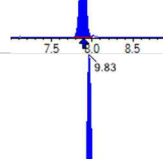
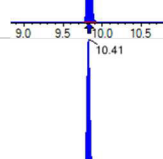
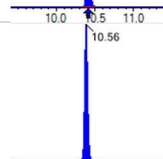
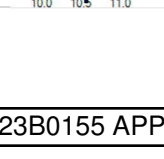


Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (9)
 Acquired: 2023/02/14 - 19:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 606167	(8.15, N/A) (N/A, 0.00, N/A)	14664.1	N/A	1.0476 [1.0000]	104.8% { 111.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 900713	(7.14, N/A) (N/A, 0.00, N/A)	1938.3	N/A	1.0518 [1.0000]	105.2% { 106.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1538499	(8.36, N/A) (N/A, 0.00, N/A)	1226.8	N/A	1.0220 [1.0000]	102.2% { 101.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2056496	(3.49, N/A) (N/A, 0.01, N/A)	5417.6	N/A	7.1533 [8.0000]	89.4% { 88.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1955249	(4.54, N/A) (N/A, 0.00, N/A)	3715.6	N/A	3.4745 [4.0000]	86.9% { 80.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1255067	(5.47, N/A) (N/A, 0.00, N/A)	2609.0	N/A	1.7815 [2.0000]	89.1% { 81.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1114027	(6.29, N/A) (N/A, 0.00, N/A)	2902.8	N/A	1.8250 [2.0000]	91.3% { 88.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1259198	(6.98, N/A) (N/A, 0.00, N/A)	2030.9	N/A	1.6727 [2.0000]	83.6% { 81.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 559595	(7.59, N/A) (N/A, 0.00, N/A)	2630.8	N/A	0.8333 [1.0000]	83.3% { 79.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 625878	(8.15, N/A) (N/A, 0.00, N/A)	1513.7	N/A	0.8189 [1.0000]	81.9% { 80.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 681091	(8.63, N/A) (N/A, 0.00, N/A)	1401.7	N/A	0.8962 [1.0000]	89.6% { 88.3% }			

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
13C2_PFDa_EIS	(615.0 / 570.0) 565332	(8.92, N/A) (N/A, 0.00, N/A)	1928.8	N/A	0.8673 [1.0000]	86.7% { 86.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 578714	(9.29, N/A) (N/A, 0.00, N/A)	3045.8	N/A	0.9689 [1.0000]	96.9% { 94.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3288154	(5.44, N/A) (N/A, 0.00, N/A)	3901.4	N/A	1.7443 [2.0000]	87.2% { 83.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1656509	(7.13, N/A) (N/A, 0.00, N/A)	1729.5	N/A	1.6918 [2.0000]	84.6% { 83.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3665952	(8.36, N/A) (N/A, 0.00, N/A)	2331.1	N/A	1.7357 [2.0000]	86.8% { 82.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 331778	(5.20, N/A) (N/A, 0.00, N/A)	1227.6	N/A	3.1885 [4.0000]	79.7% { 81.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 382237	(6.71, N/A) (N/A, 0.00, N/A)	1745.1	N/A	3.3465 [4.0000]	83.7% { 83.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 504180	(7.89, N/A) (N/A, 0.00, N/A)	943.1	N/A	3.1244 [4.0000]	78.1% { 83.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7350043	(9.83, N/A) (N/A, 0.00, N/A)	3807.2	N/A	1.8747 [2.0000]	93.7% { 85.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1723173	(10.41, N/A) (N/A, 0.00, N/A)	2942.3	N/A	1.8655 [2.0000]	93.3% { 94.4% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1707041	(10.56, N/A) (N/A, 0.00, N/A)	3216.0	N/A	2.0652 [2.0000]	103.3% { 99.0% }			



Chemist: DAG
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00647-ICB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
 Path: S2023-02-14C (9)
 Acquired: 2023/02/14 - 19:02

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) 1214666	(8.29 , N/A) (N/A , 0.00 , N/A)	1780.1	N/A	3.5537 [4.0000]	88.8% { 81.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1043394	(8.53 , N/A) (N/A , 0.00 , N/A)	9843.1	N/A	3.7281 [4.0000]	93.2% { 93.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6625930	(10.35 , N/A) (N/A , 0.00 , N/A)	2010.5	N/A	19.6755 [20.0000]	98.4% { 92.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9203687	(10.50 , N/A) (N/A , 0.00 , N/A)	1865.6	N/A	21.3412 [20.0000]	106.7% { 96.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3052956	(5.78 , N/A) (N/A , 0.00 , N/A)	3526.4	N/A	7.1173 [8.0000]	89.0% { 83.4% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-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: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-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	7.62	ng/mL		
	13C5-PFPEA	3.98	ng/mL		
	13C5-PFHXA	1.91	ng/mL		
	13C4-PFHPA	1.86	ng/mL		
	13C8-PFOA	1.81	ng/mL		
	13C9-PFNA	0.982	ng/mL		
	13C6-PFDA	0.991	ng/mL		
	13C7-PFUnA	0.951	ng/mL		
	13C2-PFDOA	0.974	ng/mL		
	13C2-PFTEDA	1.07	ng/mL		
	13C3-PFBS	1.86	ng/mL		
	13C3-PFHXS	1.90	ng/mL		
	13C8-PFOS	1.97	ng/mL		
	13C2-4:2FTS	4.07	ng/mL		
	13C2-6:2FTS	4.07	ng/mL		
	13C2-8:2FTS	3.73	ng/mL		
	13C8-PFOSA	1.97	ng/mL		
	D3-NMEFOSA	1.75	ng/mL		
	D5-NETFOSA	1.99	ng/mL		
	D3-NMEFOSAA	4.36	ng/mL		
	D5-NETFOSAA	4.87	ng/mL		
	D7-NMEFOSE	20.2	ng/mL		
	D9-NETFOSSE	20.6	ng/mL		
	13C3-HFPO-DA	8.29	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (1)
 Acquired: 2023/02/23 - 22:22

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			



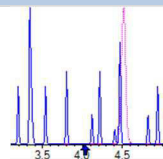
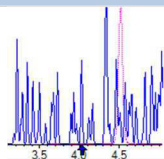
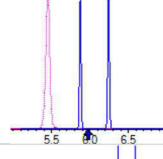
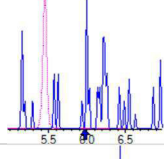
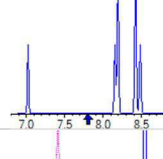
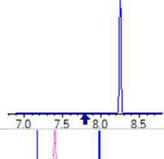
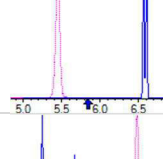
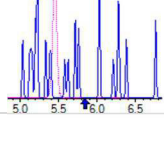
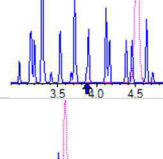
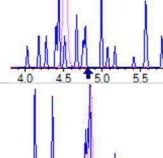
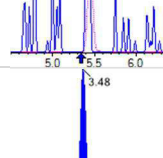
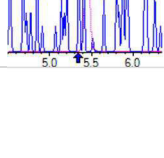
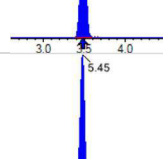
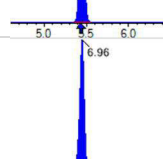
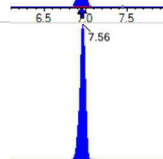
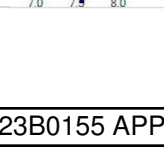
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (1)
 Acquired: 2023/02/23 - 22:22

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.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-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) 310272	(3.48, N/A) (N/A, 0.01, N/A)	1708.7	N/A	1.3852 [1.0000]	138.5% { 113.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 612650	(5.45, N/A) (N/A, 0.02, N/A)	1634.1	N/A	1.2136 [1.0000]	121.4% { 114.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 832550	(6.96, N/A) (N/A, 0.01, N/A)	1164.6	N/A	1.3136 [1.0000]	131.4% { 117.1% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 705297	(7.56, N/A) (N/A, 0.02, N/A)	1145.9	N/A	1.1672 [1.0000]	116.7% { 111.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (1)
 Acquired: 2023/02/23 - 22:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 787174	(8.12, N/A) (N/A, 0.01, N/A)	1199.0	N/A	1.3604 [1.0000]	136.0% {124.5%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 1178113	(7.10, N/A) (N/A, 0.01, N/A)	1355.1	N/A	1.3757 [1.0000]	137.6% {109.6%}			
13C4_PFOS_IIS	(503.0 / 79.9) 1796619	(8.32, N/A) (N/A, 0.01, N/A)	1241.7	N/A	1.1935 [1.0000]	119.3% {108.3%}			
13C4_PFBA_EIS	(217.0 / 172.0) 2813307	(3.48, N/A) (N/A, 0.01, N/A)	4267.7	N/A	7.6228 [8.0000]	95.3% {98.9%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 2667482	(4.51, N/A) (N/A, 0.01, N/A)	2525.3	N/A	3.9794 [4.0000]	99.5% {96.9%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 1602695	(5.45, N/A) (N/A, 0.01, N/A)	1756.1	N/A	1.9099 [2.0000]	95.5% {99.3%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 1354868	(6.26, N/A) (N/A, 0.01, N/A)	1638.2	N/A	1.8634 [2.0000]	93.2% {88.5%}			
13C8_PFOA_EIS	(421.0 / 376.0) 1707207	(6.95, N/A) (N/A, 0.02, N/A)	2089.2	N/A	1.8106 [2.0000]	90.5% {100.8%}			
13C9_PFNA_EIS	(472.0 / 427.0) 733679	(7.56, N/A) (N/A, 0.01, N/A)	1889.7	N/A	0.9818 [1.0000]	98.2% {97.9%}			
13C6_PFDA_EIS	(519.0 / 474.0) 983847	(8.12, N/A) (N/A, 0.01, N/A)	1825.1	N/A	0.9913 [1.0000]	99.1% {106.5%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 938642	(8.61, N/A) (N/A, 0.01, N/A)	1816.8	N/A	0.9511 [1.0000]	95.1% {101.6%}			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (1)
 Acquired: 2023/02/23 - 22:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 824056	(8.91, N/A) (N/A, 0.01, N/A)	1757.8	N/A	0.9735 [1.0000]	97.4% {99.6%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 826200	(9.28, N/A) (N/A, 0.01, N/A)	1102.4	N/A	1.0652 [1.0000]	106.5% {105.4%}			
13C3_PFBs_EIS	(302.0 / 80.0) 4584391	(5.41, N/A) (N/A, 0.01, N/A)	4608.2	N/A	1.8593 [2.0000]	93.0% {94.2%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 2438938	(7.10, N/A) (N/A, 0.02, N/A)	1458.5	N/A	1.9044 [2.0000]	95.2% {100.9%}			
13C8_PFOS_EIS	(507.0 / 80.0) 4867563	(8.32, N/A) (N/A, 0.01, N/A)	2040.2	N/A	1.9735 [2.0000]	98.7% {91.9%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 553609	(5.19, N/A) (N/A, 0.01, N/A)	1403.1	N/A	4.0677 [4.0000]	101.7% {99.3%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 607538	(6.69, N/A) (N/A, 0.02, N/A)	1198.9	N/A	4.0666 [4.0000]	101.7% {88.3%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 787696	(7.86, N/A) (N/A, 0.02, N/A)	1147.5	N/A	3.7320 [4.0000]	93.3% {92.5%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 9032121	(9.84, N/A) (N/A, 0.01, N/A)	4069.8	N/A	1.9727 [2.0000]	98.6% {99.5%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1892810	(10.42, N/A) (N/A, 0.01, N/A)	2679.1	N/A	1.7547 [2.0000]	87.7% {97.5%}			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1917375	(10.57, N/A) (N/A, 0.01, N/A)	3143.0	N/A	1.9864 [2.0000]	99.3% {106.9%}			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (1)
 Acquired: 2023/02/23 - 22:22

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) 1739977	(8.26, N/A) (N/A, 0.01, N/A)	2597.5	N/A	4.3592 [4.0000]	109.0% {100.9%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1591959	(8.51, N/A) (N/A, 0.01, N/A)	4093.8	N/A	4.8709 [4.0000]	121.8% {111.5%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7946352	(10.36, N/A) (N/A, 0.01, N/A)	881.4	N/A	20.2064 [20.0000]	101.0% {104.0%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 10384126	(10.51, N/A) (N/A, 0.01, N/A)	2096.0	N/A	20.6190 [20.0000]	103.1% {113.0%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 4237762	(5.76, N/A) (N/A, 0.02, N/A)	3461.6	N/A	8.2940 [8.0000]	103.7% {101.5%}			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-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: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-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	7.68	ng/mL		
	13C5-PFPEA	3.96	ng/mL		
	13C5-PFHXA	1.82	ng/mL		
	13C4-PFHPA	1.95	ng/mL		
	13C8-PFOA	1.76	ng/mL		
	13C9-PFNA	0.875	ng/mL		
	13C6-PFDA	1.08	ng/mL		
	13C7-PFUnA	1.06	ng/mL		
	13C2-PFDOA	1.09	ng/mL		
	13C2-PFTEDA	1.32	ng/mL		
	13C3-PFBS	1.91	ng/mL		
	13C3-PFHXS	1.90	ng/mL		
	13C8-PFOS	2.04	ng/mL		
	13C2-4:2FTS	3.74	ng/mL		
	13C2-6:2FTS	3.70	ng/mL		
	13C2-8:2FTS	3.32	ng/mL		
	13C8-PFOSA	1.94	ng/mL		
	D3-NMEFOSA	1.83	ng/mL		
	D5-NETFOSA	2.03	ng/mL		
	D3-NMEFOSAA	4.15	ng/mL		
	D5-NETFOSAA	4.38	ng/mL		
	D7-NMEFOSE	19.7	ng/mL		
	D9-NETFOSSE	19.8	ng/mL		
	13C3-HFPO-DA	8.01	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (6)
 Acquired: 2023/02/23 - 23:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (6)
 Acquired: 2023/02/23 - 23:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (6)
 Acquired: 2023/02/23 - 23:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
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) 286647	(3.48, N/A) (N/A, 0.00, N/A)	1457.7	N/A	1.2797 [1.0000]	128.0% { 104.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 546810	(5.44, N/A) (N/A, 0.01, N/A)	2094.6	N/A	1.0832 [1.0000]	108.3% { 102.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 751760	(6.96, N/A) (N/A, 0.01, N/A)	979.1	N/A	1.1862 [1.0000]	118.6% { 105.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 717126	(7.56, N/A) (N/A, 0.01, N/A)	3214.6	N/A	1.1868 [1.0000]	118.7% { 113.2% }			

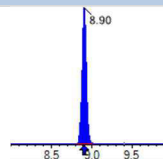
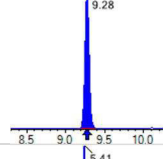
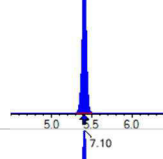
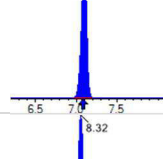
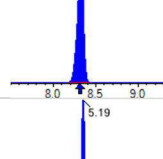
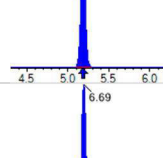
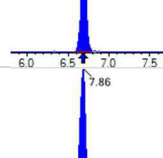
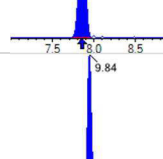
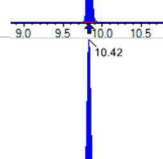
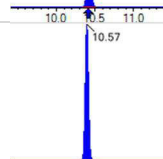
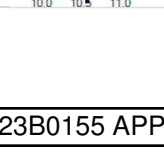


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (6)
 Acquired: 2023/02/23 - 23:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 636427	(8.12, N/A) (N/A, 0.01, N/A)	1456.0	N/A	1.0999 [1.0000]	110.0% { 100.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1134234	(7.09, N/A) (N/A, 0.01, N/A)	3857.5	N/A	1.3245 [1.0000]	132.4% { 105.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1727848	(8.32, N/A) (N/A, 0.02, N/A)	1295.1	N/A	1.1478 [1.0000]	114.8% { 104.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2618833	(3.47, N/A) (N/A, 0.00, N/A)	4765.6	N/A	7.6807 [8.0000]	96.0% { 92.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2369897	(4.51, N/A) (N/A, 0.01, N/A)	2819.9	N/A	3.9612 [4.0000]	99.0% { 86.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1363247	(5.44, N/A) (N/A, 0.01, N/A)	2156.5	N/A	1.8201 [2.0000]	91.0% { 84.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1264582	(6.26, N/A) (N/A, 0.01, N/A)	2611.8	N/A	1.9487 [2.0000]	97.4% { 82.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1501490	(6.96, N/A) (N/A, 0.02, N/A)	1572.7	N/A	1.7636 [2.0000]	88.2% { 88.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 664886	(7.56, N/A) (N/A, 0.02, N/A)	1860.2	N/A	0.8751 [1.0000]	87.5% { 88.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 868311	(8.12, N/A) (N/A, 0.02, N/A)	1249.0	N/A	1.0821 [1.0000]	108.2% { 94.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 847616	(8.61, N/A) (N/A, 0.01, N/A)	6017.3	N/A	1.0623 [1.0000]	106.2% { 91.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 747946	(8.90, N/A) (N/A, 0.00, N/A)	1785.8	N/A	1.0929 [1.0000]	109.3% { 90.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 828893	(9.28, N/A) (N/A, 0.01, N/A)	1296.6	N/A	1.3218 [1.0000]	132.2% { 105.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4533625	(5.41, N/A) (N/A, 0.01, N/A)	3299.0	N/A	1.9098 [2.0000]	95.5% { 93.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2341794	(7.10, N/A) (N/A, 0.02, N/A)	1847.4	N/A	1.8992 [2.0000]	95.0% { 96.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4834599	(8.32, N/A) (N/A, 0.01, N/A)	1767.2	N/A	2.0381 [2.0000]	101.9% { 91.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 490378	(5.19, N/A) (N/A, 0.01, N/A)	2134.4	N/A	3.7425 [4.0000]	93.6% { 88.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 532519	(6.69, N/A) (N/A, 0.02, N/A)	940.4	N/A	3.7024 [4.0000]	92.6% { 77.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 675562	(7.86, N/A) (N/A, 0.02, N/A)	1556.0	N/A	3.3245 [4.0000]	83.1% { 79.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8552035	(9.84, N/A) (N/A, 0.00, N/A)	3406.6	N/A	1.9422 [2.0000]	97.1% { 94.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1895493	(10.42, N/A) (N/A, 0.01, N/A)	2529.9	N/A	1.8272 [2.0000]	91.4% { 97.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1885937	(10.57, N/A) (N/A, 0.00, N/A)	3628.8	N/A	2.0316 [2.0000]	101.6% { 105.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (6)
 Acquired: 2023/02/23 - 23:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1592033	(8.26 , N/A) (N/A , 0.02 , N/A)	2446.1	N/A	4.1473 [4.0000]	103.7% { 92.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1377899	(8.51 , N/A) (N/A , 0.01 , N/A)	2999.6	N/A	4.3837 [4.0000]	109.6% { 96.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7456727	(10.36 , N/A) (N/A , 0.00 , N/A)	2051.3	N/A	19.7161 [20.0000]	98.6% { 97.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9582314	(10.51 , N/A) (N/A , 0.00 , N/A)	1677.6	N/A	19.7842 [20.0000]	98.9% { 104.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3653588	(5.75 , N/A) (N/A , 0.01 , N/A)	3633.6	N/A	8.0117 [8.0000]	100.1% { 87.5% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-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: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.14	ng/mL		
	13C5-PFPEA	4.24	ng/mL		
	13C5-PFHXA	2.08	ng/mL		
	13C4-PFHPA	2.37	ng/mL		
	13C8-PFOA	1.83	ng/mL		
	13C9-PFNA	0.879	ng/mL		
	13C6-PFDA	0.934	ng/mL		
	13C7-PFUnA	1.05	ng/mL		
	13C2-PFDOA	1.06	ng/mL		
	13C2-PFTEDA	1.10	ng/mL		
	13C3-PFBS	1.89	ng/mL		
	13C3-PFHXS	1.90	ng/mL		
	13C8-PFOS	1.93	ng/mL		
	13C2-4:2FTS	3.92	ng/mL		
	13C2-6:2FTS	3.99	ng/mL		
	13C2-8:2FTS	3.64	ng/mL		
	13C8-PFOSA	1.81	ng/mL		
	D3-NMEFOSA	1.79	ng/mL		
	D5-NETFOSA	1.93	ng/mL		
	D3-NMEFOSAA	4.04	ng/mL		
	D5-NETFOSAA	4.33	ng/mL		
	D7-NMEFOSE	19.1	ng/mL		
	D9-NETFOSSE	19.0	ng/mL		
	13C3-HFPO-DA	8.56	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (15)
 Acquired: 2023/02/24 - 01:23

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			



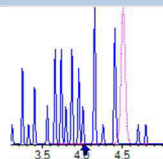
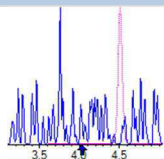
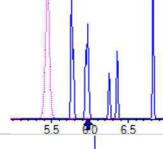
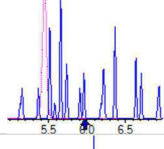
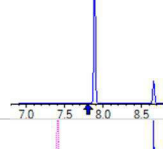
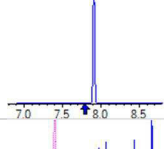
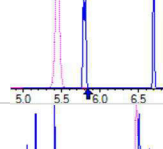
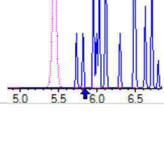
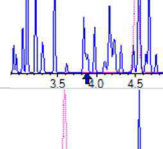
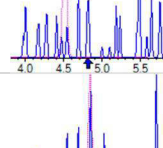
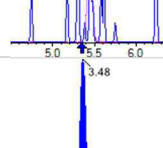
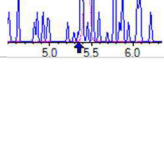
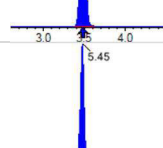
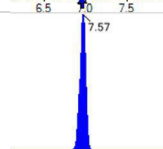
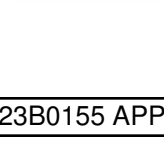
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (15)
 Acquired: 2023/02/24 - 01:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBa_IIS	(216.0 / 172.0) 275421	(3.48, N/A) (N/A, 0.00, N/A)	1668.8	N/A	1.2296 [1.0000]	123.0% { 100.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 516773	(5.45, N/A) (N/A, 0.01, N/A)	1905.1	N/A	1.0237 [1.0000]	102.4% { 96.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 746392	(6.96, N/A) (N/A, 0.02, N/A)	1402.8	N/A	1.1777 [1.0000]	117.8% { 105.0% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 688568	(7.57, N/A) (N/A, 0.02, N/A)	3274.1	N/A	1.1395 [1.0000]	114.0% { 108.7% }			

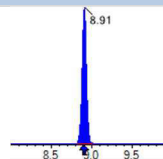
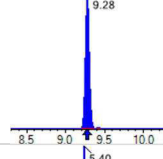
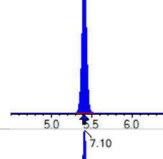
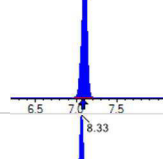
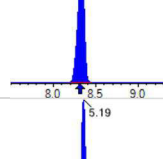
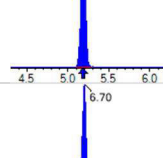
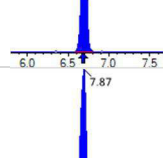
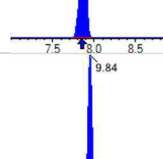
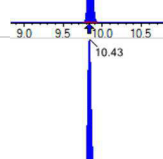
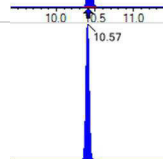
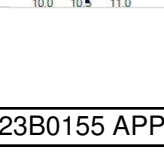


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (15)
 Acquired: 2023/02/24 - 01:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 668073	(8.13, N/A) (N/A, 0.02, N/A)	1036.0	N/A	1.1546 [1.0000]	115.5% { 105.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1062836	(7.10, N/A) (N/A, 0.02, N/A)	2687.7	N/A	1.2411 [1.0000]	124.1% { 98.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1745559	(8.33, N/A) (N/A, 0.02, N/A)	1157.2	N/A	1.1595 [1.0000]	116.0% { 105.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2666852	(3.48, N/A) (N/A, 0.00, N/A)	4694.9	N/A	8.1403 [8.0000]	101.8% { 93.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2396519	(4.51, N/A) (N/A, 0.01, N/A)	3178.8	N/A	4.2385 [4.0000]	106.0% { 87.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1472899	(5.45, N/A) (N/A, 0.01, N/A)	2716.3	N/A	2.0808 [2.0000]	104.0% { 91.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1452485	(6.26, N/A) (N/A, 0.01, N/A)	2204.3	N/A	2.3683 [2.0000]	118.4% { 94.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1549700	(6.96, N/A) (N/A, 0.02, N/A)	1912.3	N/A	1.8333 [2.0000]	91.7% { 91.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 641041	(7.57, N/A) (N/A, 0.02, N/A)	1860.0	N/A	0.8787 [1.0000]	87.9% { 85.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 786675	(8.13, N/A) (N/A, 0.02, N/A)	2128.8	N/A	0.9339 [1.0000]	93.4% { 85.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 881457	(8.62, N/A) (N/A, 0.02, N/A)	1330.7	N/A	1.0523 [1.0000]	105.2% { 95.4% }			

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) 760876	(8.91, N/A) (N/A, 0.01, N/A)	1536.0	N/A	1.0591 [1.0000]	105.9% { 92.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 723920	(9.28, N/A) (N/A, 0.01, N/A)	1258.7	N/A	1.0997 [1.0000]	110.0% { 92.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4205117	(5.40, N/A) (N/A, 0.01, N/A)	3647.3	N/A	1.8904 [2.0000]	94.5% { 86.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2198175	(7.10, N/A) (N/A, 0.02, N/A)	1423.4	N/A	1.9025 [2.0000]	95.1% { 90.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4627591	(8.33, N/A) (N/A, 0.02, N/A)	2148.8	N/A	1.9311 [2.0000]	96.6% { 87.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 481877	(5.19, N/A) (N/A, 0.01, N/A)	2061.8	N/A	3.9247 [4.0000]	98.1% { 86.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 537153	(6.70, N/A) (N/A, 0.02, N/A)	1282.1	N/A	3.9854 [4.0000]	99.6% { 78.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 692207	(7.87, N/A) (N/A, 0.02, N/A)	24083.3	N/A	3.6353 [4.0000]	90.9% { 81.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8067872	(9.84, N/A) (N/A, 0.01, N/A)	3568.5	N/A	1.8137 [2.0000]	90.7% { 88.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1875400	(10.43, N/A) (N/A, 0.01, N/A)	2435.6	N/A	1.7894 [2.0000]	89.5% { 96.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1811738	(10.57, N/A) (N/A, 0.01, N/A)	3158.4	N/A	1.9318 [2.0000]	96.6% { 101.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB3
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (15)
 Acquired: 2023/02/24 - 01:23

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) 1566520	(8.27, N/A) (N/A, 0.02, N/A)	2902.7	N/A	4.0395 [4.0000]	101.0% { 90.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1375039	(8.51, N/A) (N/A, 0.02, N/A)	12151.7	N/A	4.3303 [4.0000]	108.3% { 96.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7294246	(10.36, N/A) (N/A, 0.01, N/A)	2507.0	N/A	19.0908 [20.0000]	95.5% { 95.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9275726	(10.52, N/A) (N/A, 0.01, N/A)	1904.0	N/A	18.9569 [20.0000]	94.8% { 101.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3690392	(5.75, N/A) (N/A, 0.01, N/A)	2799.4	N/A	8.5627 [8.0000]	107.0% { 88.4% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB4	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.88	ng/mL		
	13C5-PFPEA	3.95	ng/mL		
	13C5-PFHXA	2.01	ng/mL		
	13C4-PFHPA	1.98	ng/mL		
	13C8-PFOA	1.87	ng/mL		
	13C9-PFNA	0.912	ng/mL		
	13C6-PFDA	0.913	ng/mL		
	13C7-PFUnA	0.908	ng/mL		
	13C2-PFDOA	1.01	ng/mL		
	13C2-PFTEDA	0.991	ng/mL		
	13C3-PFBS	1.98	ng/mL		
	13C3-PFHXS	1.88	ng/mL		
	13C8-PFOS	1.86	ng/mL		
	13C2-4:2FTS	4.02	ng/mL		
	13C2-6:2FTS	3.66	ng/mL		
	13C2-8:2FTS	3.49	ng/mL		
	13C8-PFOSA	1.83	ng/mL		
	D3-NMEFOSA	1.77	ng/mL		
	D5-NETFOSA	1.83	ng/mL		
	D3-NMEFOSAA	3.67	ng/mL		
	D5-NETFOSAA	3.67	ng/mL		
	D7-NMEFOSE	18.0	ng/mL		
	D9-NETFOSSE	18.4	ng/mL		
	13C3-HFPO-DA	8.07	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

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: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

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			
NMeFOFA	(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			
NEtFOFA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 273815	(3.47, N/A) (N/A, -0.01, N/A)	2093.3	N/A	1.2224 [1.0000]	122.2% { 100.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 537004	(5.42, N/A) (N/A, -0.02, N/A)	1766.2	N/A	1.0638 [1.0000]	106.4% { 100.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 721380	(6.93, N/A) (N/A, -0.01, N/A)	1212.0	N/A	1.1382 [1.0000]	113.8% { 101.5% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 694781	(7.54, N/A) (N/A, -0.01, N/A)	1401.7	N/A	1.1498 [1.0000]	115.0% { 109.6% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 694620	(8.10, N/A) (N/A, -0.01, N/A)	287983.2	N/A	1.2004 [1.0000]	120.0% { 109.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1075163	(7.07, N/A) (N/A, -0.01, N/A)	1693.2	N/A	1.2555 [1.0000]	125.5% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1833098	(8.30, N/A) (N/A, -0.01, N/A)	1844.2	N/A	1.2177 [1.0000]	121.8% { 110.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2565551	(3.47, N/A) (N/A, -0.01, N/A)	4989.8	N/A	7.8770 [8.0000]	98.5% { 90.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2323334	(4.49, N/A) (N/A, -0.01, N/A)	4148.3	N/A	3.9543 [4.0000]	98.9% { 84.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1477054	(5.42, N/A) (N/A, -0.01, N/A)	2746.2	N/A	2.0081 [2.0000]	100.4% { 91.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1263578	(6.24, N/A) (N/A, -0.01, N/A)	1842.0	N/A	1.9827 [2.0000]	99.1% { 82.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1531242	(6.93, N/A) (N/A, -0.01, N/A)	3062.0	N/A	1.8743 [2.0000]	93.7% { 90.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 671509	(7.54, N/A) (N/A, -0.01, N/A)	2879.2	N/A	0.9122 [1.0000]	91.2% { 89.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 799564	(8.10, N/A) (N/A, -0.01, N/A)	2979.0	N/A	0.9129 [1.0000]	91.3% { 86.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 790823	(8.59, N/A) (N/A, -0.01, N/A)	1554.8	N/A	0.9081 [1.0000]	90.8% { 85.6% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 752057	(8.89, N/A) (N/A, -0.01, N/A)	1375.6	N/A	1.0068 [1.0000]	100.7% { 90.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 678217	(9.27, N/A) (N/A, 0.00, N/A)	1395.0	N/A	0.9909 [1.0000]	99.1% { 86.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4462094	(5.38, N/A) (N/A, -0.01, N/A)	3143.9	N/A	1.9830 [2.0000]	99.1% { 91.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2196665	(7.07, N/A) (N/A, -0.01, N/A)	2019.5	N/A	1.8794 [2.0000]	94.0% { 90.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4688517	(8.30, N/A) (N/A, -0.01, N/A)	2012.6	N/A	1.8631 [2.0000]	93.2% { 88.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 499118	(5.16, N/A) (N/A, -0.02, N/A)	1570.1	N/A	4.0185 [4.0000]	100.5% { 89.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 498501	(6.67, N/A) (N/A, 0.00, N/A)	1721.2	N/A	3.6563 [4.0000]	91.4% { 72.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 672141	(7.84, N/A) (N/A, -0.01, N/A)	1904.5	N/A	3.4894 [4.0000]	87.2% { 78.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 8556958	(9.83, N/A) (N/A, 0.00, N/A)	2389.9	N/A	1.8318 [2.0000]	91.6% { 94.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1953210	(10.42, N/A) (N/A, 0.00, N/A)	3453.2	N/A	1.7747 [2.0000]	88.7% { 100.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1800524	(10.56, N/A) (N/A, 0.00, N/A)	4446.3	N/A	1.8282 [2.0000]	91.4% { 100.4% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB4
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (43)
 Acquired: 2023/02/24 - 07:23

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) 1494454	(8.24, N/A) (N/A, -0.01, N/A)	1047.9	N/A	3.6696 [4.0000]	91.7% { 86.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1222439	(8.49, N/A) (N/A, -0.01, N/A)	25026.0	N/A	3.6658 [4.0000]	91.6% { 85.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7232728	(10.35, N/A) (N/A, 0.00, N/A)	2265.8	N/A	18.0258 [20.0000]	90.1% { 94.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9456582	(10.51, N/A) (N/A, 0.00, N/A)	1550.3	N/A	18.4036 [20.0000]	92.0% { 102.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3613828	(5.73, N/A) (N/A, -0.01, N/A)	3249.3	N/A	8.0692 [8.0000]	100.9% { 86.6% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

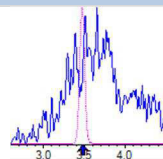
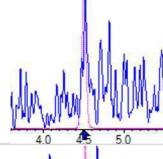
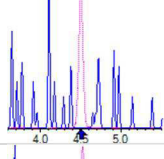
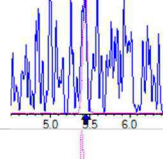
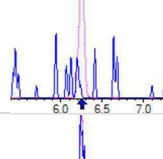
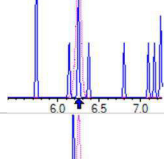
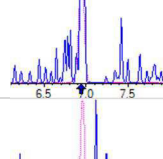
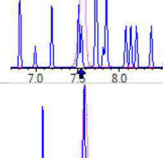
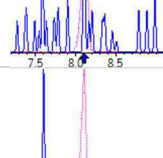
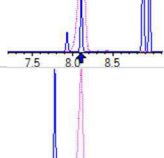
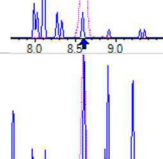
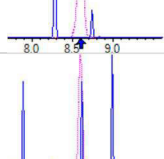
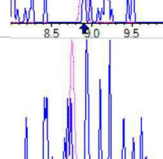
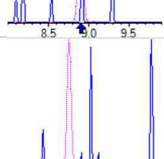
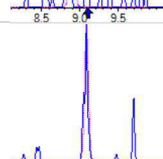
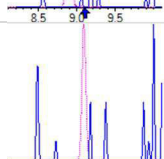
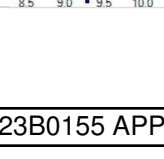
Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB5	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	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: SC00790
 Calibration: 2307007

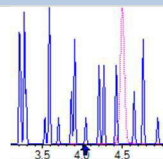
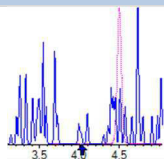
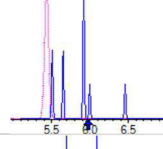
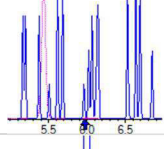
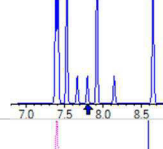
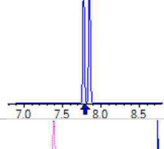
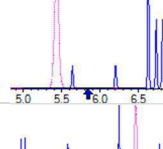
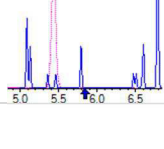
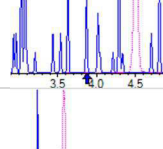
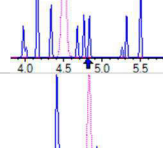
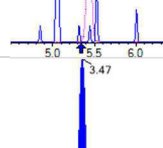
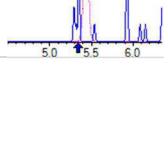
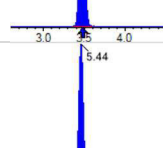
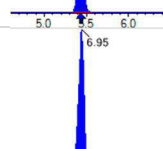
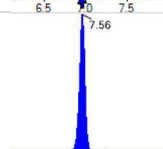
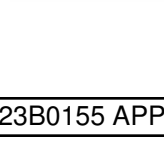
SDG:
 Project: Red Hill AFFF Assessment Sam
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB5	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.92	ng/mL		
	13C5-PFPEA	4.33	ng/mL		
	13C5-PFHXA	2.19	ng/mL		
	13C4-PFHPA	2.10	ng/mL		
	13C8-PFOA	1.97	ng/mL		
	13C9-PFNA	0.974	ng/mL		
	13C6-PFDA	0.963	ng/mL		
	13C7-PFUnA	0.956	ng/mL		
	13C2-PFDOA	0.950	ng/mL		
	13C2-PFTEDA	1.15	ng/mL		
	13C3-PFBS	2.26	ng/mL		
	13C3-PFHXS	2.10	ng/mL		
	13C8-PFOS	2.01	ng/mL		
	13C2-4:2FTS	4.22	ng/mL		
	13C2-6:2FTS	4.86	ng/mL		
	13C2-8:2FTS	3.77	ng/mL		
	13C8-PFOSA	1.96	ng/mL		
	D3-NMEFOSA	1.97	ng/mL		
	D5-NETFOSA	2.06	ng/mL		
	D3-NMEFOSAA	4.14	ng/mL		
	D5-NETFOSAA	3.96	ng/mL		
	D7-NMEFOSE	19.7	ng/mL		
	D9-NETFOSSE	19.7	ng/mL		
	13C3-HFPO-DA	8.60	ng/mL		

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			MI5 DG 2023-02-24
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 248753	(3.47, N/A) (N/A, 0.00, N/A)	2117.5	N/A	1.1105 [1.0000]	111.1% { 91.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 448986	(5.44, N/A) (N/A, 0.00, N/A)	2759.8	N/A	0.8894 [1.0000]	88.9% { 83.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 597224	(6.95, N/A) (N/A, 0.01, N/A)	1852.7	N/A	0.9423 [1.0000]	94.2% { 84.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 593095	(7.56, N/A) (N/A, 0.01, N/A)	1179.8	N/A	0.9815 [1.0000]	98.2% { 93.6% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (49)
 Acquired: 2023/02/24 - 08:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 575053	(8.11, N/A) (N/A, 0.00, N/A)	1349.3	N/A	0.9938 [1.0000]	99.4% { 90.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 842518	(7.09, N/A) (N/A, 0.01, N/A)	1156.4	N/A	0.9838 [1.0000]	98.4% { 78.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1475183	(8.31, N/A) (N/A, 0.01, N/A)	1517.4	N/A	0.9799 [1.0000]	98.0% { 89.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2343876	(3.47, N/A) (N/A, 0.00, N/A)	4516.2	N/A	7.9214 [8.0000]	99.0% { 82.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2128776	(4.50, N/A) (N/A, 0.00, N/A)	3895.2	N/A	4.3334 [4.0000]	108.3% { 77.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1344500	(5.44, N/A) (N/A, 0.00, N/A)	2670.0	N/A	2.1862 [2.0000]	109.3% { 83.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1116927	(6.25, N/A) (N/A, 0.01, N/A)	2239.0	N/A	2.0961 [2.0000]	104.8% { 72.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1331628	(6.95, N/A) (N/A, 0.01, N/A)	1894.1	N/A	1.9688 [2.0000]	98.4% { 78.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 612330	(7.56, N/A) (N/A, 0.01, N/A)	867.8	N/A	0.9744 [1.0000]	97.4% { 81.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 698289	(8.11, N/A) (N/A, 0.01, N/A)	910.7	N/A	0.9631 [1.0000]	96.3% { 75.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 689526	(8.60, N/A) (N/A, 0.00, N/A)	1274.7	N/A	0.9564 [1.0000]	95.6% { 74.7% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (49)
 Acquired: 2023/02/24 - 08:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 587318	(8.90, N/A) (N/A, 0.00, N/A)	1894.1	N/A	0.9498 [1.0000]	95.0% { 71.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 648927	(9.27, N/A) (N/A, 0.00, N/A)	2728.4	N/A	1.1452 [1.0000]	114.5% { 82.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3988667	(5.39, N/A) (N/A, 0.00, N/A)	3602.2	N/A	2.2620 [2.0000]	113.1% { 81.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1921012	(7.09, N/A) (N/A, 0.01, N/A)	1704.4	N/A	2.0974 [2.0000]	104.9% { 79.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4061879	(8.31, N/A) (N/A, 0.00, N/A)	1345.8	N/A	2.0057 [2.0000]	100.3% { 76.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 410375	(5.18, N/A) (N/A, 0.00, N/A)	1353.9	N/A	4.2163 [4.0000]	105.4% { 73.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 518946	(6.69, N/A) (N/A, 0.01, N/A)	2665.0	N/A	4.8572 [4.0000]	121.4% { 75.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 568744	(7.86, N/A) (N/A, 0.01, N/A)	1260.6	N/A	3.7679 [4.0000]	94.2% { 66.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7371340	(9.83, N/A) (N/A, 0.00, N/A)	2476.5	N/A	1.9608 [2.0000]	98.0% { 81.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1747902	(10.42, N/A) (N/A, 0.00, N/A)	2724.4	N/A	1.9735 [2.0000]	98.7% { 90.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1634843	(10.56, N/A) (N/A, 0.00, N/A)	3309.8	N/A	2.0627 [2.0000]	103.1% { 91.1% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB5
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (49)
 Acquired: 2023/02/24 - 08:41

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) 1357103	(8.26, N/A) (N/A, 0.01, N/A)	2032.0	N/A	4.1408 [4.0000]	103.5% { 78.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1061822	(8.50, N/A) (N/A, 0.01, N/A)	45787.6	N/A	3.9567 [4.0000]	98.9% { 74.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6354587	(10.35, N/A) (N/A, 0.00, N/A)	3199.5	N/A	19.6797 [20.0000]	98.4% { 83.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8127763	(10.51, N/A) (N/A, 0.00, N/A)	1846.0	N/A	19.6553 [20.0000]	98.3% { 88.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3218433	(5.74, N/A) (N/A, 0.00, N/A)	2760.8	N/A	8.5951 [8.0000]	107.4% { 77.1% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB6	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: SC00790
 Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00790-CCB6	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	7.88	ng/mL		
	13C5-PFPEA	4.52	ng/mL		
	13C5-PFHXA	2.21	ng/mL		
	13C4-PFHPA	2.12	ng/mL		
	13C8-PFOA	1.73	ng/mL		
	13C9-PFNA	0.928	ng/mL		
	13C6-PFDA	0.891	ng/mL		
	13C7-PFUnA	0.956	ng/mL		
	13C2-PFDOA	0.979	ng/mL		
	13C2-PFTEDA	0.981	ng/mL		
	13C3-PFBS	2.25	ng/mL		
	13C3-PFHXS	1.97	ng/mL		
	13C8-PFOS	1.90	ng/mL		
	13C2-4:2FTS	4.36	ng/mL		
	13C2-6:2FTS	3.93	ng/mL		
	13C2-8:2FTS	3.98	ng/mL		
	13C8-PFOSA	1.85	ng/mL		
	D3-NMEFOSA	1.83	ng/mL		
	D5-NETFOSA	1.88	ng/mL		
	D3-NMEFOSAA	3.40	ng/mL		
	D5-NETFOSAA	3.58	ng/mL		
	D7-NMEFOSE	17.6	ng/mL		
	D9-NETFOSSE	17.6	ng/mL		
	13C3-HFPO-DA	8.38	ng/mL		



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

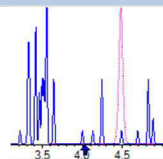
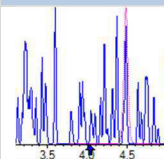
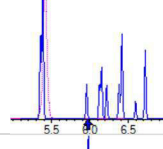
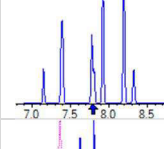
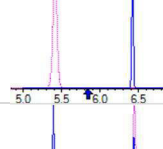
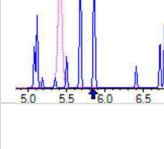
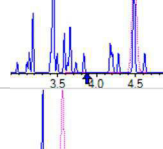
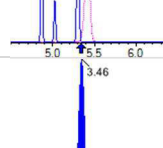
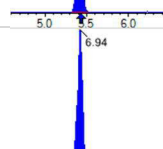
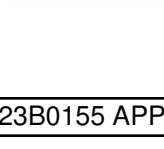
Sample I.D.: SC00790-CCB6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (68)
 Acquired: 2023/02/24 - 12:45

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			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (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) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 261855	(3.46, N/A) (N/A, -0.02, N/A)	2181.5	N/A	1.1690 [1.0000]	116.9% { 95.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 473911	(5.42, N/A) (N/A, -0.02, N/A)	1846.0	N/A	0.9388 [1.0000]	93.9% { 88.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 697329	(6.94, N/A) (N/A, -0.01, N/A)	2017.1	N/A	1.1003 [1.0000]	110.0% { 98.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 617786	(7.55, N/A) (N/A, 0.00, N/A)	3280.6	N/A	1.0224 [1.0000]	102.2% { 97.5% }			

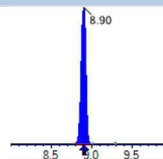
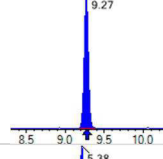
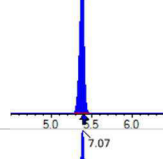
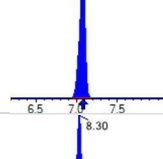
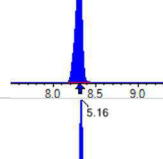
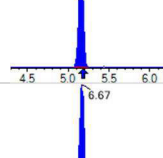
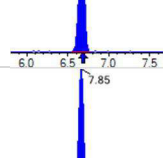
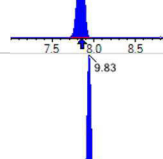
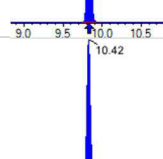
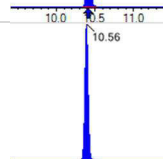
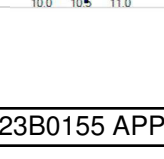


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (68)
 Acquired: 2023/02/24 - 12:45

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 613807	(8.11, N/A) (N/A, 0.00, N/A)	1223.5	N/A	1.0608 [1.0000]	106.1% { 97.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 910722	(7.08, N/A) (N/A, 0.00, N/A)	1404.2	N/A	1.0635 [1.0000]	106.3% { 84.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1647734	(8.31, N/A) (N/A, 0.00, N/A)	1675.7	N/A	1.0946 [1.0000]	109.5% { 99.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2454808	(3.46, N/A) (N/A, -0.02, N/A)	6054.2	N/A	7.8812 [8.0000]	98.5% { 86.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2344008	(4.48, N/A) (N/A, -0.02, N/A)	3790.5	N/A	4.5206 [4.0000]	113.0% { 85.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1433995	(5.41, N/A) (N/A, -0.02, N/A)	1756.6	N/A	2.2091 [2.0000]	110.5% { 88.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1191073	(6.23, N/A) (N/A, -0.01, N/A)	3498.7	N/A	2.1177 [2.0000]	105.9% { 77.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1362409	(6.94, N/A) (N/A, 0.00, N/A)	1067.2	N/A	1.7251 [2.0000]	86.3% { 80.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 607140	(7.54, N/A) (N/A, 0.00, N/A)	1549.4	N/A	0.9275 [1.0000]	92.8% { 81.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 689293	(8.10, N/A) (N/A, 0.00, N/A)	239.7	N/A	0.8907 [1.0000]	89.1% { 74.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 735661	(8.60, N/A) (N/A, 0.00, N/A)	5042.7	N/A	0.9559 [1.0000]	95.6% { 79.6% }			

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_EIS	(615.0 / 570.0) 646485	(8.90, N/A) (N/A, 0.00, N/A)	1040.4	N/A	0.9794 [1.0000]	97.9% { 78.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 593449	(9.27, N/A) (N/A, 0.00, N/A)	1343.3	N/A	0.9812 [1.0000]	98.1% { 75.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4289532	(5.38, N/A) (N/A, -0.02, N/A)	4386.6	N/A	2.2505 [2.0000]	112.5% { 88.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1947712	(7.07, N/A) (N/A, -0.01, N/A)	2028.9	N/A	1.9673 [2.0000]	98.4% { 80.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4305494	(8.30, N/A) (N/A, 0.00, N/A)	1718.8	N/A	1.9033 [2.0000]	95.2% { 81.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 459118	(5.16, N/A) (N/A, -0.02, N/A)	1782.9	N/A	4.3638 [4.0000]	109.1% { 82.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 453459	(6.67, N/A) (N/A, 0.00, N/A)	887.9	N/A	3.9264 [4.0000]	98.2% { 65.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 649494	(7.85, N/A) (N/A, 0.00, N/A)	1210.6	N/A	3.9807 [4.0000]	99.5% { 76.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 7782524	(9.83, N/A) (N/A, 0.00, N/A)	2962.9	N/A	1.8534 [2.0000]	92.7% { 85.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1806085	(10.42, N/A) (N/A, 0.00, N/A)	2242.5	N/A	1.8256 [2.0000]	91.3% { 93.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1667638	(10.56, N/A) (N/A, 0.00, N/A)	3118.3	N/A	1.8838 [2.0000]	94.2% { 92.9% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-CCB6
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (68)
 Acquired: 2023/02/24 - 12:45

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) 1243783	(8.25, N/A) (N/A, 0.00, N/A)	1792.9	N/A	3.3977 [4.0000]	84.9% { 72.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1074217	(8.50, N/A) (N/A, 0.00, N/A)	10601.5	N/A	3.5837 [4.0000]	89.6% { 75.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6347731	(10.35, N/A) (N/A, 0.00, N/A)	1826.6	N/A	17.5998 [20.0000]	88.0% { 83.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8135748	(10.51, N/A) (N/A, 0.00, N/A)	1931.0	N/A	17.6143 [20.0000]	88.1% { 88.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3313341	(5.72, N/A) (N/A, -0.02, N/A)	3326.8	N/A	8.3832 [8.0000]	104.8% { 79.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
PFOA	(413.0 / 369.0) 6568297 (413.0 / 169.0) 2298860	(6.94, 1.00) (0.00, N/A, -0.1)	3106.4 2507.2	0.3500 104.6 113.6	10.5734 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (4)
 Acquired: 2023/02/23 - 23:01

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



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (4)
 Acquired: 2023/02/23 - 23:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 36036746 (498.0 / 478.0) 809445	(9.83, 1.00) (0.00, N/A, 0.1)	2453.7 1090.2	0.0225 109.4 115.5	11.9894 [0.0000]	N/A%			QC,
NMeFOSA	(512.0 / 219.0) 7640416 (512.0 / 169.0) 6405464	(10.42, 1.00) (0.00, N/A, 0.9)	4228.4 4882.2	0.8384 102.3 101.7	10.2554 [0.0000]	N/A%			QC,
NEtFOSA	(526.0 / 219.0) 8403484 (526.0 / 169.0) 10981895	(10.56, 1.00) (0.00, N/A, 0.9)	11271.3 8424.8	1.3068 103.0 103.5	10.9106 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
NMeFOSE	(616.0 / 59.0) 3981098	(10.36, 1.00) (0.01, N/A, 0.0)	2369.1	N/A 0.0 0.0	11.4732 [0.0000]	N/A%			QC,
NEtFOSE	(630.0 / 59.0) 4723566	(10.52, 1.00) (0.01, N/A, 0.0)	1507.7	N/A 0.0 0.0	11.5672 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,

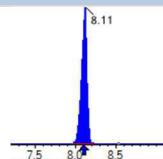
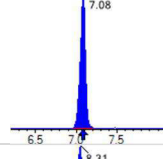
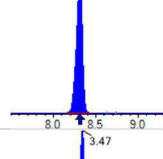
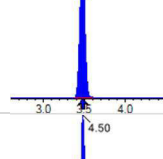
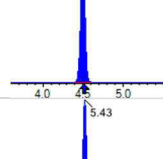
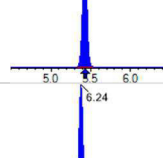
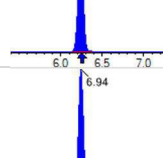
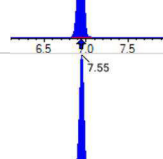
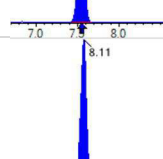
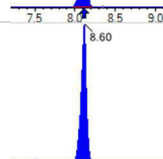
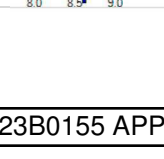


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (4)
 Acquired: 2023/02/23 - 23:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
13C3_PFBA_IIS	(216.0 / 172.0) 305351	(3.48, N/A) (N/A, 0.00, N/A)	1721.3	N/A	1.3632 [1.0000]	136.3% {111.8%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 527937	(5.43, N/A) (N/A, -0.01, N/A)	1356.8	N/A	1.0458 [1.0000]	104.6% {98.7%}			
13C4_PFOA_IIS	(417.0 / 372.0) 740816	(6.94, N/A) (N/A, 0.00, N/A)	1037.1	N/A	1.1689 [1.0000]	116.9% {104.2%}			
13C5_PFNxA_IIS	(468.0 / 423.0) 746139	(7.55, N/A) (N/A, 0.00, N/A)	1369.0	N/A	1.2348 [1.0000]	123.5% {117.8%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 685250	(8.11, N/A) (N/A, 0.01, N/A)	1046.4	N/A	1.1842 [1.0000]	118.4% { 108.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1142342	(7.08, N/A) (N/A, 0.00, N/A)	1299.5	N/A	1.3339 [1.0000]	133.4% { 106.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2026571	(8.31, N/A) (N/A, 0.00, N/A)	1247.4	N/A	1.3462 [1.0000]	134.6% { 122.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2522174	(3.47, N/A) (N/A, 0.00, N/A)	3624.7	N/A	6.9441 [8.0000]	86.8% { 88.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2312788	(4.50, N/A) (N/A, -0.01, N/A)	2908.5	N/A	4.0039 [4.0000]	100.1% { 84.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1366101	(5.43, N/A) (N/A, -0.01, N/A)	1956.6	N/A	1.8891 [2.0000]	94.5% { 84.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1200624	(6.24, N/A) (N/A, 0.00, N/A)	1828.5	N/A	1.9162 [2.0000]	95.8% { 78.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1395376	(6.94, N/A) (N/A, 0.00, N/A)	1606.7	N/A	1.6632 [2.0000]	83.2% { 82.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 655798	(7.55, N/A) (N/A, 0.00, N/A)	1874.5	N/A	0.8295 [1.0000]	83.0% { 87.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 789995	(8.11, N/A) (N/A, 0.00, N/A)	1434.8	N/A	0.9144 [1.0000]	91.4% { 85.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 755940	(8.60, N/A) (N/A, 0.00, N/A)	2789.1	N/A	0.8799 [1.0000]	88.0% { 81.8% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (4)
 Acquired: 2023/02/23 - 23:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 705389	(8.90, N/A) (N/A, 0.00, N/A)	2006.2	N/A	0.9573 [1.0000]	95.7% { 85.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 666147	(9.27, N/A) (N/A, 0.00, N/A)	724.8	N/A	0.9866 [1.0000]	98.7% { 85.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4209888	(5.39, N/A) (N/A, -0.01, N/A)	4051.3	N/A	1.7609 [2.0000]	88.0% { 86.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2062324	(7.08, N/A) (N/A, 0.00, N/A)	2280.4	N/A	1.6607 [2.0000]	83.0% { 85.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4346352	(8.31, N/A) (N/A, 0.00, N/A)	1654.4	N/A	1.5622 [2.0000]	78.1% { 82.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 489300	(5.17, N/A) (N/A, -0.01, N/A)	2015.0	N/A	3.7077 [4.0000]	92.7% { 87.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 586486	(6.68, N/A) (N/A, 0.00, N/A)	1182.9	N/A	4.0486 [4.0000]	101.2% { 85.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 621166	(7.85, N/A) (N/A, 0.00, N/A)	1181.1	N/A	3.0351 [4.0000]	75.9% { 72.9% }			
13C8_PFOA_EIS	(506.0 / 78.0) 7516074	(9.83, N/A) (N/A, 0.00, N/A)	3059.7	N/A	1.4553 [2.0000]	72.8% { 82.8% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 1762869	(10.42, N/A) (N/A, 0.00, N/A)	2779.1	N/A	1.4488 [2.0000]	72.4% { 90.8% }			
D5_NEtFOA_EIS	(531.0 / 169.0) 1648859	(10.56, N/A) (N/A, 0.00, N/A)	3700.8	N/A	1.5144 [2.0000]	75.7% { 91.9% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (4)
 Acquired: 2023/02/23 - 23:01

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) 1584599	(8.25, N/A) (N/A, 0.00, N/A)	1724.5	N/A	3.5195 [4.0000]	88.0% { 91.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1310608	(8.50, N/A) (N/A, 0.00, N/A)	2735.7	N/A	3.5550 [4.0000]	88.9% { 91.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6941637	(10.35, N/A) (N/A, 0.00, N/A)	1162.1	N/A	15.6487 [20.0000]	78.2% { 90.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8582312	(10.51, N/A) (N/A, 0.00, N/A)	1673.3	N/A	15.1076 [20.0000]	75.5% { 93.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3549818	(5.74, N/A) (N/A, -0.01, N/A)	2686.8	N/A	8.0624 [8.0000]	100.8% { 85.0% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (5)
 Acquired: 2023/02/23 - 23:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (5)
 Acquired: 2023/02/23 - 23:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
PFOS	(499.0 / 80.0) 64714 (499.0 / 99.0) 5397092	(7.96 , 0.96) (-0.37 , N/A , -22.2)	6372.0 7850.2	83.3985 37684.4 40174.9	0.0262 [0.0000]	N/A%			QC,RT,IR2,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (5)
 Acquired: 2023/02/23 - 23:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
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 [0.0000]	N/A%			QC,
13C3_PFBa_IIS	(216.0 / 172.0) 325983	(3.48, N/A) (N/A, 0.00, N/A)	1674.9	N/A	1.4553 [1.0000]	145.5% {119.3%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 598318	(5.45, N/A) (N/A, 0.01, N/A)	2823.1	N/A	1.1852 [1.0000]	118.5% {111.8%}			
13C4_PFOA_IIS	(417.0 / 372.0) 831593	(6.96, N/A) (N/A, 0.02, N/A)	1685.6	N/A	1.3121 [1.0000]	131.2% {117.0%}			
13C5_PFNAl_IIS	(468.0 / 423.0) 778248	(7.58, N/A) (N/A, 0.03, N/A)	2216.9	N/A	1.2879 [1.0000]	128.8% {122.8%}			

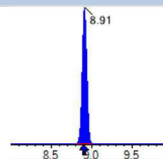
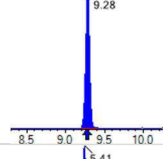
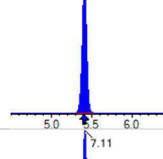
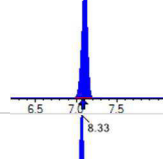
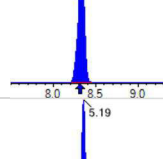
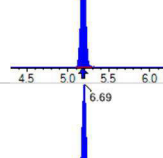
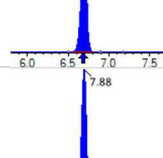
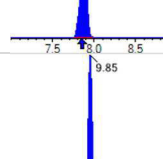
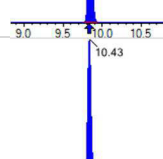
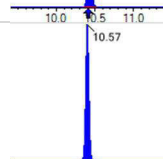
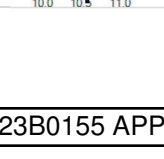


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (5)
 Acquired: 2023/02/23 - 23:14

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 815731	(8.13, N/A) (N/A, 0.02, N/A)	3784.7	N/A	1.4097 [1.0000]	141.0% { 129.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1248622	(7.10, N/A) (N/A, 0.02, N/A)	2208.2	N/A	1.4581 [1.0000]	145.8% { 116.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1822237	(8.33, N/A) (N/A, 0.03, N/A)	1631.8	N/A	1.2105 [1.0000]	121.0% { 109.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2954313	(3.48, N/A) (N/A, 0.01, N/A)	4603.0	N/A	7.6190 [8.0000]	95.2% { 103.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2732280	(4.51, N/A) (N/A, 0.01, N/A)	3154.5	N/A	4.1737 [4.0000]	104.3% { 99.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1555449	(5.45, N/A) (N/A, 0.01, N/A)	2194.1	N/A	1.8980 [2.0000]	94.9% { 96.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1396655	(6.27, N/A) (N/A, 0.02, N/A)	1818.3	N/A	1.9669 [2.0000]	98.3% { 91.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1607854	(6.96, N/A) (N/A, 0.02, N/A)	1429.9	N/A	1.7072 [2.0000]	85.4% { 94.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 693480	(7.58, N/A) (N/A, 0.03, N/A)	4624.6	N/A	0.8410 [1.0000]	84.1% { 92.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 853726	(8.13, N/A) (N/A, 0.03, N/A)	1257.5	N/A	0.8301 [1.0000]	83.0% { 92.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 886688	(8.62, N/A) (N/A, 0.02, N/A)	1682.9	N/A	0.8670 [1.0000]	86.7% { 96.0% }			

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) 802812	(8.91, N/A) (N/A, 0.01, N/A)	1834.3	N/A	0.9152 [1.0000]	91.5% { 97.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 702723	(9.28, N/A) (N/A, 0.01, N/A)	876.4	N/A	0.8743 [1.0000]	87.4% { 89.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4464195	(5.41, N/A) (N/A, 0.01, N/A)	2838.8	N/A	1.7083 [2.0000]	85.4% { 91.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2327571	(7.11, N/A) (N/A, 0.03, N/A)	2131.2	N/A	1.7148 [2.0000]	85.7% { 96.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4682022	(8.33, N/A) (N/A, 0.02, N/A)	2582.5	N/A	1.8716 [2.0000]	93.6% { 88.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 552909	(5.19, N/A) (N/A, 0.01, N/A)	1636.0	N/A	3.8331 [4.0000]	95.8% { 99.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 667425	(6.69, N/A) (N/A, 0.02, N/A)	1181.7	N/A	4.2152 [4.0000]	105.4% { 97.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 794172	(7.88, N/A) (N/A, 0.03, N/A)	2001.1	N/A	3.5502 [4.0000]	88.8% { 93.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 9272365	(9.85, N/A) (N/A, 0.01, N/A)	2511.2	N/A	1.9967 [2.0000]	99.8% { 102.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1985743	(10.43, N/A) (N/A, 0.01, N/A)	3181.3	N/A	1.8150 [2.0000]	90.8% { 102.3% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 1942128	(10.57, N/A) (N/A, 0.01, N/A)	2973.5	N/A	1.9837 [2.0000]	99.2% { 108.2% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: SC00790-PEM2
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (5)
 Acquired: 2023/02/23 - 23:14

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) 1726844	(8.27, N/A) (N/A, 0.03, N/A)	1687.5	N/A	4.2655 [4.0000]	106.6% { 100.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1464784	(8.52, N/A) (N/A, 0.03, N/A)	5167.1	N/A	4.4188 [4.0000]	110.5% { 102.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7937807	(10.36, N/A) (N/A, 0.01, N/A)	1673.7	N/A	19.9009 [20.0000]	99.5% { 103.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 10117144	(10.52, N/A) (N/A, 0.01, N/A)	1776.4	N/A	19.8065 [20.0000]	99.0% { 110.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4007521	(5.76, N/A) (N/A, 0.02, N/A)	3264.6	N/A	8.0313 [8.0000]	100.4% { 96.0% }			

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QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BLK1
Sampled:		File ID:	S2023-02-23B (50)
Solids:		Prepared:	02/22/23 15:43
Batch:	BCB0392	Analyzed:	02/24/23 08:54
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2307007
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.20 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	0.20 U	0.40	0.20	0.064	MI2, U
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:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BLK1
Sampled:		Prepared:	02/22/23 15:43
Solids:		Preparation:	EPA 1633
Batch:	BCB0392	Sequence:	SC00790
Column:	1	Calibration:	2307007
			Instrument: Saphira
			File ID: S2023-02-23B (50)
			Analyzed: 02/24/23 08:54
			Dilution: 1

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



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (50)
 Acquired: 2023/02/24 - 08:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			MI2 Dg 2023-02-24
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

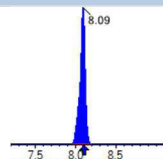
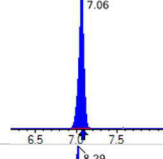
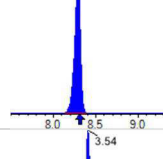
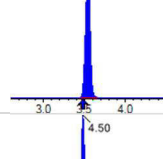
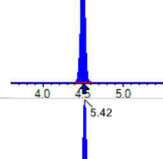
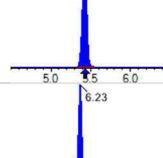
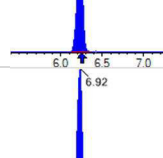
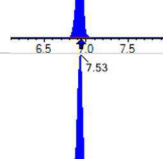
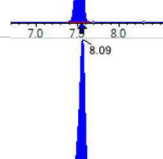
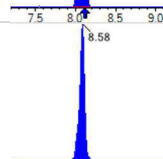
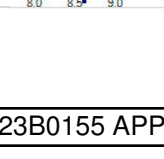


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (50)
 Acquired: 2023/02/24 - 08:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 268026	(3.54, N/A) (N/A, 0.07, N/A)	1981.6	N/A	1.1966 [1.0000]	119.7% { 98.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 500098	(5.43, N/A) (N/A, -0.01, N/A)	3080.6	N/A	0.9907 [1.0000]	99.1% { 93.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 666412	(6.93, N/A) (N/A, -0.02, N/A)	1019.7	N/A	1.0515 [1.0000]	105.1% { 93.7% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 654128	(7.53, N/A) (N/A, -0.02, N/A)	840.2	N/A	1.0825 [1.0000]	108.3% { 103.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 656746	(8.09, N/A) (N/A, -0.02, N/A)	1409.9	N/A	1.1350 [1.0000]	113.5% { 103.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 970342	(7.06, N/A) (N/A, -0.02, N/A)	1980.6	N/A	1.1331 [1.0000]	113.3% { 90.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1709450	(8.29, N/A) (N/A, -0.02, N/A)	1233.7	N/A	1.1356 [1.0000]	113.6% { 103.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2574313	(3.54, N/A) (N/A, 0.07, N/A)	5948.4	N/A	8.0746 [8.0000]	100.9% { 90.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2235794	(4.50, N/A) (N/A, -0.01, N/A)	2931.9	N/A	4.0861 [4.0000]	102.2% { 81.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1342580	(5.42, N/A) (N/A, -0.01, N/A)	2272.8	N/A	1.9600 [2.0000]	98.0% { 83.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1187933	(6.23, N/A) (N/A, -0.01, N/A)	2051.5	N/A	2.0015 [2.0000]	100.1% { 77.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1402413	(6.92, N/A) (N/A, -0.01, N/A)	1524.1	N/A	1.8582 [2.0000]	92.9% { 82.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 578035	(7.53, N/A) (N/A, -0.02, N/A)	1313.3	N/A	0.8340 [1.0000]	83.4% { 77.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 715795	(8.09, N/A) (N/A, -0.02, N/A)	2043.4	N/A	0.8644 [1.0000]	86.4% { 77.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 744377	(8.58, N/A) (N/A, -0.02, N/A)	1523.9	N/A	0.9040 [1.0000]	90.4% { 80.6% }			

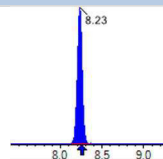
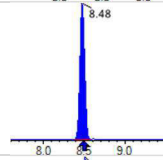
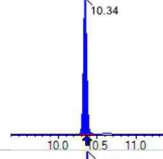
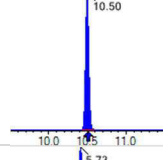
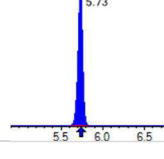


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BLK1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (50)
 Acquired: 2023/02/24 - 08:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 631969	(8.88, N/A) (N/A, -0.02, N/A)	1831.0	N/A	0.8949 [1.0000]	89.5% { 76.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 622539	(9.26, N/A) (N/A, -0.01, N/A)	2075.9	N/A	0.9620 [1.0000]	96.2% { 79.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3981116	(5.39, N/A) (N/A, -0.01, N/A)	3755.4	N/A	1.9603 [2.0000]	98.0% { 81.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1991169	(7.06, N/A) (N/A, -0.02, N/A)	2273.2	N/A	1.8876 [2.0000]	94.4% { 82.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4169633	(8.29, N/A) (N/A, -0.02, N/A)	1766.0	N/A	1.7767 [2.0000]	88.8% { 78.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 495176	(5.17, N/A) (N/A, -0.01, N/A)	2356.5	N/A	4.4174 [4.0000]	110.4% { 88.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 480533	(6.66, N/A) (N/A, -0.01, N/A)	1104.7	N/A	3.9052 [4.0000]	97.6% { 69.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 602007	(7.83, N/A) (N/A, -0.02, N/A)	2522.5	N/A	3.4629 [4.0000]	86.6% { 70.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6558014	(9.82, N/A) (N/A, -0.01, N/A)	3613.7	N/A	1.5054 [2.0000]	75.3% { 72.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 836899	(10.40, N/A) (N/A, -0.01, N/A)	1896.4	N/A	0.8154 [2.0000]	40.8% { 43.1% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 779774	(10.55, N/A) (N/A, -0.01, N/A)	2611.0	N/A	0.8490 [2.0000]	42.5% { 43.5% }			

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 1185526	(8.23, N/A) (N/A, -0.02, N/A)	1578.1	N/A	3.1216 [4.0000]	78.0% { 68.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1022913	(8.48, N/A) (N/A, -0.02, N/A)	4572.6	N/A	3.2894 [4.0000]	82.2% { 71.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3211046	(10.34, N/A) (N/A, -0.01, N/A)	1647.3	N/A	8.5816 [20.0000]	42.9% { 42.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5603014	(10.50, N/A) (N/A, -0.01, N/A)	1773.8	N/A	11.6928 [20.0000]	58.5% { 61.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3306360	(5.73, N/A) (N/A, -0.01, N/A)	3771.5	N/A	7.9275 [8.0000]	99.1% { 79.2% }			

ANALYSIS DATA SHEET

LCS

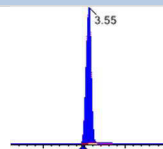
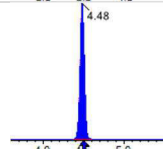
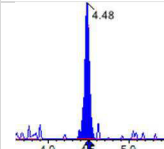
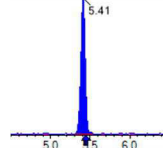
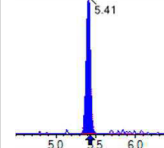
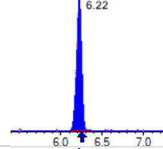
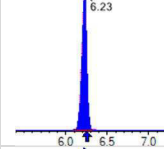
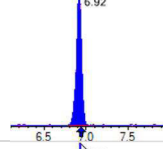
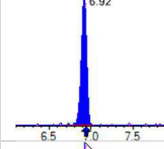
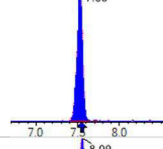
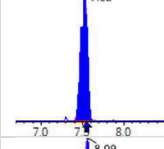
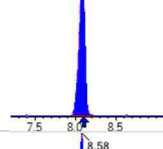
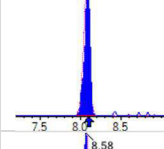
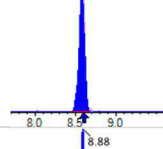
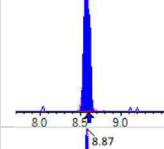
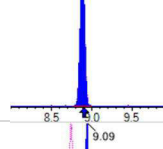
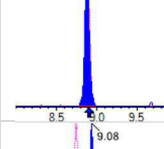
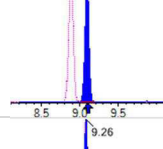
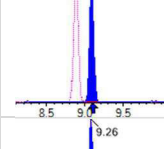
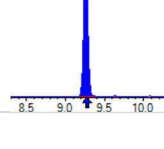
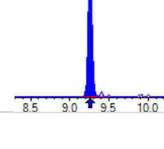
Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BS1
Sampled:		Prepared:	02/22/23 15:43
Solids:		Preparation:	EPA 1633
Batch:	BCB0392	Sequence:	SC00790
Column:	1	Calibration:	2307007
		Instrument:	Saphira
		File ID:	S2023-02-23B (51)
		Analyzed:	02/24/23 09:06
		Dilution:	1

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	17.6	1.6	0.21	
PFPEA	9.02	0.80	0.065	
PFHXA	4.34	0.40	0.055	
PFHPA	4.01	0.40	0.041	
PFOA	4.39	0.40	0.15	
PFNA	4.82	0.40	0.082	
PFDA	4.65	0.40	0.10	
PFUnA	4.47	0.40	0.16	
PFDOA	4.44	0.40	0.11	
PFTRDA	4.81	0.40	0.20	
PFTEDA	4.42	0.40	0.20	
PFBS	3.46	0.40	0.037	
PFPEs	4.00	0.40	0.063	
PFHXS	3.75	0.40	0.032	
PFHPS	4.42	0.40	0.051	
PFOS	4.40	0.40	0.064	
PFNS	4.07	0.40	0.12	
PFDS	4.01	0.40	0.15	
PFDOS	3.78	0.40	0.12	
4:2FTS	19.2	1.6	0.29	
6:2FTS	16.8	1.6	0.31	
8:2FTS	19.1	1.6	0.082	
PFOSA	4.97	0.40	0.10	
NMeFOSA	17.0	1.6	0.47	
NEtFOSA	19.2	1.6	0.41	
NMeFOSAA	4.80	0.40	0.11	
NEtFOSAA	4.04	0.40	0.11	
NMeFOSE	18.3	1.6	1.0	
NEtFOSE	17.8	1.6	1.0	
HFPO-DA	8.67	0.80	0.17	

ANALYSIS DATA SHEET**LCS**

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-BS1
Sampled:		Prepared:	02/22/23 15:43
Solids:		Preparation:	EPA 1633
Batch:	BCB0392	Sequence:	SC00790
Column:	1	Calibration:	2307007
			Instrument: Saphira
			File ID: S2023-02-23B (51)
			Analyzed: 02/24/23 09:06
			Dilution: 1

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	8.80	0.80	0.12	
PFEESA	8.60	0.80	0.11	
PFMPA	9.50	0.80	0.054	
PFMBA	8.50	0.80	0.091	
NFDHA	9.38	0.80	0.30	
9CL-PF3ONS	7.98	0.80	0.21	
11CL-PF3OUDS	8.23	0.80	0.21	
3:3FTCA	19.2	1.6	0.57	
5:3FTCA	16.4	1.6	0.44	
7:3FTCA	17.3	1.6	0.55	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1222996	(3.55, 1.00) (0.00, N/A, 0.0)	213.0	N/A 0.0 0.0	4.4037 [4.0000]	110.1%			
PFPeA	(263.0 / 219.0) 1071256 (263.0 / 69.0) 11075	(4.48, 1.00) (0.00, N/A, 0.1)	1586.9 92.0	0.0103 96.5 85.8	2.2538 [2.0000]	112.7%			
PFHxA	(313.0 / 269.0) 635176 (313.0 / 119.0) 68342	(5.41, 1.00) (0.00, N/A, 0.1)	969.5 8042.9	0.1076 108.0 103.8	1.0850 [1.0000]	108.5%			
PFHpA	(363.0 / 319.0) 523004 (363.0 / 169.0) 163154	(6.22, 1.00) (0.00, N/A, -0.2)	1947.2 7752.4	0.3120 97.3 99.0	1.0023 [1.0000]	100.2%			
PFOA	(413.0 / 369.0) 690420 (413.0 / 169.0) 229441	(6.92, 1.00) (0.00, N/A, 0.0)	1300.4 4515.8	0.3323 99.3 107.9	1.0969 [1.0000]	109.7%			
PFNA	(463.0 / 419.0) 672061 (463.0 / 169.0) 114955	(7.53, 1.00) (0.00, N/A, 0.1)	2968.2 1581132.4	0.1710 76.4 78.6	1.2052 [1.0000]	120.5%			
PFDA	(513.0 / 469.0) 747531 (513.0 / 169.0) 96742	(8.09, 1.00) (0.00, N/A, -0.2)	965.2 465.6	0.1294 106.4 121.7	1.1614 [1.0000]	116.1%			
PFUnA	(563.0 / 519.0) 628335 (563.0 / 169.0) 68653	(8.58, 1.00) (0.00, N/A, 0.1)	1025.7 3760.6	0.1093 104.2 85.9	1.1171 [1.0000]	111.7%			
PFDoA	(613.0 / 569.0) 622661 (613.0 / 169.0) 101709	(8.88, 1.00) (0.00, N/A, 0.5)	1152.0 4261.0	0.1633 99.9 100.3	1.1108 [1.0000]	111.1%			
PFTrDA	(663.0 / 619.0) 610883 (663.0 / 169.0) 139052	(9.09, 1.02) (N/A, -0.01, 0.3)	2249.0 992.3	0.2276 95.2 92.3	1.2036 [1.0000]	120.4%			
PFTeDA	(713.0 / 669.0) 625496 (713.0 / 169.0) 125747	(9.26, 1.00) (0.00, N/A, 0.1)	1162.7 397.5	0.2010 97.3 91.5	1.1046 [1.0000]	110.5%			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (51)
 Acquired: 2023/02/24 - 09:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1117363 (299.0 / 99.0) 701713	(5.37, 1.00) (0.00, N/A, -0.1)	1927.5 1530.9	0.6280 97.1 102.1	0.8640 [0.8847]	97.7%			
PFPeS	(349.0 / 80.0) 1936285 (349.0 / 99.0) 643426	(6.30, 0.89) (N/A, -0.03, 0.2)	13921523.0 5795.5	0.3323 93.1 101.5	1.0005 [0.9384]	106.6%			
PFHxS	(399.0 / 80.0) 1446963 (399.0 / 99.0) 491466	(7.06, 1.00) (0.00, N/A, 0.2)	72283.6 10192.5	0.3397 104.6 105.3	0.9377 [0.9110]	102.9%			
PFHpS	(449.0 / 80.0) 1712857 (449.0 / 99.0) 481010	(7.70, 0.93) (N/A, -0.02, 0.0)	86956.9 9982403.6	0.2808 103.2 106.1	1.1050 [0.9514]	116.1%			
PFOS	(499.0 / 80.0) 2359330 (499.0 / 99.0) 479290	(8.28, 1.00) (0.00, N/A, 0.1)	676.2 582.0	0.2031 91.8 97.9	1.0998 [0.9275]	118.6%			
PFNS	(549.0 / 80.0) 2453871 (549.0 / 99.0) 612440	(8.73, 1.05) (N/A, -0.02, 0.0)	10518.0 532432.8	0.2496 113.8 111.2	1.0179 [0.9599]	106.0%			
PFDS	(599.0 / 80.0) 2630849 (599.0 / 99.0) 574530	(8.98, 1.08) (N/A, -0.01, 0.0)	2225.9 1285.8	0.2184 100.2 109.7	1.0032 [0.9631]	104.2%			
PFDoS	(699.0 / 80.0) 1579597 (699.0 / 99.0) 340196	(9.33, 1.13) (N/A, -0.01, -0.1)	1798.7 939.7	0.2154 103.5 104.5	0.9444 [0.9696]	97.4%			
4:2FTS	(327.0 / 307.0) 1541797 (327.0 / 81.0) 969821	(5.15, 1.00) (0.00, N/A, 0.0)	2617.7 1101.4	0.6290 93.2 98.3	4.7895 [3.7381]	128.1%			
6:2FTS	(427.0 / 407.0) 725450 (427.0 / 81.0) 608266	(6.65, 1.00) (0.00, N/A, -0.1)	1311.2 868.2	0.8385 101.3 102.8	4.1905 [3.7962]	110.4%			
8:2FTS	(527.0 / 507.0) 793064 (527.0 / 81.0) 621366	(7.83, 1.00) (0.00, N/A, 0.1)	2107.8 980.7	0.7835 94.3 96.2	4.7799 [3.8332]	124.7%			

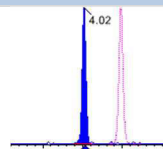
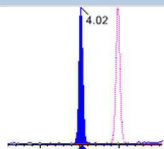
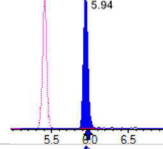
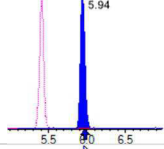
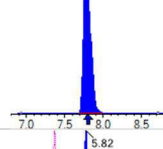
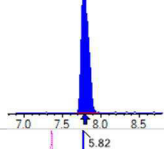
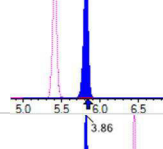
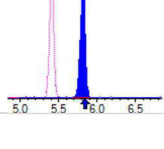
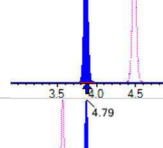
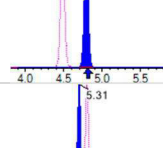
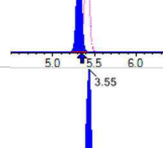
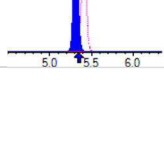
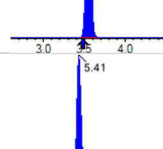
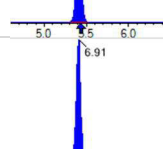
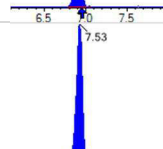
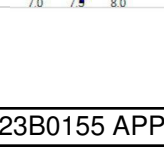


Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (51)
 Acquired: 2023/02/24 - 09:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3156080 (498.0 / 478.0) 67449	(9.82, 1.00) (0.00, N/A, 0.0)	2544.6 470.1	0.0214 104.0 109.9	1.2426 [1.0000]	124.3%			
NMeFOSA	(512.0 / 219.0) 1436551 (512.0 / 169.0) 1181561	(10.41, 1.00) (0.00, N/A, 1.0)	3381.3 2765.8	0.8225 100.4 99.8	4.2554 [4.0000]	106.4%			
NEtFOSA	(526.0 / 219.0) 1575162 (526.0 / 169.0) 1929886	(10.55, 1.00) (0.00, N/A, 0.8)	4373.3 3966.1	1.2252 96.5 97.1	4.7879 [4.0000]	119.7%			
NMeFOSAA	(570.0 / 419.0) 289525 (570.0 / 483.0) 143990	(8.23, 1.00) (0.00, N/A, 0.0)	1313.1 320.2	0.4973 104.8 106.4	1.2012 [1.0000]	120.1%			
NEtFOSAA	(584.0 / 419.0) 216440 (584.0 / 526.0) 131290	(8.49, 1.00) (0.01, N/A, 0.1)	22013.6 2680.0	0.6066 118.9 111.1	1.0088 [1.0000]	100.9%			
NMeFOSE	(616.0 / 59.0) 778799	(10.36, 1.00) (0.01, N/A, 0.0)	1163.8	N/A 0.0 0.0	4.5802 [4.0000]	114.5%			
NEtFOSE	(630.0 / 59.0) 1217006	(10.51, 1.00) (0.01, N/A, 0.0)	1227.5	N/A 0.0 0.0	4.4597 [4.0000]	111.5%			
HFPO-DA	(285.0 / 169.0) 710763 (285.0 / 185.0) 1899997	(5.72, 1.00) (0.00, N/A, 0.0)	3629.6 2518.5	2.6732 97.1 99.1	2.1680 [2.0000]	108.4%			
ADONA	(377.0 / 85.0) 2481361 (377.0 / 251.0) 222292	(6.50, 1.14) (N/A, -0.02, -0.1)	2195.9 5594.5	0.0896 101.6 96.2	2.2008 [1.8854]	116.7%			
9CI-Pf3ONS	(531.0 / 351.0) 7119630 (533.0 / 353.0) 2172349	(8.64, 1.51) (N/A, -0.02, -0.1)	1988.0 1330.5	0.3051 87.6 88.2	1.9952 [1.8665]	106.9%			
11CI-PF3OUDS	(631.0 / 451.0) 3777382 (633.0 / 453.0) 1331773	(9.14, 1.60) (N/A, -0.01, -0.1)	2382.8 2414.2	0.3526 97.4 99.7	2.0566 [1.8864]	109.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 54593 (241.0 / 117.0) 87334	(4.02, 0.90) (N/A, -0.01, 0.1)	590.0 385.3	1.5997 101.4 103.5	4.8095 [4.0000]	120.2%			
5:3FTCA	(341.0 / 236.7) 329197 (341.0 / 217.0) 575857	(5.94, 1.10) (N/A, -0.03, 0.1)	695.0 1017.4	1.7493 102.6 98.9	4.1121 [4.0000]	102.8%			
7:3FTCA	(441.0 / 317.0) 640066 (441.0 / 337.0) 520371	(7.79, 1.44) (N/A, -0.02, 0.0)	939.0 776.5	0.8130 94.5 98.4	4.3280 [4.0000]	108.2%			
PFEESA	(315.0 / 135.0) 1512296 (315.0 / 83.0) 400365	(5.82, 1.08) (N/A, -0.03, -0.1)	2932.9 786.7	0.2647 103.7 95.5	2.1504 [1.7849]	120.5%			
PFMPA	(229.0 / 85.0) 246461	(3.86, 0.86) (N/A, -0.01, 0.0)	2239.7	N/A 0.0 0.0	2.3739 [2.0000]	118.7%			
PFMBA	(279.0 / 85.0) 924794	(4.79, 1.07) (N/A, -0.03, 0.0)	3656.5	N/A 0.0 0.0	2.1241 [2.0000]	106.2%			
NFDHA	(295.0 / 201.0) 761880 (295.0 / 85.0) 777031	(5.31, 0.98) (N/A, -0.03, 0.1)	3286.4 1979.4	1.0199 101.9 101.2	2.3447 [2.0000]	117.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 292699	(3.55, N/A) (N/A, 0.07, N/A)	2054.4	N/A	1.3067 [1.0000]	130.7% {107.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 536770	(5.41, N/A) (N/A, -0.03, N/A)	3358.8	N/A	1.0633 [1.0000]	106.3% {100.3%}			
13C4_PFOA_IIS	(417.0 / 372.0) 616185	(6.91, N/A) (N/A, -0.03, N/A)	1223.3	N/A	0.9722 [1.0000]	97.2% {86.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 591115	(7.53, N/A) (N/A, -0.02, N/A)	20414.5	N/A	0.9782 [1.0000]	97.8% {93.3%}			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (51)
 Acquired: 2023/02/24 - 09:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 647958	(8.09, N/A) (N/A, -0.02, N/A)	3181.1	N/A	1.1198 [1.0000]	112.0% { 102.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1015756	(7.06, N/A) (N/A, -0.02, N/A)	1256.8	N/A	1.1861 [1.0000]	118.6% { 94.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1662543	(8.29, N/A) (N/A, -0.02, N/A)	1198.4	N/A	1.1044 [1.0000]	110.4% { 100.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2682146	(3.55, N/A) (N/A, 0.08, N/A)	5299.6	N/A	7.7037 [8.0000]	96.3% { 94.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2310870	(4.48, N/A) (N/A, -0.02, N/A)	3922.4	N/A	3.9348 [4.0000]	98.4% { 84.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1331821	(5.41, N/A) (N/A, -0.03, N/A)	3230.6	N/A	1.8114 [2.0000]	90.6% { 82.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1235850	(6.22, N/A) (N/A, -0.03, N/A)	1735.1	N/A	1.9400 [2.0000]	97.0% { 80.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1413827	(6.92, N/A) (N/A, -0.02, N/A)	1717.2	N/A	2.0260 [2.0000]	101.3% { 83.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 630256	(7.53, N/A) (N/A, -0.02, N/A)	1640.5	N/A	1.0063 [1.0000]	100.6% { 84.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 731728	(8.08, N/A) (N/A, -0.02, N/A)	3514.0	N/A	0.8957 [1.0000]	89.6% { 79.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 677020	(8.58, N/A) (N/A, -0.02, N/A)	1625.9	N/A	0.8334 [1.0000]	83.3% { 73.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (51)
 Acquired: 2023/02/24 - 09:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 637458	(8.88, N/A) (N/A, -0.02, N/A)	1841.9	N/A	0.9149 [1.0000]	91.5% { 77.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 654399	(9.26, N/A) (N/A, -0.01, N/A)	1201.5	N/A	1.0250 [1.0000]	102.5% { 83.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 4161965	(5.37, N/A) (N/A, -0.02, N/A)	5529.3	N/A	1.9578 [2.0000]	97.9% { 85.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2006926	(7.06, N/A) (N/A, -0.02, N/A)	1919.2	N/A	1.8175 [2.0000]	90.9% { 83.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4068656	(8.28, N/A) (N/A, -0.02, N/A)	1152.8	N/A	1.7826 [2.0000]	89.1% { 76.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 471465	(5.15, N/A) (N/A, -0.03, N/A)	1033.5	N/A	4.0178 [4.0000]	100.4% { 84.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 488027	(6.65, N/A) (N/A, -0.02, N/A)	1366.3	N/A	3.7888 [4.0000]	94.7% { 71.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 609289	(7.83, N/A) (N/A, -0.02, N/A)	1251.4	N/A	3.3481 [4.0000]	83.7% { 71.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6351070	(9.82, N/A) (N/A, -0.01, N/A)	2629.8	N/A	1.4990 [2.0000]	75.0% { 70.0% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 795800	(10.41, N/A) (N/A, -0.01, N/A)	2040.5	N/A	0.7972 [2.0000]	39.9% { 41.0% }			
D5_NEtFOsa_EIS	(531.0 / 169.0) 704289	(10.56, N/A) (N/A, -0.01, N/A)	2595.0	N/A	0.7885 [2.0000]	39.4% { 39.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-BS1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (51)
 Acquired: 2023/02/24 - 09:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1228496	(8.23, N/A) (N/A, -0.02, N/A)	1643.5	N/A	3.3260 [4.0000]	83.2% { 71.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1021841	(8.48, N/A) (N/A, -0.02, N/A)	13579.9	N/A	3.3787 [4.0000]	84.5% { 71.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3401575	(10.35, N/A) (N/A, 0.00, N/A)	1857.4	N/A	9.3473 [20.0000]	46.7% { 44.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5735180	(10.50, N/A) (N/A, -0.01, N/A)	2011.8	N/A	12.3063 [20.0000]	61.5% { 62.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3316588	(5.72, N/A) (N/A, -0.03, N/A)	2736.9	N/A	7.4087 [8.0000]	92.6% { 79.4% }			

ANALYSIS DATA SHEET**MRL Check**

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-MRL1
Sampled:		File ID:	S2023-02-23B (52)
Solids:		Prepared:	02/22/23 15:43
Batch:	BCB0392	Analyzed:	02/24/23 09:19
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2307007
		Instrument:	Saphira
		Sequence:	SC00790

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.86	1.6	0.21	
PFPEA	0.933	0.80	0.065	
PFHXA	0.493	0.40	0.055	
PFHPA	0.467	0.40	0.041	
PFOA	0.565	0.40	0.15	
PFNA	0.473	0.40	0.082	
PFDA	0.425	0.40	0.10	
PFUnA	0.402	0.40	0.16	
PFDOA	0.480	0.40	0.11	
PFTRDA	0.417	0.40	0.20	
PFTEDA	0.462	0.40	0.20	
PFBS	0.354	0.40	0.037	J
PFPEs	0.401	0.40	0.063	
PFHXS	0.480	0.40	0.032	
PFHPS	0.534	0.40	0.051	
PFOS	0.552	0.40	0.064	
PFNS	0.459	0.40	0.12	
PFDS	0.442	0.40	0.15	
PFDOS	0.433	0.40	0.12	
4:2FTS	1.71	1.6	0.29	
6:2FTS	1.75	1.6	0.31	
8:2FTS	1.85	1.6	0.082	
PFOSA	0.504	0.40	0.10	
NMeFOSA	1.96	1.6	0.47	
NEtFOSA	1.92	1.6	0.41	
NMeFOSAA	0.550	0.40	0.11	
NEtFOSAA	0.567	0.40	0.11	
NMeFOSE	1.89	1.6	1.0	
NEtFOSE	1.87	1.6	1.0	
HFPO-DA	0.889	0.88	0.17	

ANALYSIS DATA SHEET**MRL Check**

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	BCB0392-MRL1
Sampled:		Prepared:	02/22/23 15:43
Solids:		Preparation:	EPA 1633
Batch:	BCB0392	Sequence:	SC00790
Column:	1	Calibration:	2307007
			Instrument: Saphira
			File ID: S2023-02-23B (52)
			Analyzed: 02/24/23 09:19
			Dilution: 1

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.883	0.80	0.12	
PFEESA	0.774	0.80	0.11	J
PFMPA	0.960	0.80	0.054	
PFMBA	0.912	0.80	0.091	
NFDHA	0.869	0.80	0.30	
9CL-PF3ONS	0.992	0.80	0.21	
11CL-PF3OUDS	0.835	0.80	0.21	
3:3FTCA	2.19	1.6	0.57	
5:3FTCA	1.74	1.6	0.44	
7:3FTCA	1.54	1.6	0.55	J



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (52)
 Acquired: 2023/02/24 - 09:19

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) 115526	(3.55, 1.00) (0.00, N/A, 0.0)	96.6	N/A 0.0 0.0	0.4649 [0.4000]	116.2%			
PFPeA	(263.0 / 219.0) 102941 (263.0 / 69.0) 1121	(4.50, 1.00) (0.00, N/A, 1.3)	279.3 9.7	0.0109 101.7 90.4	0.2332 [0.2000]	116.6%			
PFHxA	(313.0 / 269.0) 71036 (313.0 / 119.0) 6982	(5.43, 1.00) (0.00, N/A, -0.2)	119.4 599161.2	0.0983 98.7 94.8	0.1233 [0.1000]	123.3%			
PFHpA	(363.0 / 319.0) 54684 (363.0 / 169.0) 12230	(6.27, 1.00) (0.01, N/A, 0.3)	354.0 33767.6	0.2237 69.8 71.0	0.1166 [0.1000]	116.6%			
PFOA	(413.0 / 369.0) 82441 (413.0 / 169.0) 30578	(6.96, 1.00) (0.01, N/A, 0.9)	263.7 540.5	0.3709 110.9 120.4	0.1412 [0.1000]	141.2%			QC,
PFNA	(463.0 / 419.0) 66596 (463.0 / 169.0) 18840	(7.57, 1.00) (0.00, N/A, -0.3)	1084.4 19436394.3	0.2829 126.4 130.0	0.1183 [0.1000]	118.3%			
PFDA	(513.0 / 469.0) 65040 (513.0 / 169.0) 8809	(8.12, 1.00) (0.00, N/A, -0.2)	123.5 186802.2	0.1354 111.4 127.3	0.1063 [0.1000]	106.3%			
PFUnA	(563.0 / 519.0) 55739 (563.0 / 169.0) 7052	(8.62, 1.00) (0.00, N/A, 0.9)	205.3 156.1	0.1265 120.7 99.4	0.1005 [0.1000]	100.5%			
PFDoA	(613.0 / 569.0) 68843 (613.0 / 169.0) 15246	(8.90, 1.00) (0.00, N/A, 0.7)	411.0 282.7	0.2215 135.4 136.0	0.1199 [0.1000]	119.9%			
PFTrDA	(663.0 / 619.0) 54200 (663.0 / 169.0) 17405	(9.11, 1.02) (N/A, 0.00, 0.3)	542.7 610.8	0.3211 134.4 130.2	0.1043 [0.1000]	104.3%			
PFTeDA	(713.0 / 669.0) 58934 (713.0 / 169.0) 13035	(9.28, 1.00) (0.00, N/A, 0.2)	436.4 525.9	0.2212 107.0 100.7	0.1156 [0.1000]	115.6%			

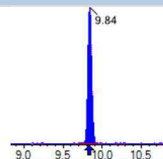
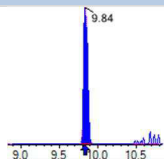
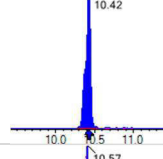
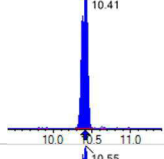
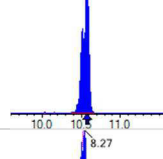
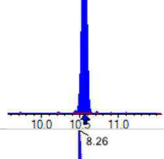
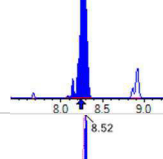
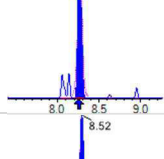
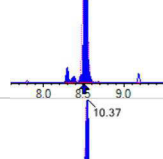
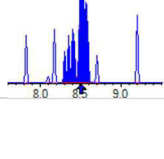
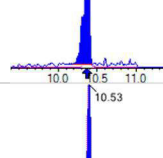
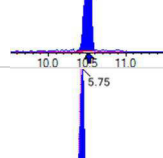
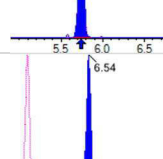
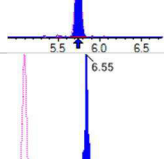
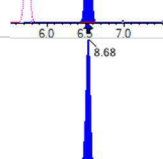
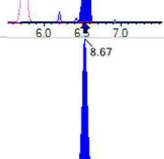
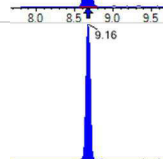
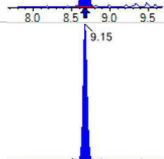
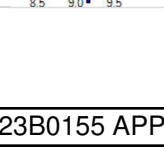
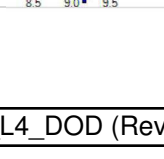


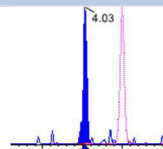
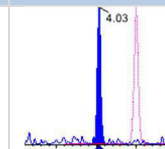
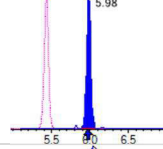
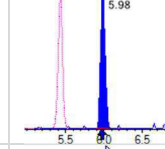
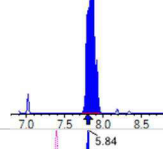
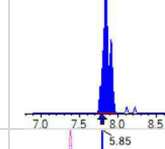
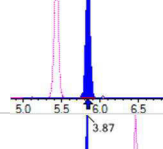
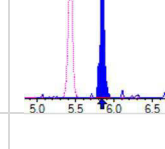
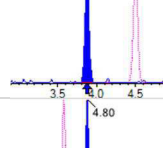
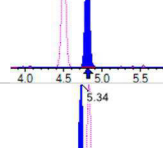
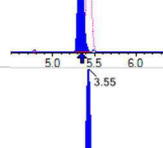
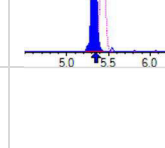
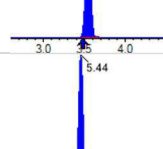
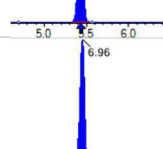
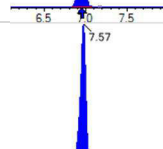
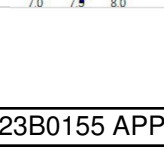
Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (52)
 Acquired: 2023/02/24 - 09:19

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) 107038 (299.0 / 99.0) 76461	(5.39, 1.00) (0.00, N/A, -0.4)	341.5 341.5	0.7143 110.5 116.1	0.0885 [0.0885]	100.1%			
PFPeS	(349.0 / 80.0) 184847 (349.0 / 99.0) 49218	(6.33, 0.89) (N/A, 0.01, 0.6)	41088.9 666722.8	0.2663 74.6 81.3	0.1002 [0.0938]	106.8%			
PFHxS	(399.0 / 80.0) 176532 (399.0 / 99.0) 56828	(7.10, 1.00) (0.00, N/A, 0.0)	2453260.2 38483.1	0.3219 99.1 99.8	0.1200 [0.0911]	131.8%			QC,
PFHpS	(449.0 / 80.0) 190146 (449.0 / 99.0) 38642	(7.75, 0.93) (N/A, 0.02, 0.2)	3286.9 667.5	0.2032 74.7 76.7	0.1334 [0.0951]	140.2%			QC,
PFOS	(499.0 / 80.0) 272313 (499.0 / 99.0) 50603	(8.32, 1.00) (-0.01, N/A, 0.2)	59.0 142.3	0.1858 84.0 89.5	0.1381 [0.0927]	148.9%			QC,
PFNS	(549.0 / 80.0) 254479 (549.0 / 99.0) 60854	(8.76, 1.05) (N/A, 0.01, 0.0)	37753.7 14857.1	0.2391 109.1 106.6	0.1148 [0.0960]	119.6%			
PFDS	(599.0 / 80.0) 266631 (599.0 / 99.0) 55619	(9.00, 1.08) (N/A, 0.01, -0.1)	437.9 825.5	0.2086 95.7 104.8	0.1106 [0.0963]	114.8%			
PFDoS	(699.0 / 80.0) 166496 (699.0 / 99.0) 29743	(9.35, 1.12) (N/A, 0.00, -0.2)	650.8 494.7	0.1786 85.8 86.7	0.1083 [0.0970]	111.7%			
4:2FTS	(327.0 / 307.0) 141105 (327.0 / 81.0) 96454	(5.17, 1.00) (0.00, N/A, 0.1)	1143.3 300.4	0.6836 101.3 106.8	0.4276 [0.3738]	114.4%			
6:2FTS	(427.0 / 407.0) 76669 (427.0 / 81.0) 58254	(6.68, 1.00) (-0.01, N/A, -0.1)	15401.4 434.4	0.7598 91.8 93.2	0.4366 [0.3796]	115.0%			
8:2FTS	(527.0 / 507.0) 70764 (527.0 / 81.0) 65001	(7.87, 1.00) (0.00, N/A, 0.6)	144.2 299.4	0.9186 110.5 112.7	0.4630 [0.3833]	120.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (Δ RT-[min], Δ RT- CV[min], Δ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 314184 (498.0 / 478.0) 9319	(9.84, 1.00) (0.00, N/A, -0.1)	489.3 257.1	0.0297 144.4 152.5	0.1260 [0.1000]	126.0%			
NMeFOSA	(512.0 / 219.0) 163333 (512.0 / 169.0) 141379	(10.42, 1.00) (0.00, N/A, 1.0)	839.7 1149.7	0.8656 105.7 105.0	0.4911 [0.4000]	122.8%			
NEtFOSA	(526.0 / 219.0) 186626 (526.0 / 169.0) 241543	(10.57, 1.00) (0.00, N/A, 0.8)	1630.6 1144.9	1.2943 102.0 102.5	0.4799 [0.4000]	120.0%			
NMeFOSAA	(570.0 / 419.0) 34213 (570.0 / 483.0) 15951	(8.27, 1.00) (0.00, N/A, 0.4)	1243422.6 268.1	0.4662 98.2 99.8	0.1375 [0.1000]	137.5%			QC,
NEtFOSAA	(584.0 / 419.0) 33245 (584.0 / 526.0) 18352	(8.52, 1.00) (0.01, N/A, 0.4)	92386.0 6157.8	0.5520 108.2 101.1	0.1417 [0.1000]	141.7%			QC,
NMeFOSE	(616.0 / 59.0) 79799	(10.37, 1.00) (0.01, N/A, 0.0)	195.6	N/A 0.0 0.0	0.4731 [0.4000]	118.3%			
NEtFOSE	(630.0 / 59.0) 125679	(10.53, 1.00) (0.01, N/A, 0.0)	267.6	N/A 0.0 0.0	0.4671 [0.4000]	116.8%			
HFPO-DA	(285.0 / 169.0) 69541 (285.0 / 185.0) 187215	(5.75, 1.00) (0.01, N/A, 0.7)	3270.5 761.6	2.6921 97.7 99.8	0.2222 [0.2000]	111.1%			
ADONA	(377.0 / 85.0) 237530 (377.0 / 251.0) 27994	(6.54, 1.14) (N/A, 0.01, -0.6)	1741.4 7158.2	0.1179 133.7 126.6	0.2207 [0.1885]	117.0%			
9CI-Pf3ONS	(531.0 / 351.0) 704103 (533.0 / 353.0) 221058	(8.68, 1.51) (N/A, 0.01, 0.4)	736.7 350.9	0.3140 90.2 90.7	0.2481 [0.1867]	132.9%			QC,
11CI-PF3OUDS	(631.0 / 451.0) 366031 (633.0 / 453.0) 137935	(9.16, 1.59) (N/A, 0.01, 0.1)	954.3 850.6	0.3768 104.2 106.5	0.2088 [0.1886]	110.7%			

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) 5625 (241.0 / 117.0) 11183	(4.03, 0.90) (N/A, 0.00, 0.0)	160.8 99.6	1.9881 126.0 128.6	0.5475 [0.4000]	136.9%			QC,
5:3FTCA	(341.0 / 236.7) 34368 (341.0 / 217.0) 58796	(5.98, 1.10) (N/A, 0.02, 0.0)	2126.2 386.5	1.7108 100.3 96.8	0.4362 [0.4000]	109.0%			
7:3FTCA	(441.0 / 317.0) 56111 (441.0 / 337.0) 63614	(7.84, 1.44) (N/A, 0.03, -0.4)	421.8 893.2	1.1337 131.7 137.2	0.3855 [0.4000]	96.4%			
PFEESA	(315.0 / 135.0) 133997 (315.0 / 83.0) 49922	(5.84, 1.08) (N/A, 0.00, -0.2)	133982.6 250.8	0.3726 145.9 134.4	0.1936 [0.1785]	108.5%			
PFMPA	(229.0 / 85.0) 23131	(3.87, 0.86) (N/A, 0.00, 0.0)	360.6	N/A 0.0 0.0	0.2399 [0.2000]	120.0%			
PFMBA	(279.0 / 85.0) 92170	(4.80, 1.07) (N/A, -0.01, 0.0)	887.4	N/A 0.0 0.0	0.2280 [0.2000]	114.0%			
NFDHA	(295.0 / 201.0) 69463 (295.0 / 85.0) 80838	(5.34, 0.98) (N/A, -0.01, 0.0)	113956.7 701.5	1.1638 116.2 115.5	0.2172 [0.2000]	108.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 265345	(3.55, N/A) (N/A, 0.07, N/A)	2155.6	N/A	1.1846 [1.0000]	118.5% {97.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 489640	(5.44, N/A) (N/A, 0.00, N/A)	1452.8	N/A	0.9700 [1.0000]	97.0% {91.5%}			
13C4_PFOA_IIS	(417.0 / 372.0) 616116	(6.96, N/A) (N/A, 0.02, N/A)	978.1	N/A	0.9721 [1.0000]	97.2% {86.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 577850	(7.57, N/A) (N/A, 0.02, N/A)	1477.2	N/A	0.9563 [1.0000]	95.6% {91.2%}			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (52)
 Acquired: 2023/02/24 - 09:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 569783	(8.12, N/A) (N/A, 0.01, N/A)	1504.3	N/A	0.9847 [1.0000]	98.5% { 90.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 895487	(7.10, N/A) (N/A, 0.02, N/A)	1764.7	N/A	1.0457 [1.0000]	104.6% { 83.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1503306	(8.32, N/A) (N/A, 0.02, N/A)	1367.0	N/A	0.9986 [1.0000]	99.9% { 90.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2399665	(3.55, N/A) (N/A, 0.07, N/A)	4814.2	N/A	7.6029 [8.0000]	95.0% { 84.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2146029	(4.50, N/A) (N/A, 0.00, N/A)	3192.5	N/A	4.0058 [4.0000]	100.1% { 78.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1310816	(5.43, N/A) (N/A, 0.00, N/A)	2898.2	N/A	1.9545 [2.0000]	97.7% { 81.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1110376	(6.26, N/A) (N/A, 0.01, N/A)	1499.0	N/A	1.9108 [2.0000]	95.5% { 72.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1311740	(6.96, N/A) (N/A, 0.02, N/A)	1971.5	N/A	1.8799 [2.0000]	94.0% { 77.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 636115	(7.57, N/A) (N/A, 0.02, N/A)	1389.9	N/A	1.0390 [1.0000]	103.9% { 84.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 695551	(8.12, N/A) (N/A, 0.02, N/A)	1979.3	N/A	0.9682 [1.0000]	96.8% { 75.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 667800	(8.61, N/A) (N/A, 0.01, N/A)	178531.7	N/A	0.9348 [1.0000]	93.5% { 72.3% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (52)
 Acquired: 2023/02/24 - 09:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 652911	(8.91, N/A) (N/A, 0.01, N/A)	1228.0	N/A	1.0656 [1.0000]	106.6% { 79.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 589344	(9.28, N/A) (N/A, 0.01, N/A)	1310.3	N/A	1.0497 [1.0000]	105.0% { 75.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 3891383	(5.39, N/A) (N/A, -0.01, N/A)	3845.3	N/A	2.0763 [2.0000]	103.8% { 79.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1912828	(7.10, N/A) (N/A, 0.02, N/A)	1347.5	N/A	1.9649 [2.0000]	98.2% { 79.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3741049	(8.32, N/A) (N/A, 0.02, N/A)	1315.5	N/A	1.8127 [2.0000]	90.6% { 70.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 483269	(5.17, N/A) (N/A, -0.01, N/A)	1234.1	N/A	4.6715 [4.0000]	116.8% { 86.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 495006	(6.69, N/A) (N/A, 0.02, N/A)	1172.2	N/A	4.3591 [4.0000]	109.0% { 72.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 561261	(7.87, N/A) (N/A, 0.02, N/A)	1023.7	N/A	3.4984 [4.0000]	87.5% { 65.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 6232860	(9.84, N/A) (N/A, 0.01, N/A)	3900.0	N/A	1.6270 [2.0000]	81.3% { 68.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 887121	(10.42, N/A) (N/A, 0.01, N/A)	2007.6	N/A	0.9829 [2.0000]	49.1% { 45.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 832469	(10.57, N/A) (N/A, 0.01, N/A)	2779.9	N/A	1.0307 [2.0000]	51.5% { 46.4% }			



Chemist: HGH
 Instrument: Saphira
 Type: Sciex Q3 5500

Sample I.D.: BCB0392-MRL1
 DF, IV: 1, 10.0µL
 Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14A
 Path: S2023-02-23B (52)
 Acquired: 2023/02/24 - 09:19

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) 1268022	(8.27, N/A) (N/A, 0.02, N/A)	1770.6	N/A	3.7967 [4.0000]	94.9% { 73.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1117256	(8.51, N/A) (N/A, 0.02, N/A)	3660.8	N/A	4.0854 [4.0000]	102.1% { 78.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3373977	(10.36, N/A) (N/A, 0.01, N/A)	2209.0	N/A	10.2535 [20.0000]	51.3% { 44.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5654184	(10.52, N/A) (N/A, 0.01, N/A)	1934.1	N/A	13.4177 [20.0000]	67.1% { 61.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3166171	(5.75, N/A) (N/A, 0.00, N/A)	2108.6	N/A	7.7535 [8.0000]	96.9% { 75.8% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0155
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Batch:	BCB0392	Batch Matrix:	Water
		Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-HDMW225303-WGN01LF-2302W3	23B0155-01	02/22/23 15:43	556.46	2.00
AF-RHMW10-WGN01LF-2302W3	23B0155-02	02/22/23 15:43	559.04	2.00
AF-RHMW12A-WGN01LF-2302W3	23B0155-03	02/22/23 15:43	547.02	2.00
AF-RHMW12A-WGFD01LF-2302W3	23B0155-04	02/22/23 15:43	561.82	2.00
AF-RHMW16-WGN01LF-2302W3	23B0155-05	02/22/23 15:43	575.60	2.00
Blank	BCB0392-BLK1	02/22/23 15:43	500.00	2.00
LCS	BCB0392-BS1	02/22/23 15:43	500.00	2.00
MRL Check	BCB0392-MRL1	02/22/23 15:43	500.00	2.00

PREPARATION BENCH SHEET

Organics

BCB0392

Print Date/Time: 03/03/2023 4:36 pm

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
23B0141-01	AF-RHMW04-WGN01LF-2302W3	02/28/2023	03/20/2023	2/22/2023 3:43:00PM	580.11	2		200	"Report relevant surrogates"
23B0141-01RE1	AF-RHMW04-WGN01LF-2302W3	02/28/2023	03/20/2023	2/22/2023 3:43:00PM	580.11	2		200	"Report relevant surrogates"
23B0141-02	AF-RHMW06-WGN01LF-2302W3	02/28/2023	03/20/2023	2/22/2023 3:43:00PM	530.09	2		200	"Report relevant surrogates"
23B0141-02RE1	AF-RHMW06-WGN01LF-2302W3	02/28/2023	03/20/2023	2/22/2023 3:43:00PM	530.09	2		200	"Report relevant surrogates"
23B0155-01	AF-HDMW225303-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	556.46	2		200	"Report relevant surrogates"
23B0155-01RE1	AF-HDMW225303-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	556.46	2		200	"Report relevant surrogates"
23B0155-02	AF-RHMW10-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	559.04	2		200	"Report relevant surrogates"
23B0155-02RE1	AF-RHMW10-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	559.04	2		200	"Report relevant surrogates"
23B0155-03	AF-RHMW12A-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	547.02	2		200	"Report relevant surrogates"
23B0155-03RE1	AF-RHMW12A-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	547.02	2		200	"Report relevant surrogates"
23B0155-04	AF-RHMW12A-WGFD01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	561.82	2		200	"Report relevant surrogates"
23B0155-04RE1	AF-RHMW12A-WGFD01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	561.82	2		200	"Report relevant surrogates"
23B0155-05	AF-RHMW16-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	575.6	2		200	"Report relevant surrogates"
23B0155-05RE1	AF-RHMW16-WGN01LF-2302W3	03/01/2023	03/21/2023	2/22/2023 3:43:00PM	575.6	2		200	"Report relevant surrogates"
BCB0392-BLK1	Blank			2/22/2023 3:43:00PM	500	2	0	200	
BCB0392-BS1	LCS			2/22/2023 3:43:00PM	500	2	200	200	
BCB0392-MRL1	MRL Check			2/22/2023 3:43:00PM	500	2	20	200	

Spiking Solution(s)
 23B0398 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
 23B0492 MPFAC-HIF-ES 20.0ng/mL

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

PREPARATION BENCH SHEET

Organics

BCB0392

(Continued)

Print Date/Time: 03/03/2023 4:36 pm

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses

1633

Spiking Solution(s)

23B0398 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)

23B0492 MPFAC-HIF-ES 20.0ng/mL

Start Date/Time _____
 Stop Date/Time _____

<u>Standard</u>	<u>Description</u>	<u>LotNum</u>
22C0296	Envi-carb	122395
23B0001	Reagent -0.3M Formic Acid	M13H051
23B0048	Am. Ac. preservative	*
23B0116	Reagent -0.3M Formic Acid	M13H051
23B0117	Reagent - 1.0% Ammonia Hydroxide	219481
23B0118	Reagent - 0.05MFA wash	x

Batch Comments:

Spiked by: ABK 2/22/23
 Balance #: WB2
 Cartridge: Biotage
 Concentration: 2/23/23 1:34-3:35

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00647
 Calibration: 2307007

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

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC00647-CAL1	S2023-02-14C (1)	02/14/23 17:19
Cal Standard	SC00647-CAL2	S2023-02-14C (2)	02/14/23 17:32
Cal Standard	SC00647-CAL3	S2023-02-14C (3)	02/14/23 17:45
Cal Standard	SC00647-CAL4	S2023-02-14C (4)	02/14/23 17:58
Cal Standard	SC00647-CAL5	S2023-02-14C (5)	02/14/23 18:10
Cal Standard	SC00647-CAL6	S2023-02-14C (6)	02/14/23 18:23
Cal Standard	SC00647-CAL7	S2023-02-14C (7)	02/14/23 18:36
Cal Standard	SC00647-CAL8	S2023-02-14C (8)	02/14/23 18:49
Initial Cal Blank	SC00647-ICB1	S2023-02-14C (9)	02/14/23 19:02
Secondary Cal Check	SC00647-SCV1	S2023-02-14C (10)	02/14/23 19:15

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Sequence: SC00790
 Calibration: 2307007

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

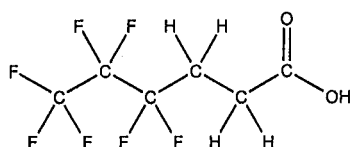
Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC00790-CCB1	S2023-02-23B (1)	02/23/23 22:22
Low Cal Check	SC00790-LCV1	S2023-02-23B (2)	02/23/23 22:35
Calibration Check	SC00790-CCV1	S2023-02-23B (3)	02/23/23 22:48
Performance Mix	SC00790-PEM1	S2023-02-23B (4)	02/23/23 23:01
Performance Mix	SC00790-PEM2	S2023-02-23B (5)	02/23/23 23:14
Calibration Blank	SC00790-CCB2	S2023-02-23B (6)	02/23/23 23:26
Calibration Check	SC00790-CCV2	S2023-02-23B (14)	02/24/23 01:10
Calibration Blank	SC00790-CCB3	S2023-02-23B (15)	02/24/23 01:23
Calibration Check	SC00790-CCV3	S2023-02-23B (42)	02/24/23 07:10
Calibration Blank	SC00790-CCB4	S2023-02-23B (43)	02/24/23 07:23
Calibration Check	SC00790-CCV4	S2023-02-23B (48)	02/24/23 08:28
Calibration Blank	SC00790-CCB5	S2023-02-23B (49)	02/24/23 08:41
Blank	BCB0392-BLK1	S2023-02-23B (50)	02/24/23 08:54
LCS	BCB0392-BS1	S2023-02-23B (51)	02/24/23 09:06
MRL Check	BCB0392-MRL1	S2023-02-23B (52)	02/24/23 09:19
AF-HDMW225303-WGN01LF-2302W3	23B0155-01	S2023-02-23B (57)	02/24/23 10:24
AF-RHMW10-WGN01LF-2302W3	23B0155-02	S2023-02-23B (59)	02/24/23 10:50
AF-RHMW12A-WGN01LF-2302W3	23B0155-03	S2023-02-23B (61)	02/24/23 11:15
AF-RHMW12A-WGFD01LF-2302W3	23B0155-04	S2023-02-23B (63)	02/24/23 11:41
AF-RHMW16-WGN01LF-2302W3	23B0155-05	S2023-02-23B (65)	02/24/23 12:07
Calibration Check	SC00790-CCV5	S2023-02-23B (67)	02/24/23 12:33
Calibration Blank	SC00790-CCB6	S2023-02-23B (68)	02/24/23 12:45



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA **LOT NUMBER:** FPrPA1020
COMPOUND: 3-Perfluoropropyl propanoic acid
STRUCTURE: **CAS #:** 356-02-5



MOLECULAR FORMULA: $C_6H_5F_7O_2$ **MOLECULAR WEIGHT:** 242.09
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/12/2020
EXPIRY DATE: (mm/dd/yyyy) 11/12/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ($C_6H_3F_7O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 11/27/2020
 (mm/dd/yyyy)

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

x_1, x_2, \dots, x_n on which it depends is:

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

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

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

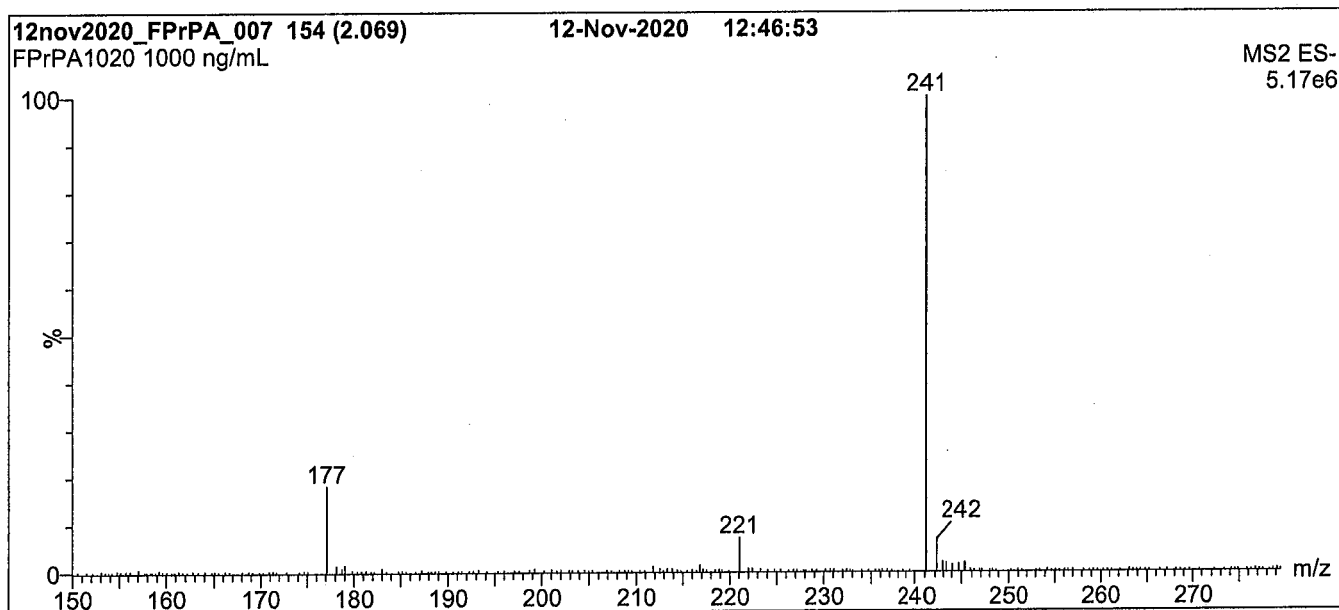
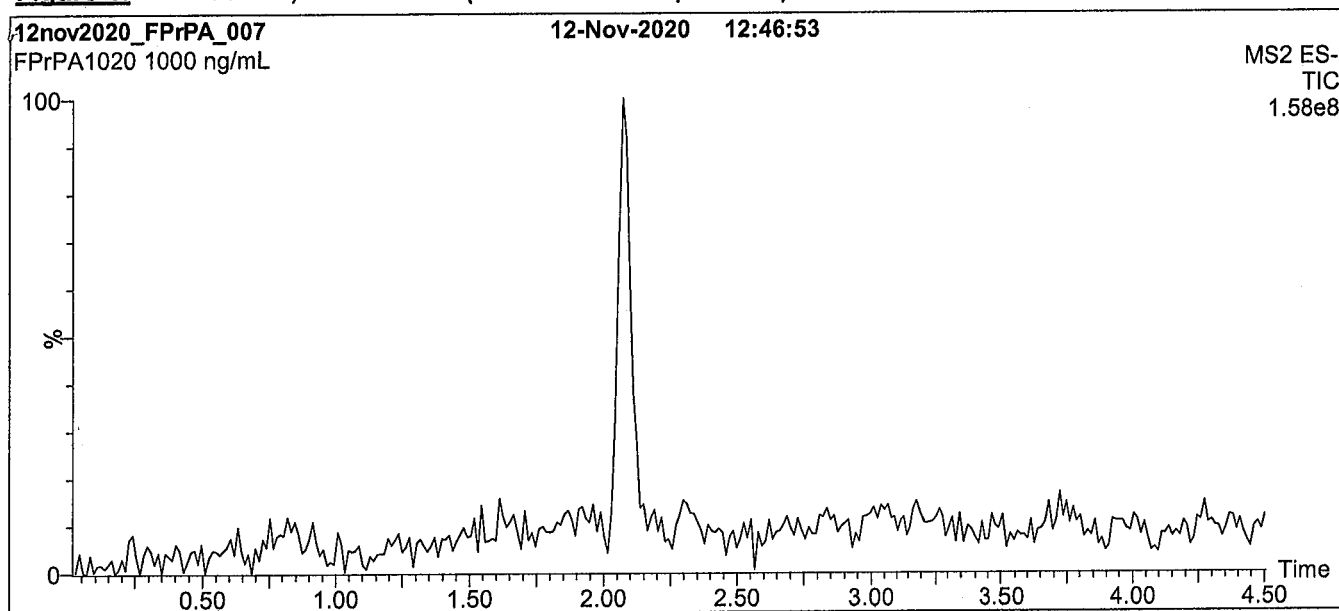
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



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

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

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

Chromatographic Conditions:

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

Mobile phase: Gradient

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

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (150 - 850 amu)

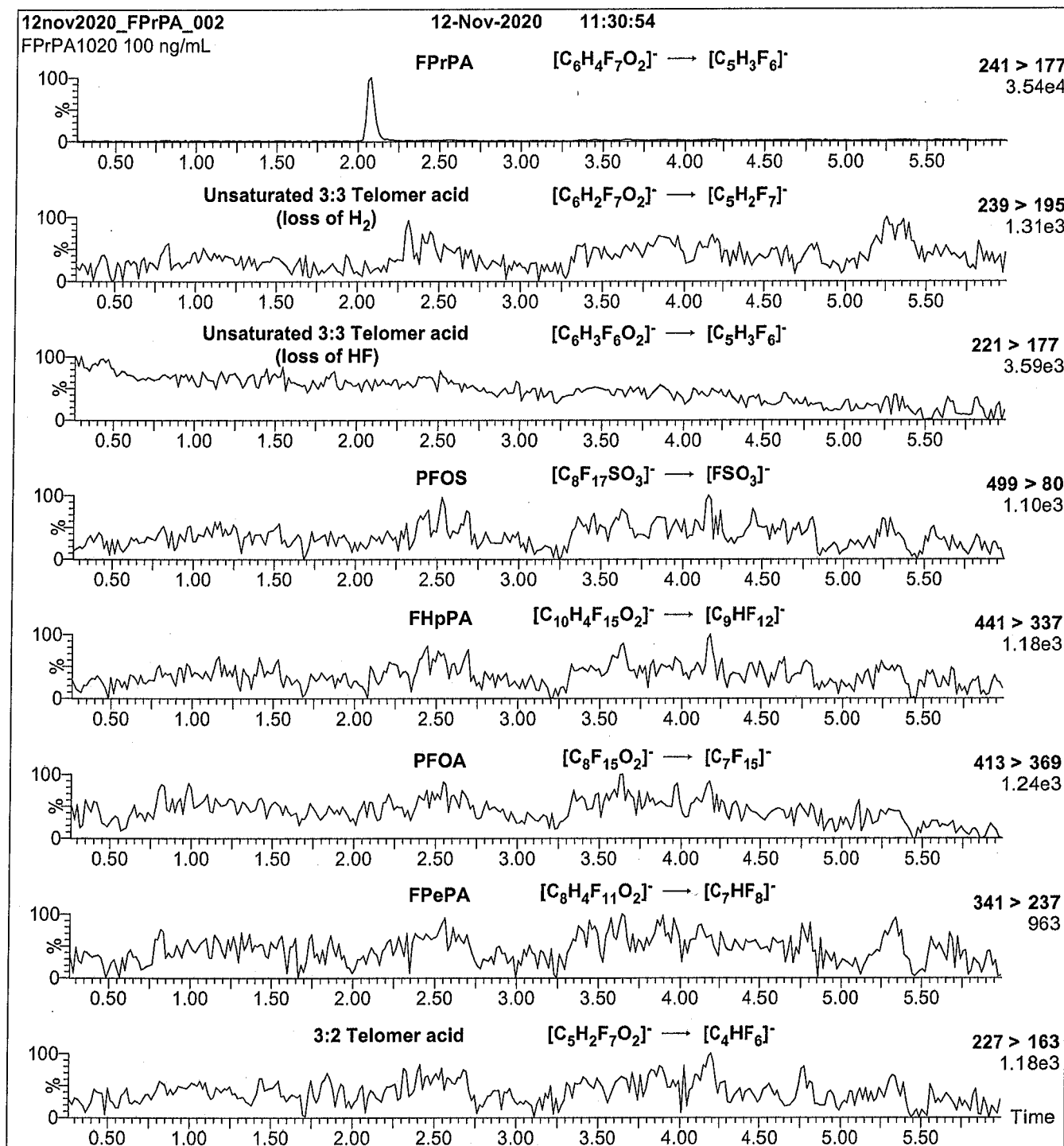
Source: Electrospray (negative)

Capillary Voltage (kV) = 0.50

Cone Voltage (V) = 18.50

Desolvation Temperature ($^{\circ}$ C) = 500

Desolvation Gas Flow (L/hr) = 1000

Figure 2: FPrPA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.49e-3

Collision Energy (eV) = 10

Analytical Standard Record

21L0004

Description:	PFAS - SAS 3:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	3:3 FTCA 50.0ug/mL		

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

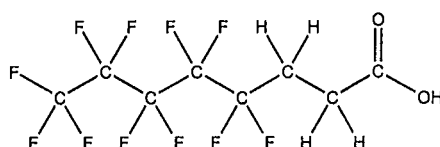


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPePA **LOT NUMBER:** FPePA1120
COMPOUND: 3-Perfluoropentyl propanoic acid

STRUCTURE: **CAS #:** 914637-49-3



MOLECULAR FORMULA: $C_8H_5F_{11}O_2$ **MOLECULAR WEIGHT:** 342.11
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/11/2020
EXPIRY DATE: (mm/dd/yyyy) 11/11/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 11/27/2020
 (mm/dd/yyyy)

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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:

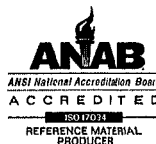
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

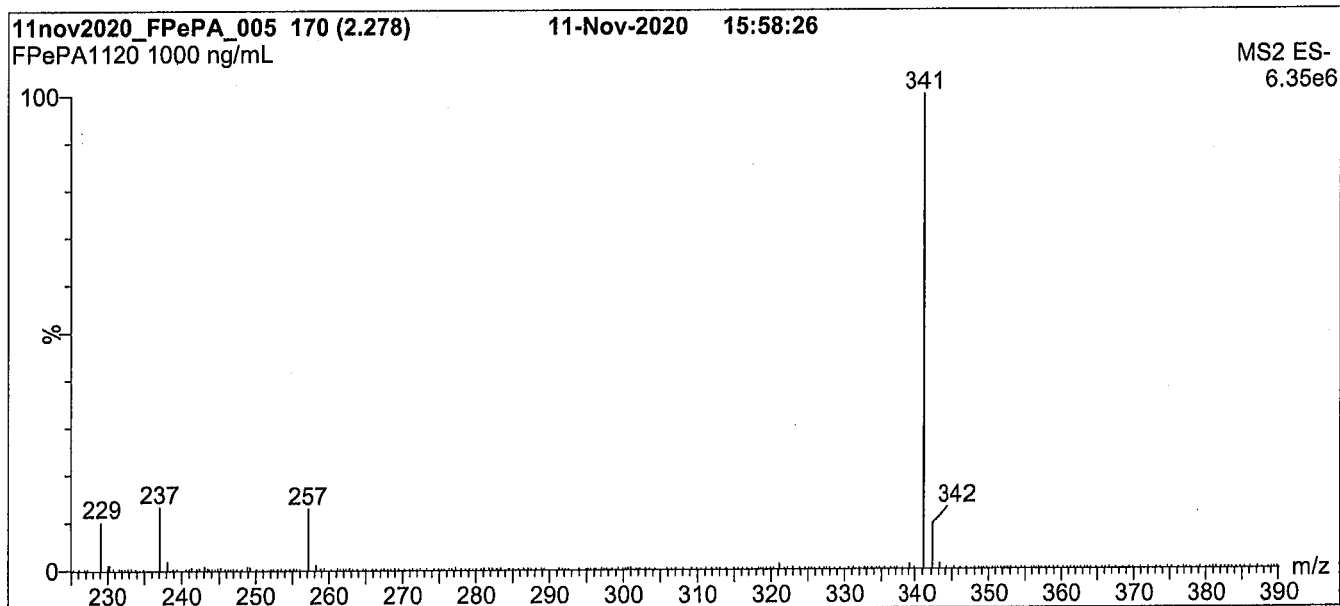
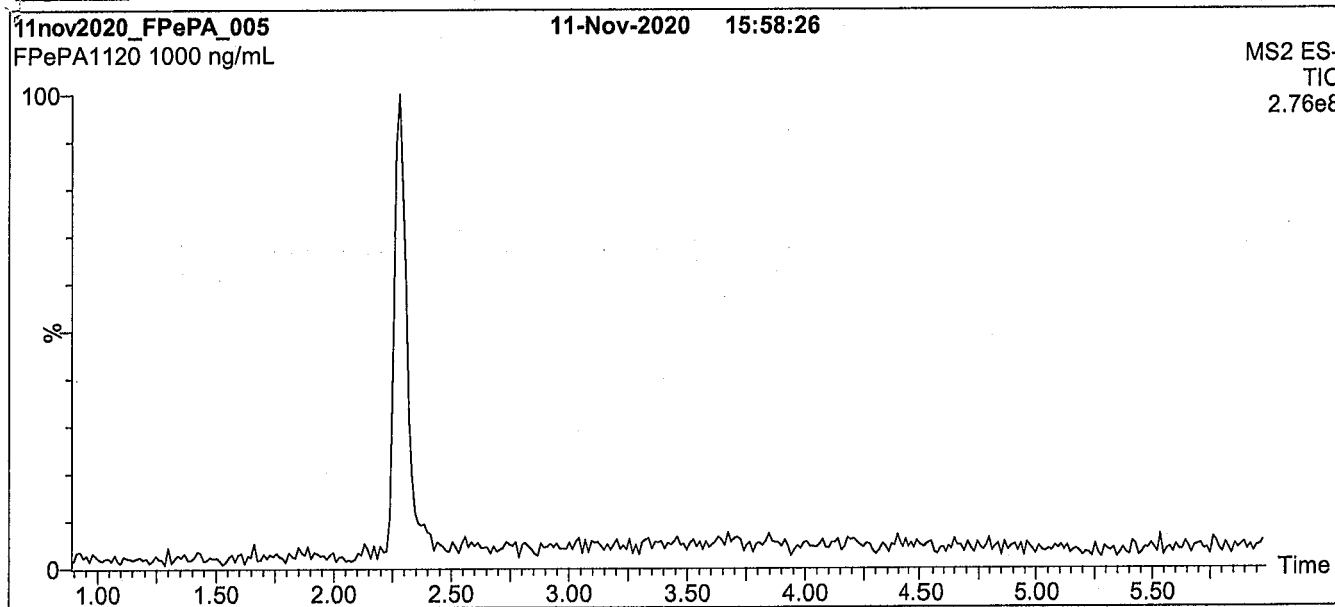
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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

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

Chromatographic Conditions:

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

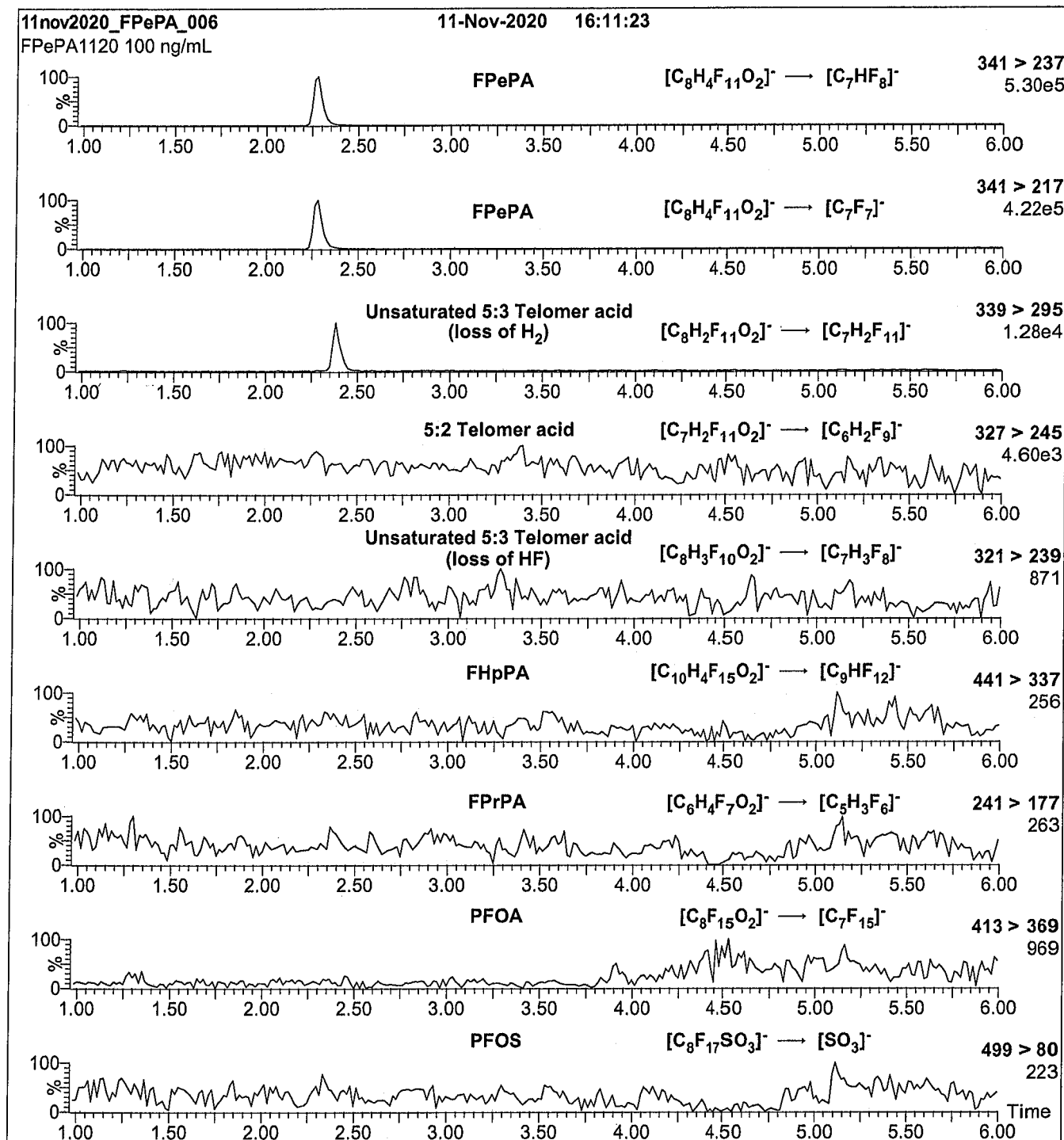
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 18.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: FPePA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (FPePA)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.24e-3

Collision Energy (eV) = 10

Analytical Standard Record

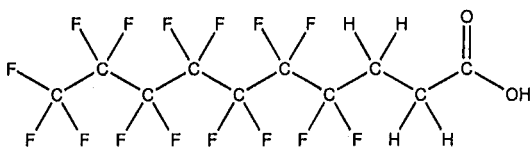
21L0005

Description:	PFAS - SAS 5:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

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

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: FHpPA **LOT NUMBER:** FHpPA1020
COMPOUND: 3-Perfluoroheptyl propanoic acid
STRUCTURE: **CAS #:** 812-70-4



MOLECULAR FORMULA: C₁₀H₆F₁₆O₂ **MOLECULAR WEIGHT:** 442.12
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/12/2020
EXPIRY DATE: (mm/dd/yyyy) 11/12/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 11/27/2020
(mm/dd/yyyy)

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

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SYNTHESIS / CHARACTERIZATION:

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UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

x_1, x_2, \dots, x_n on which it depends is:

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

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

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

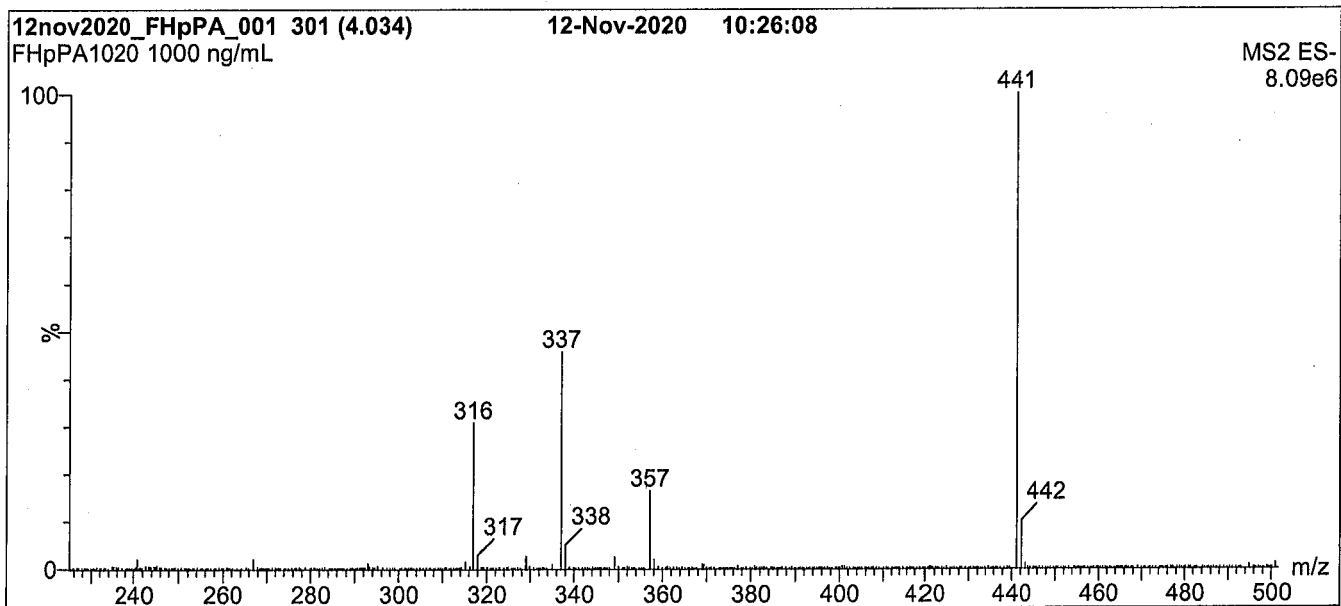
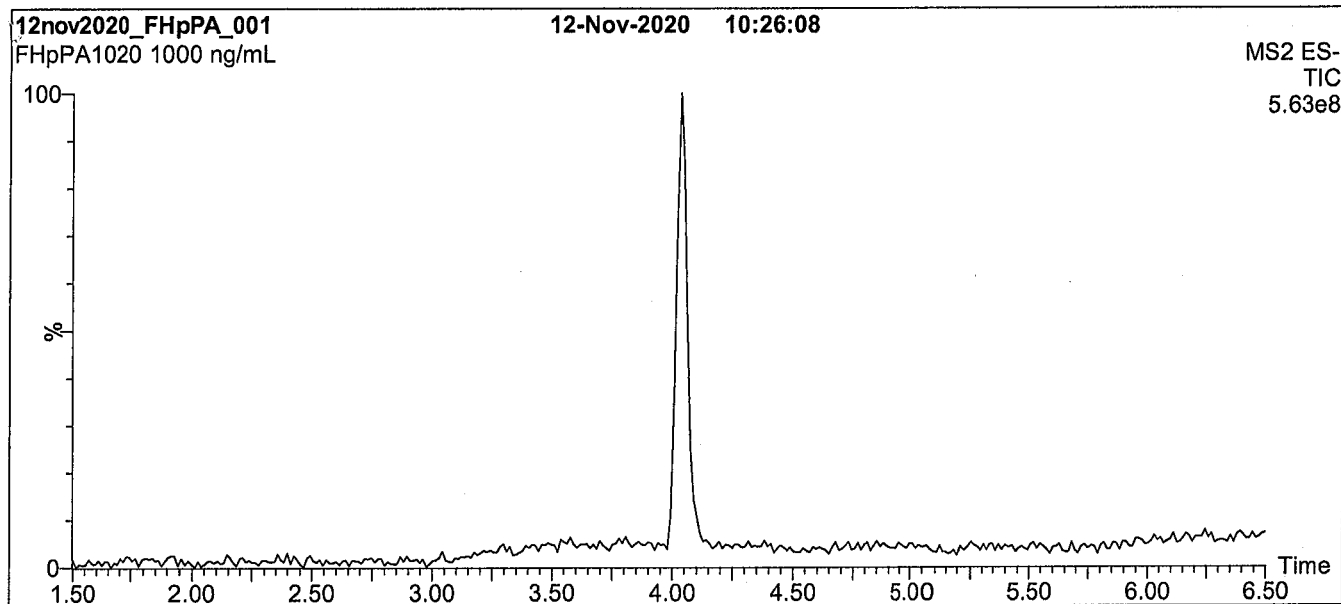
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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-ASQ National Accreditation Board (ANAB; AR-1523).



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

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

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

Chromatographic Conditions:

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

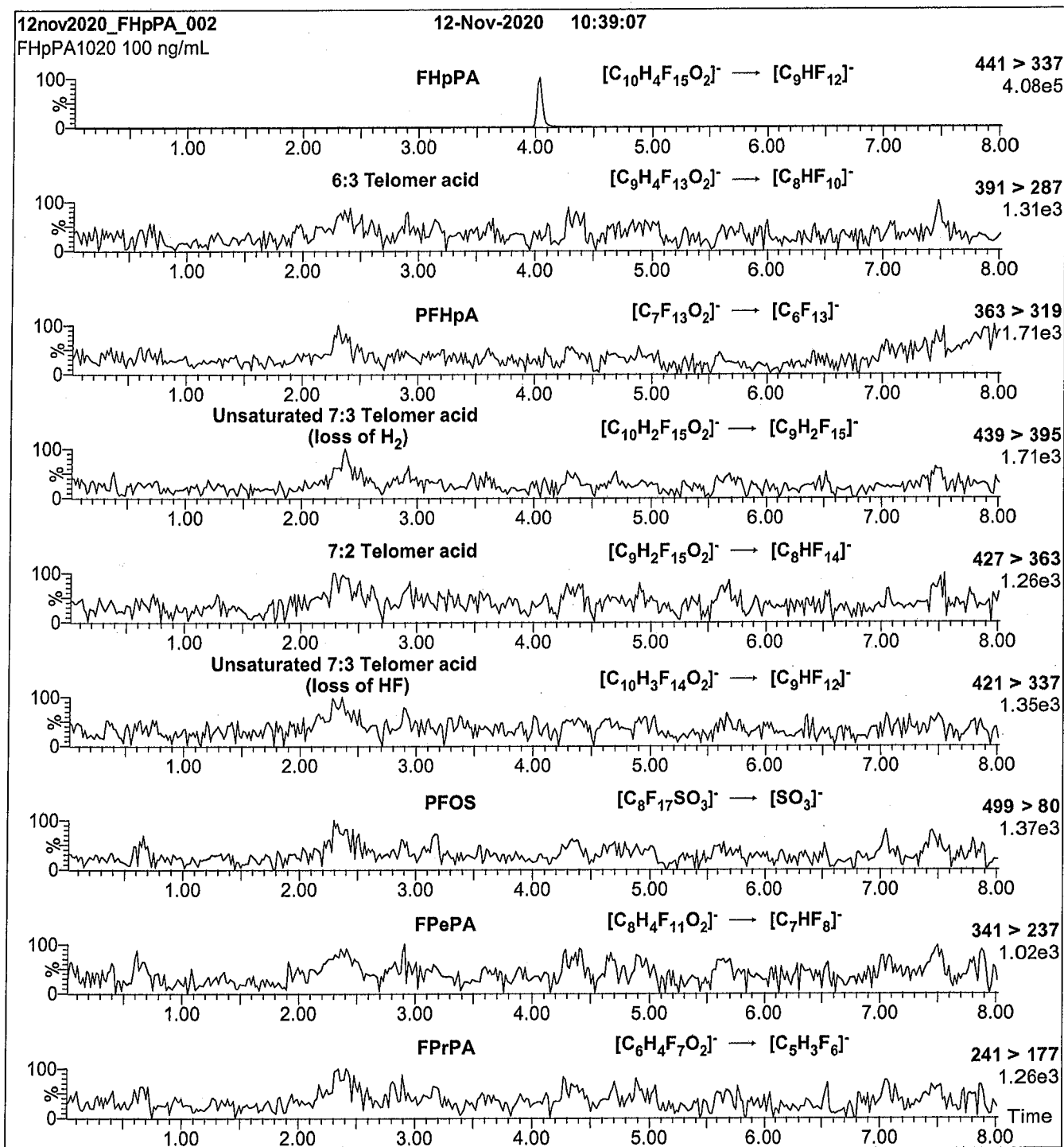
Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 28.50
Desolvation Temperature (°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

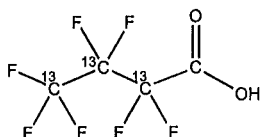


WELLINGTON LABORATORIES

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:

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LIMITED WARRANTY:

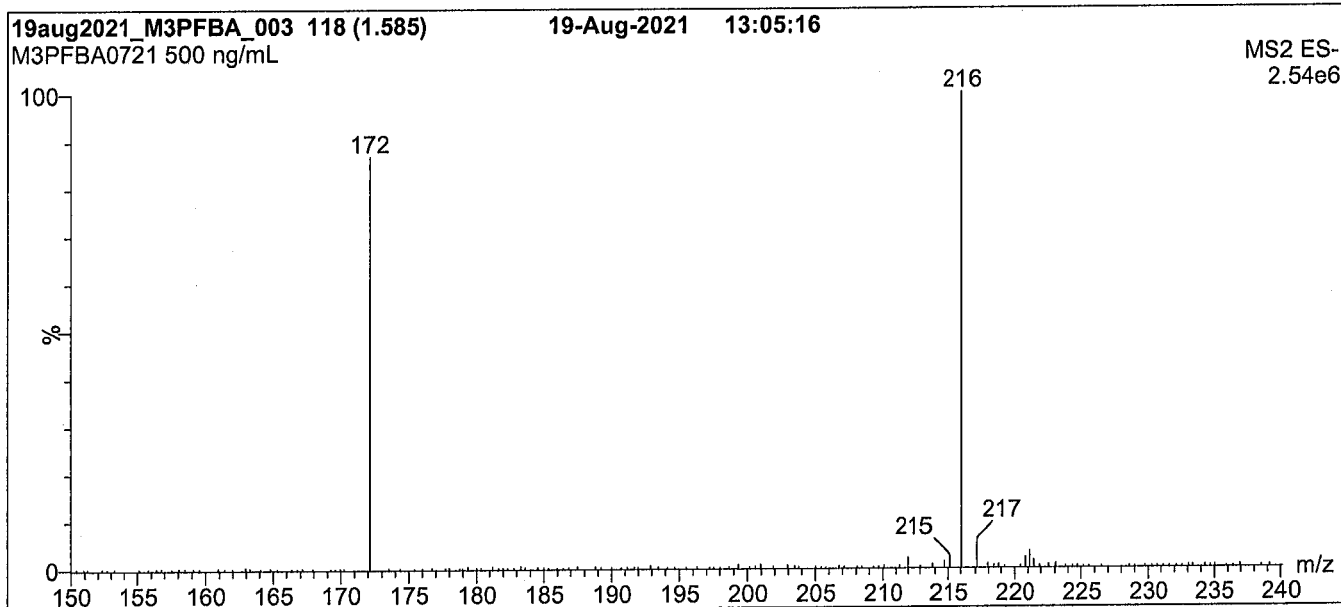
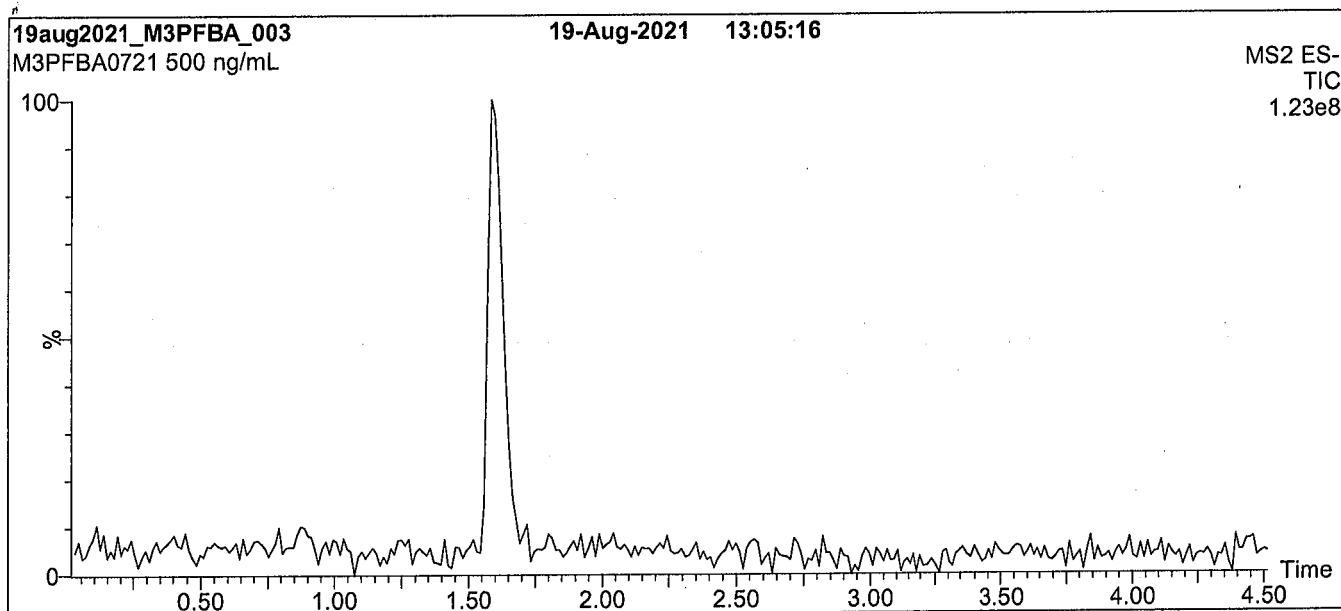
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Figure 1: M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

Chromatographic Conditions:

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

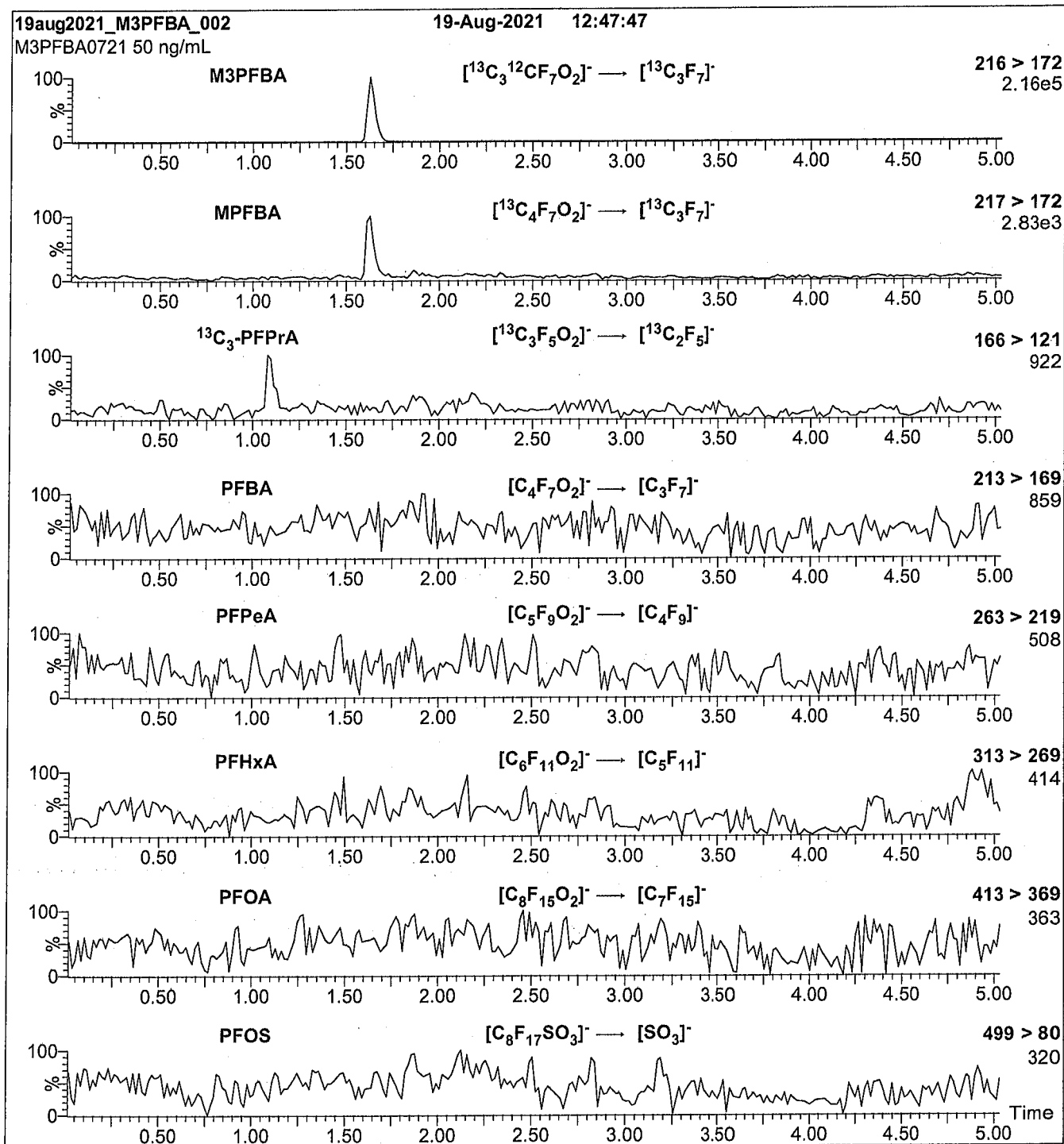
Mobile phase: Gradient
Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: M3PFBA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (M3PFBA)

Mobile phase: Same as Figure 1

Flow: 300 $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.45e-3

Collision Energy (eV) = 8

Analytical Standard Record

22A0116

Description:	PFAS - IIS M3PFBA 50ug/mL	Expires:	08/19/2026
Standard Type:	Analyte Spike	Prepared:	08/19/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

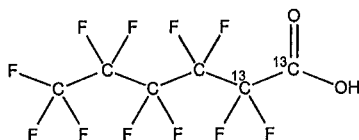
Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA		13C3-PFBA	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFHxA **LOT NUMBER:** MPFHxA0921
COMPOUND: Perfluoro-n-(1,2-¹³C₂)hexanoic acid
STRUCTURE: **CAS #:** 960315-47-3



MOLECULAR FORMULA: ¹³C₂¹²C₄HF₁₁O₂ **MOLECULAR WEIGHT:** 316.04
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 10/04/2021
EXPIRY DATE: (mm/dd/yyyy) 10/04/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place


DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 10/22/2021
 (mm/dd/yyyy)

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

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LIMITED WARRANTY:

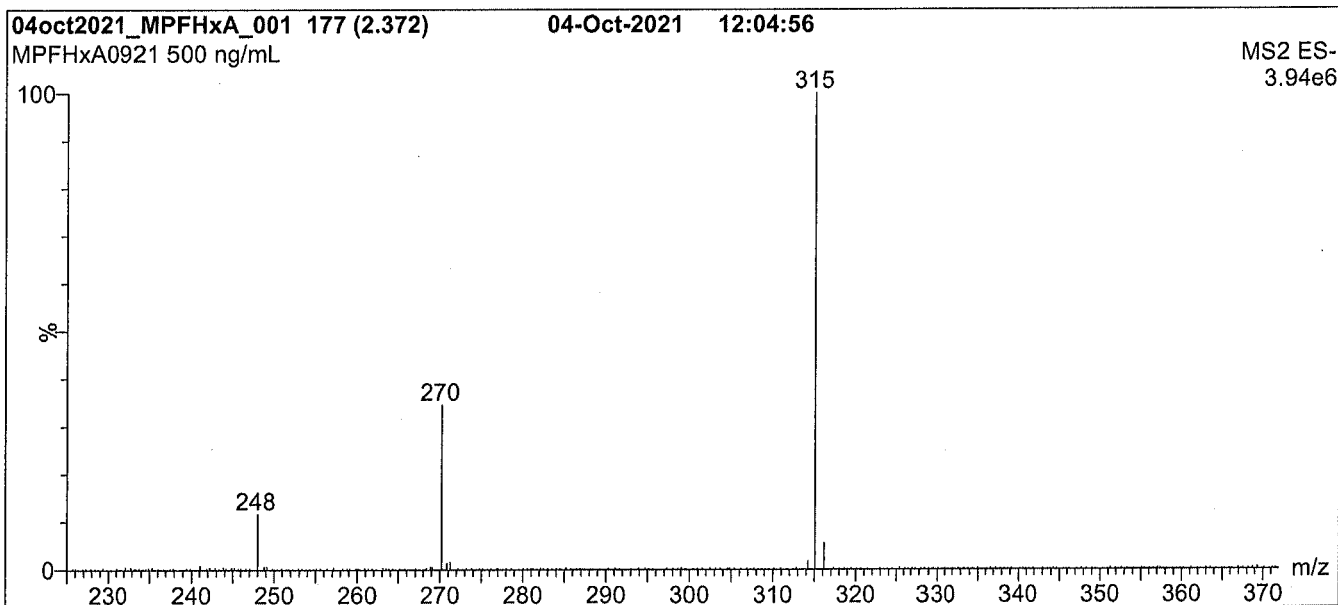
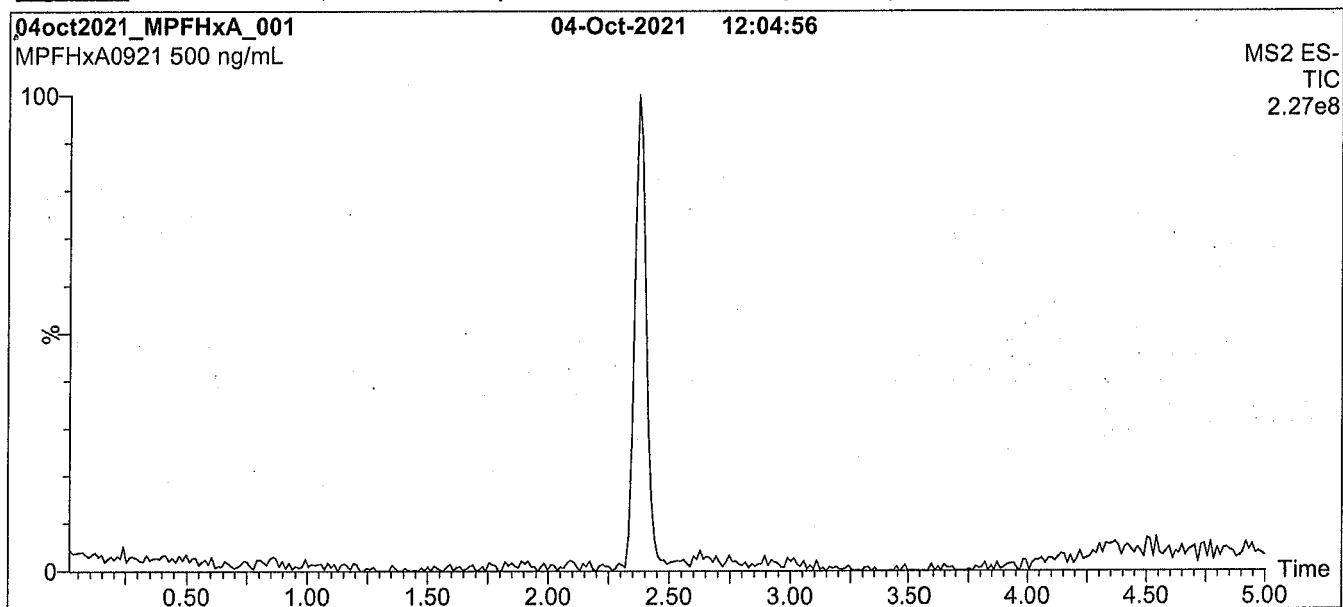
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Figure 1: MPFHxA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

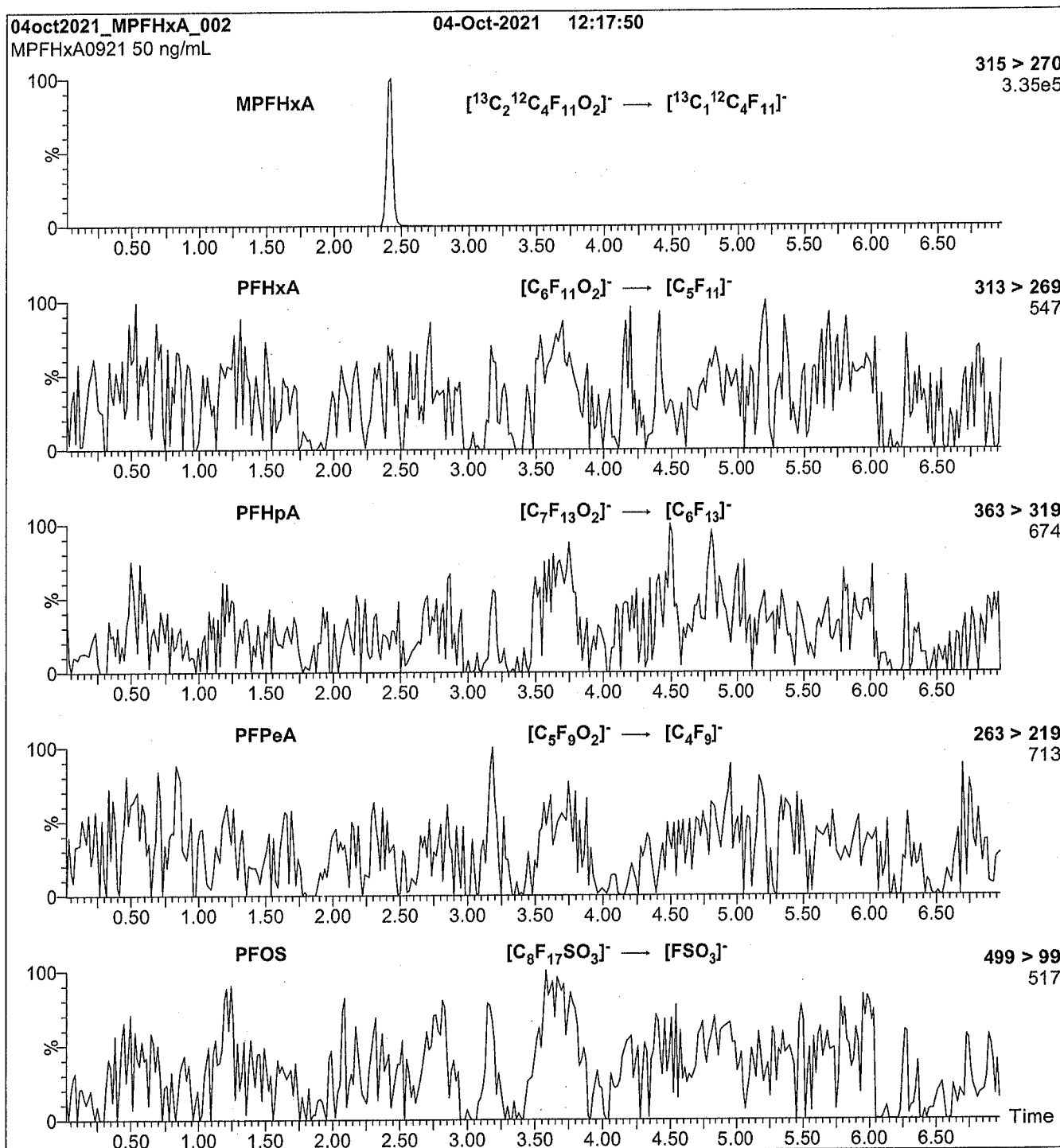
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 12 min

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 ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300 $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 8

Analytical Standard Record

22A0117

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

Analytical Standard Record

22A0117

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
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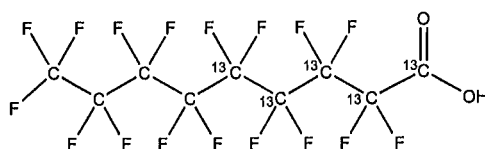
Analyte	Parent	CAS Number	Concentration	Units
13C2-PFHxA		13C2-PFHxA	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFNA **LOT NUMBER:** MPFNA1021
COMPOUND: Perfluoro-n-(1,2,3,4,5-¹³C₅)nonanoic acid
STRUCTURE: **CAS #:** 960315-49-5



MOLECULAR FORMULA: ¹³C₅¹²C₄HF₁₇O₂ **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)

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LIMITED WARRANTY:

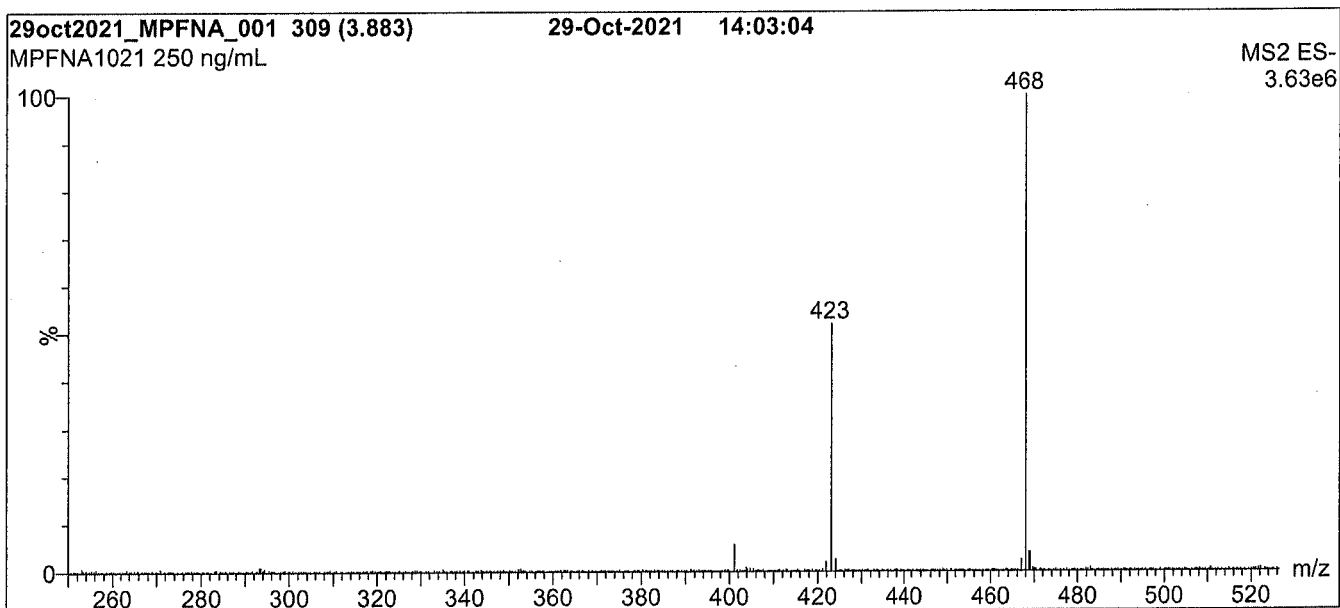
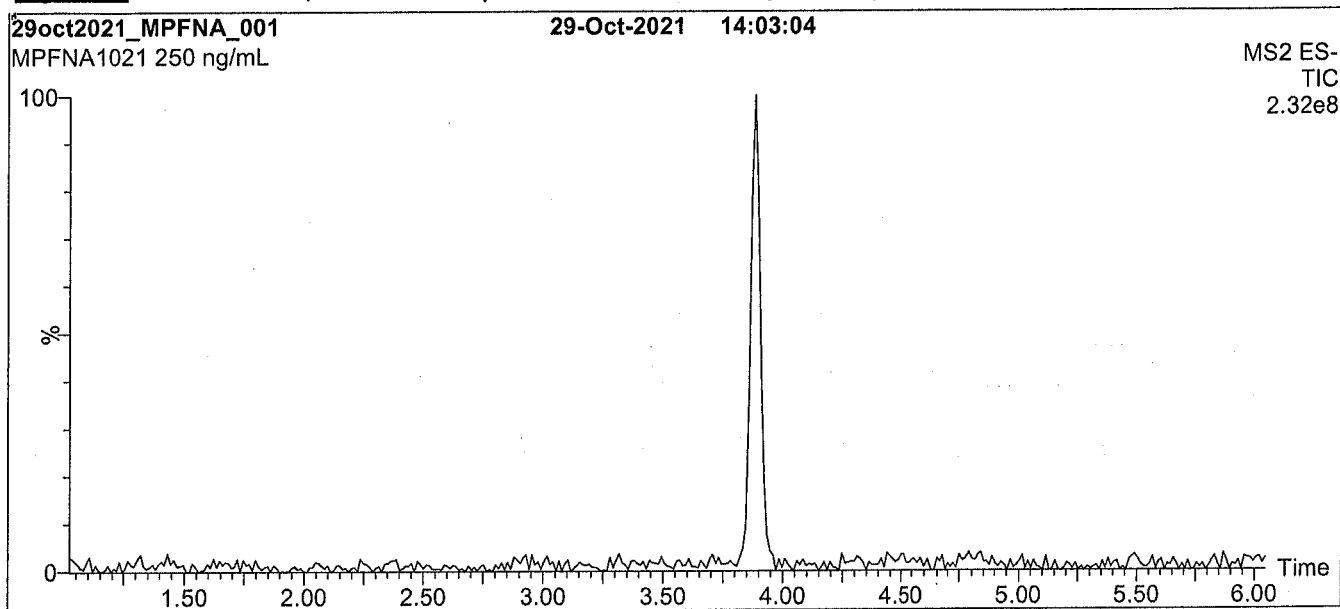
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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Figure 1: 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)

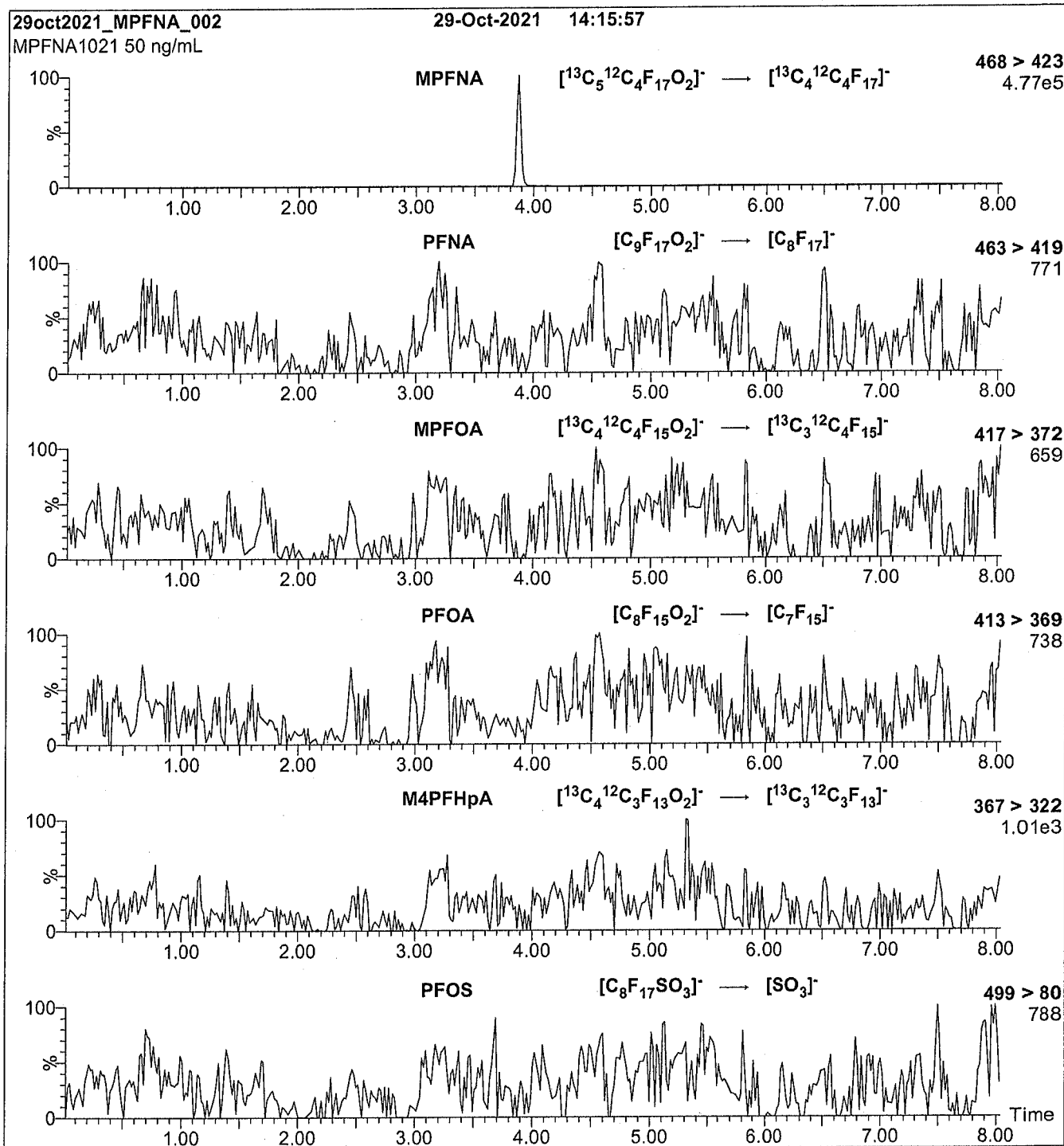
Source: Electrospray (negative)

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

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22A0118

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Standard Type:	Analyte Spike	Prepared:	10/29/2021
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WELLINGTON
LABORATORIES

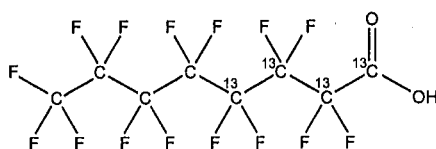
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOA
COMPOUND: Perfluoro-n-(1,2,3,4-¹³C₄)octanoic acid

LOT NUMBER: MPFOA1121

STRUCTURE:

CAS #: 960315-48-4



MOLECULAR FORMULA: ¹³C₄¹²C₄HF₁₅O₂
CONCENTRATION: 50.0 ± 2.5 µg/mL

MOLECULAR WEIGHT: 418.04
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: ≥99% ¹³C
(1,2,3,4-¹³C₄)

LAST TESTED: (mm/dd/yyyy) 12/07/2021

EXPIRY DATE: (mm/dd/yyyy) 12/07/2026

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____

B.G. Chittim, General Manager

Date: 12/20/2021
(mm/dd/yyyy)

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

INTENDED USE:

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HANDLING:

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

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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LIMITED WARRANTY:

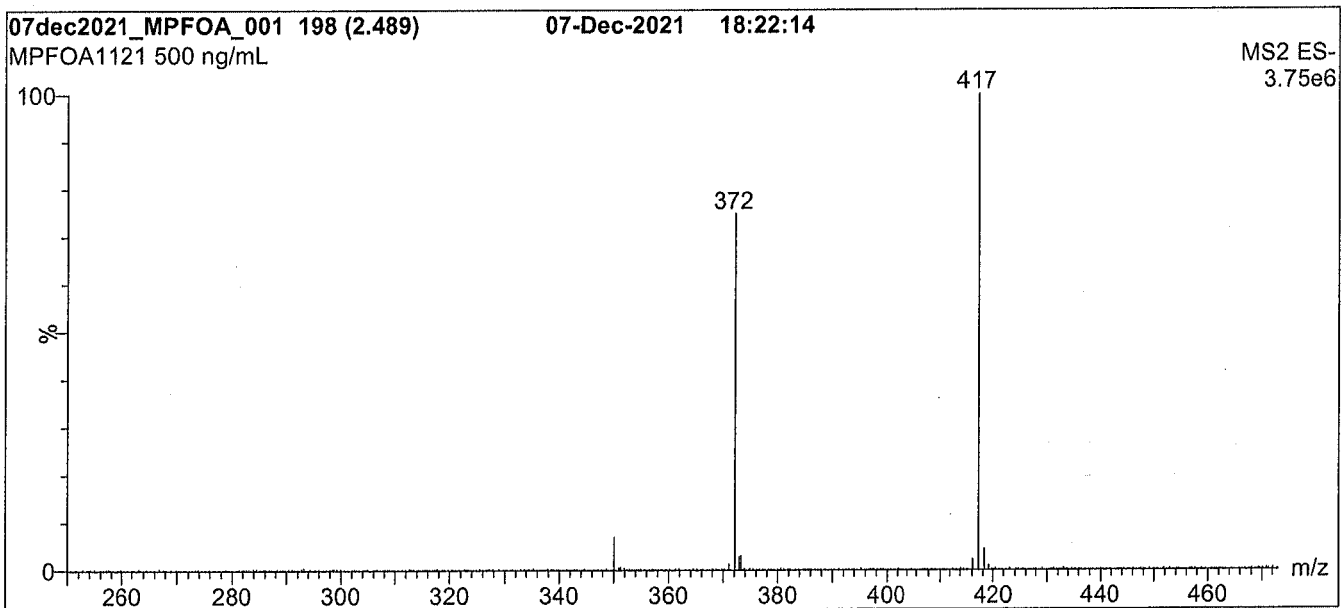
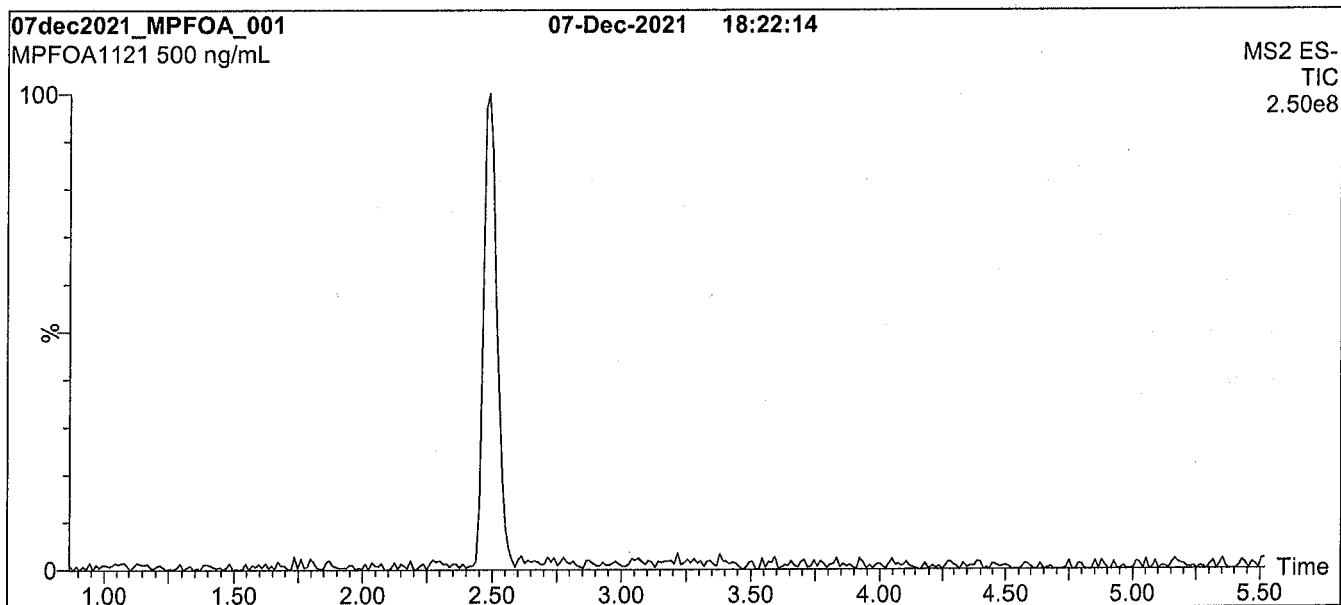
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Figure 1: MPFOA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

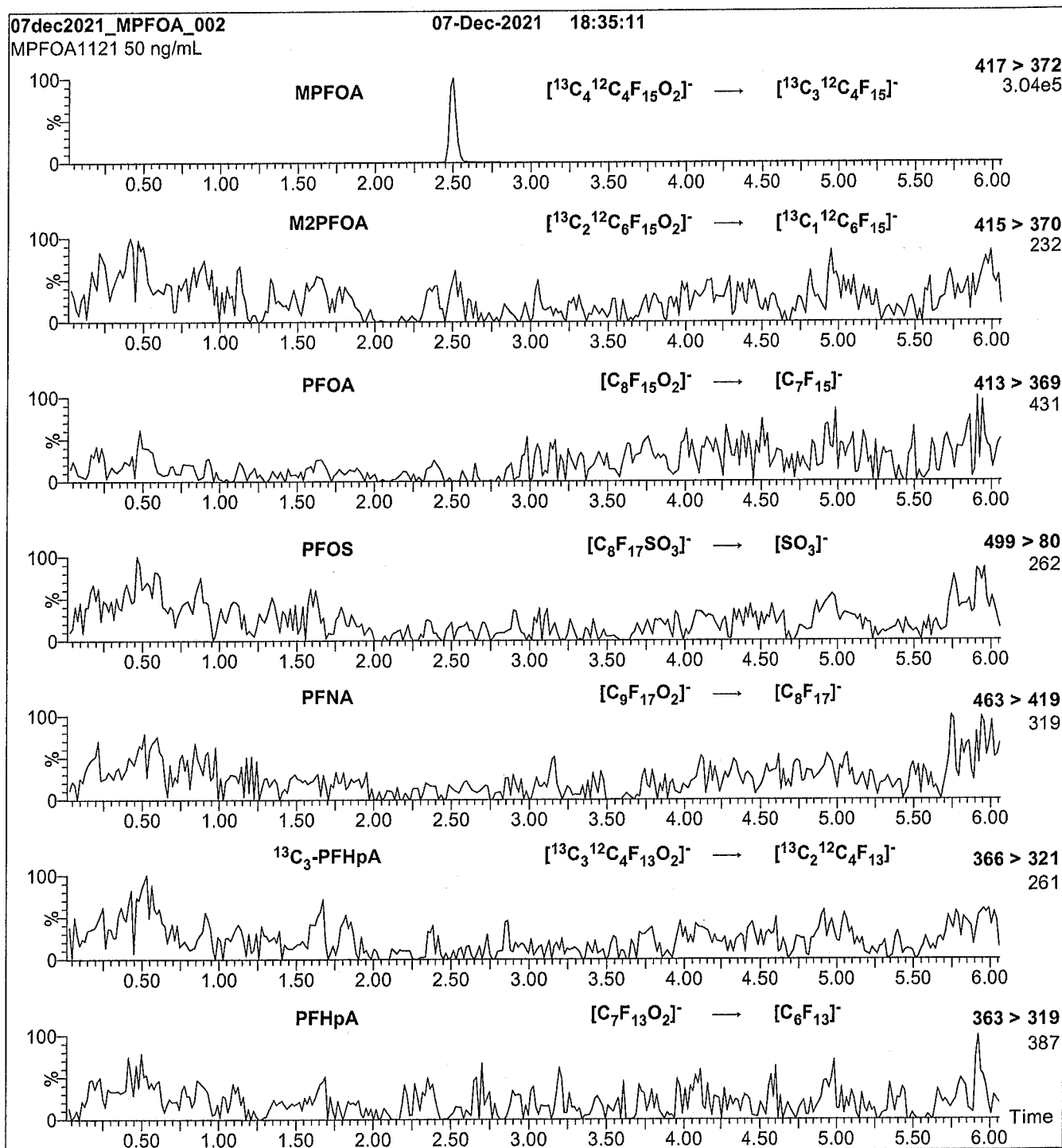
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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

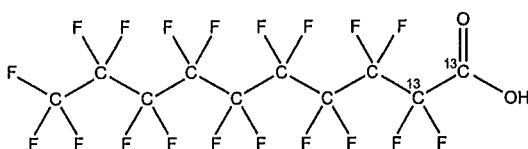


WELLINGTON LABORATORIES

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)

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

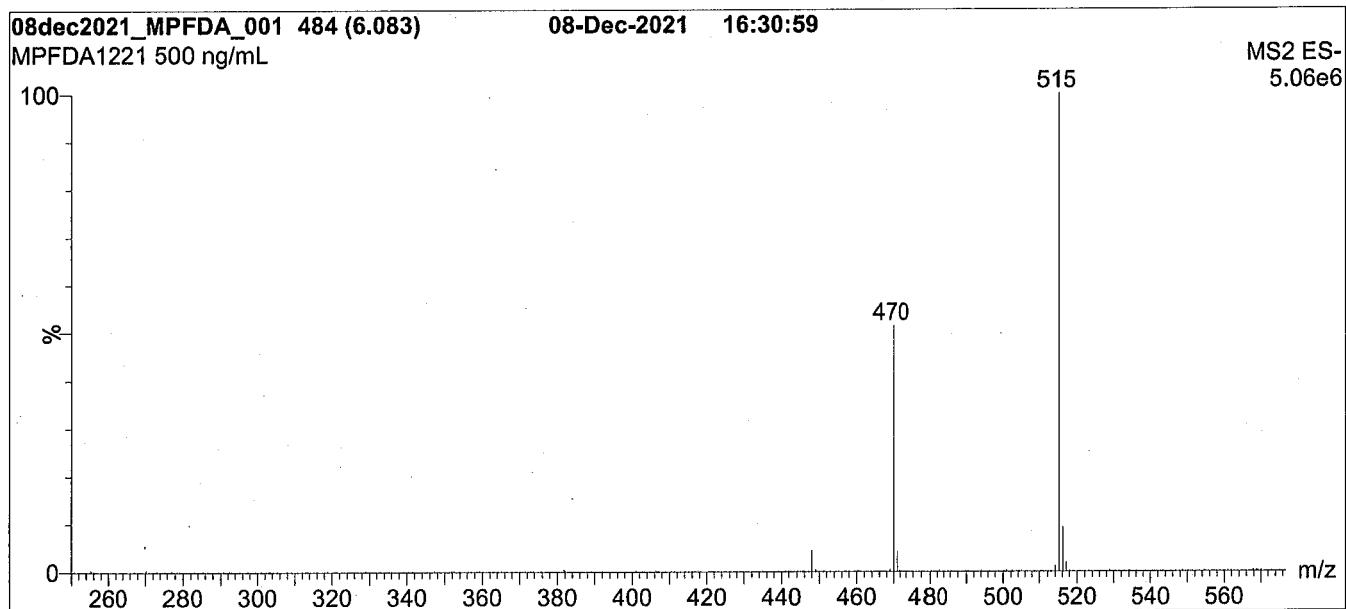
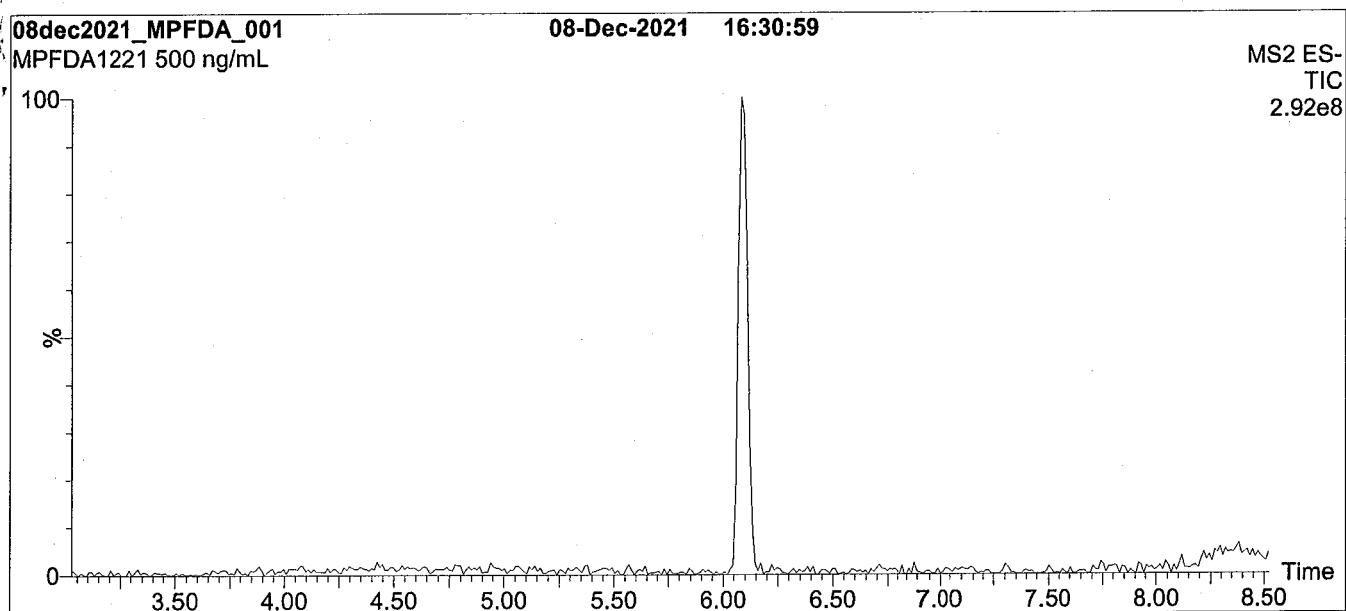
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Figure 1: MPFDA; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

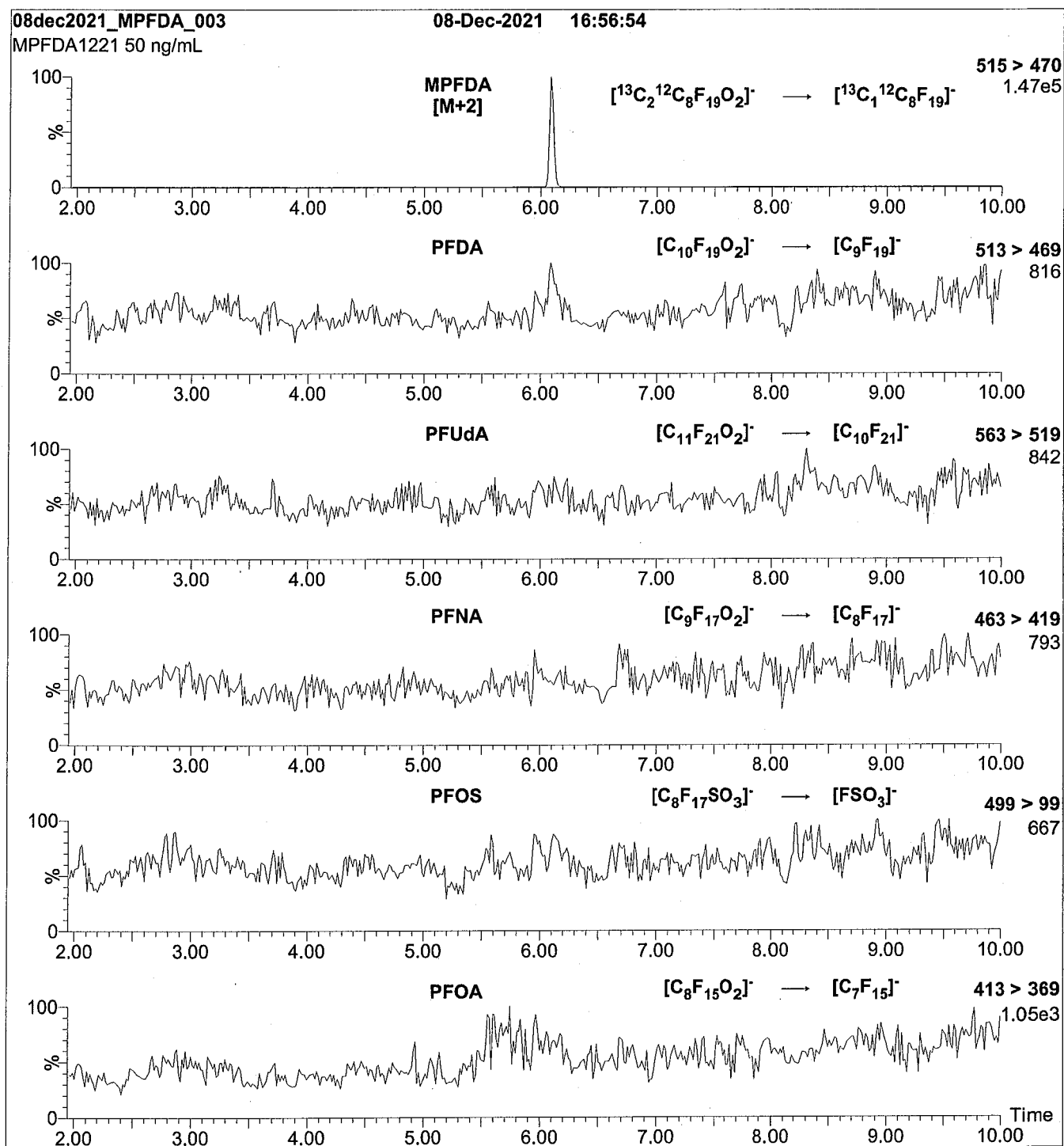
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

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 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 10

Analytical Standard Record

22A0120

Description:	PFAS - IIS MPFDA 50ug/mL	Expires:	12/08/2026
Standard Type:	Analyte Spike	Prepared:	12/08/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

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

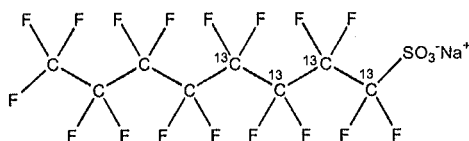


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0821
COMPOUND: Sodium perfluoro-1-(1,2,3,4-¹³C₄)octanesulfonate

STRUCTURE: **CAS #:** 960315-53-1



MOLECULAR FORMULA: ¹³C₄¹²C₄F₁₇SO₃Na **MOLECULAR WEIGHT:** 526.08
CONCENTRATION: 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol
 47.9 ± 2.4 µg/mL (MPFOS acid)
 47.8 ± 2.4 µg/mL (MPFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 08/18/2021 (1,2,3,4-¹³C₄)
EXPIRY DATE: (mm/dd/yyyy) 08/18/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

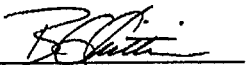
DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.4% sodium perfluoro-1-(¹³C₃)heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 08/19/2021
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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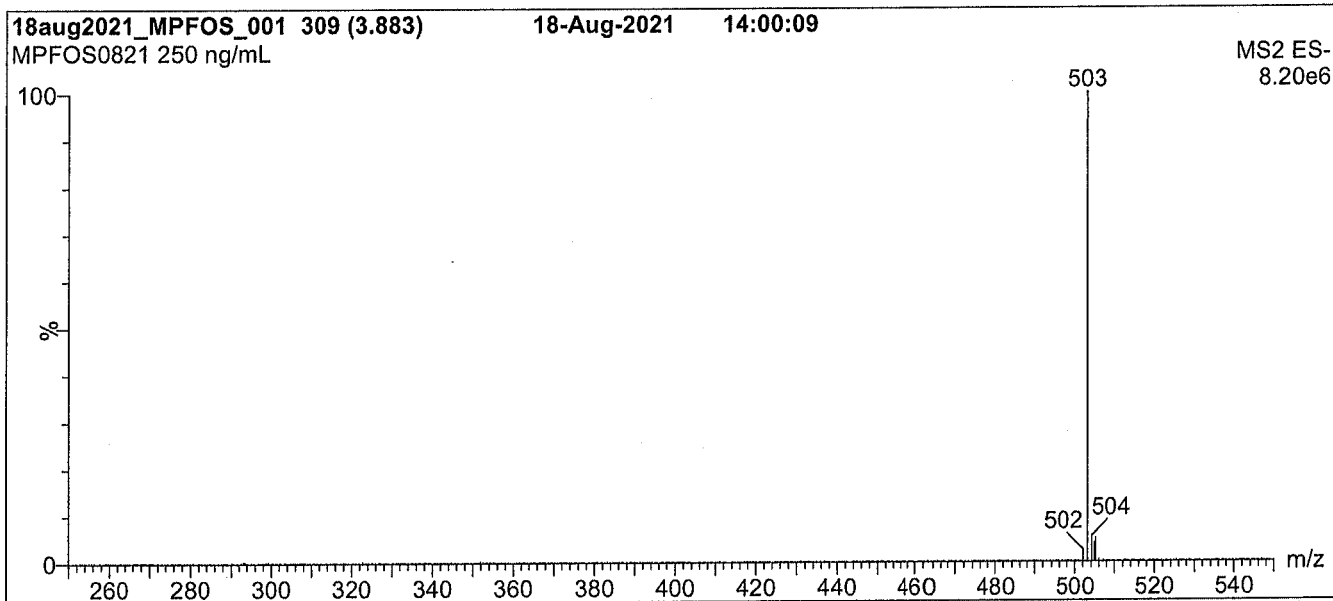
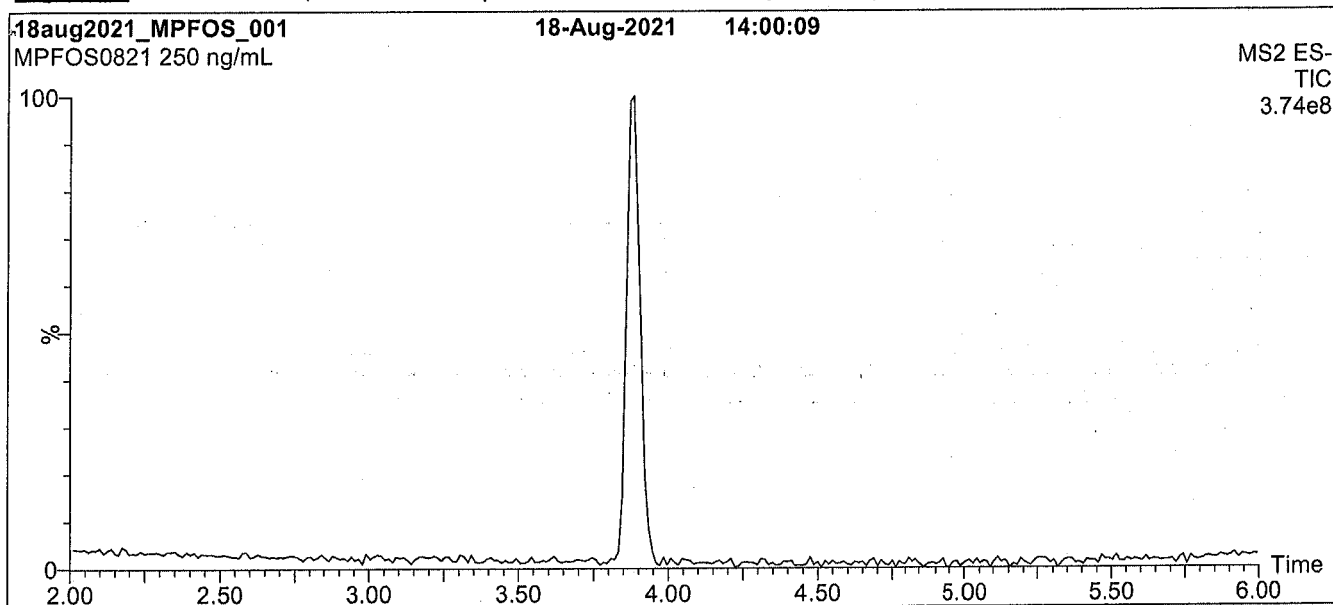
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1.7 μ m, 2.1 x 100 mm

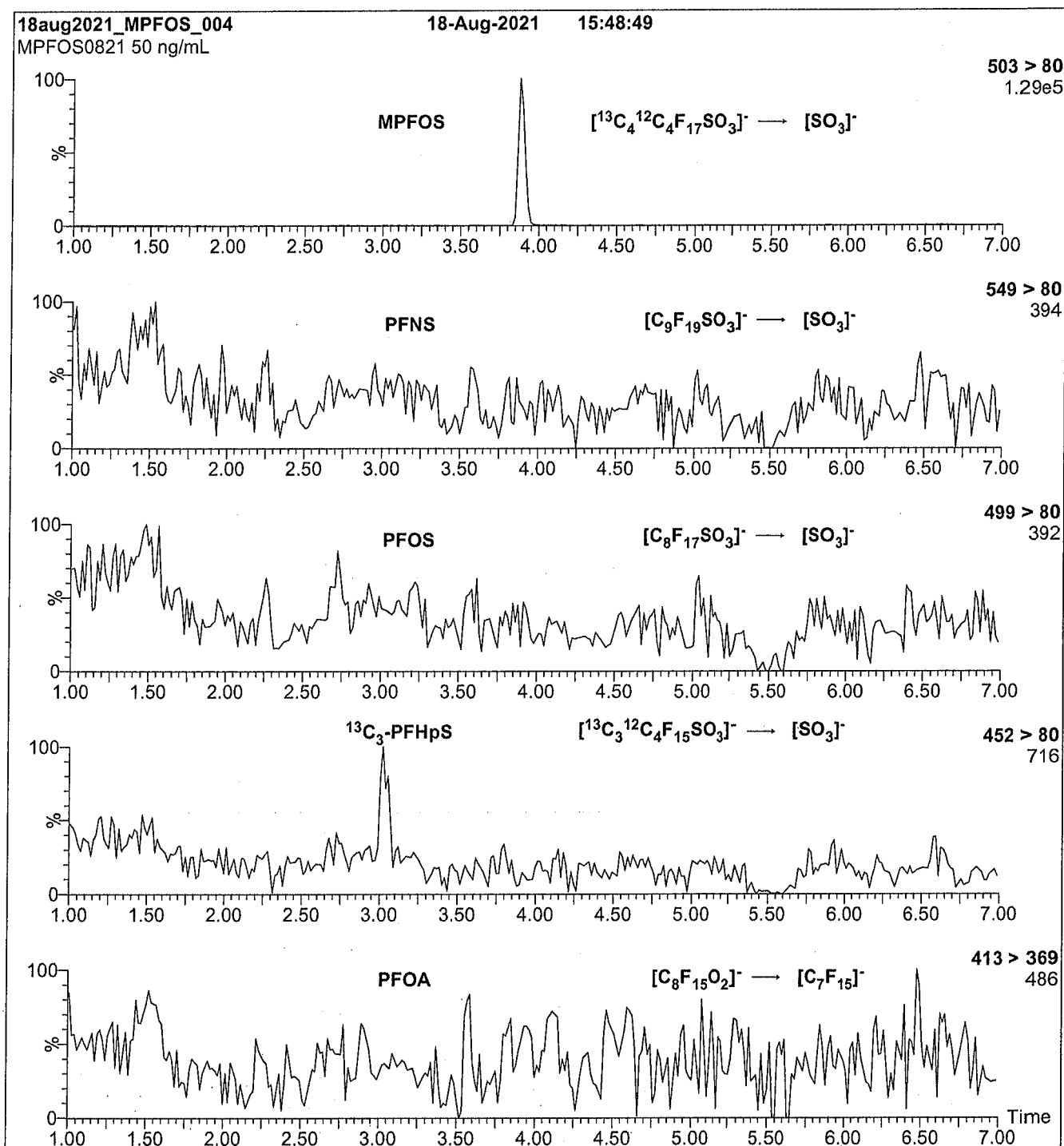
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Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

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

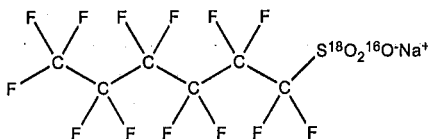


WELLINGTON LABORATORIES

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 11/05/2021
 (mm/dd/yyyy)

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

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:

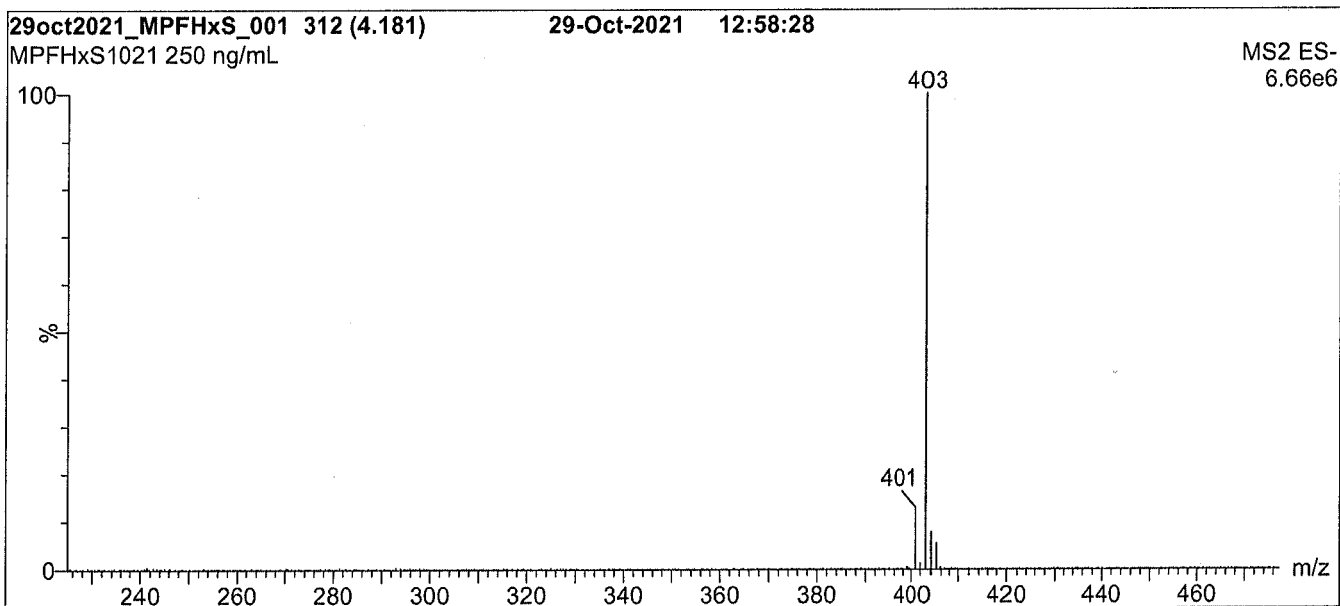
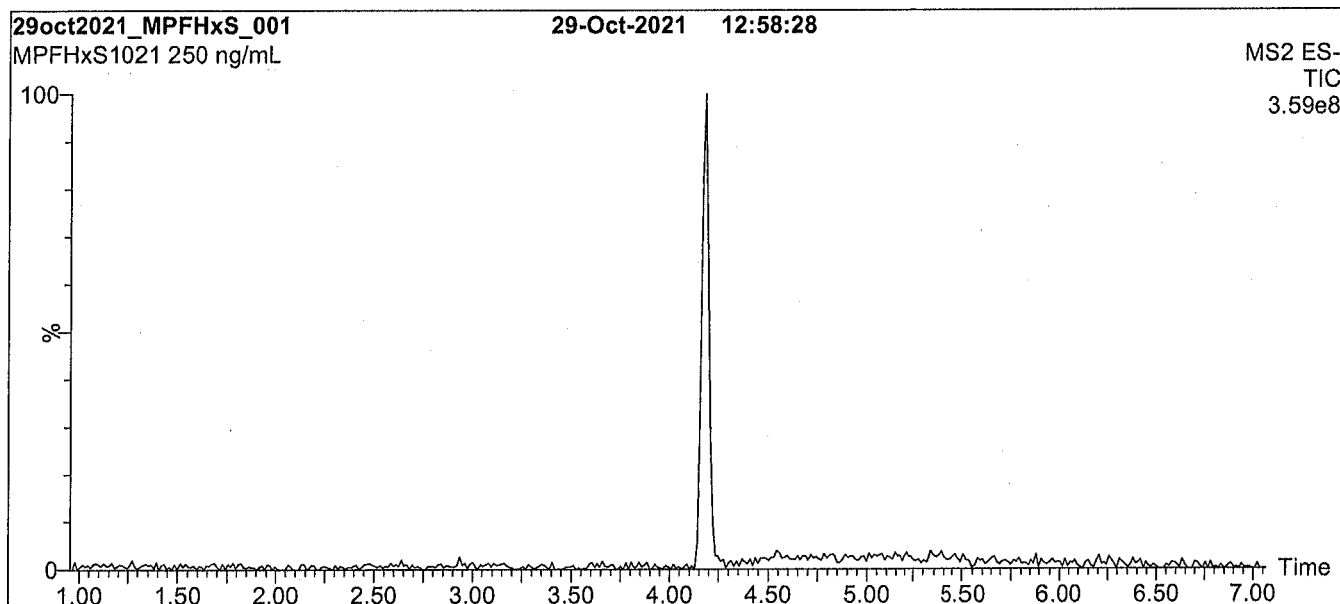
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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: 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)

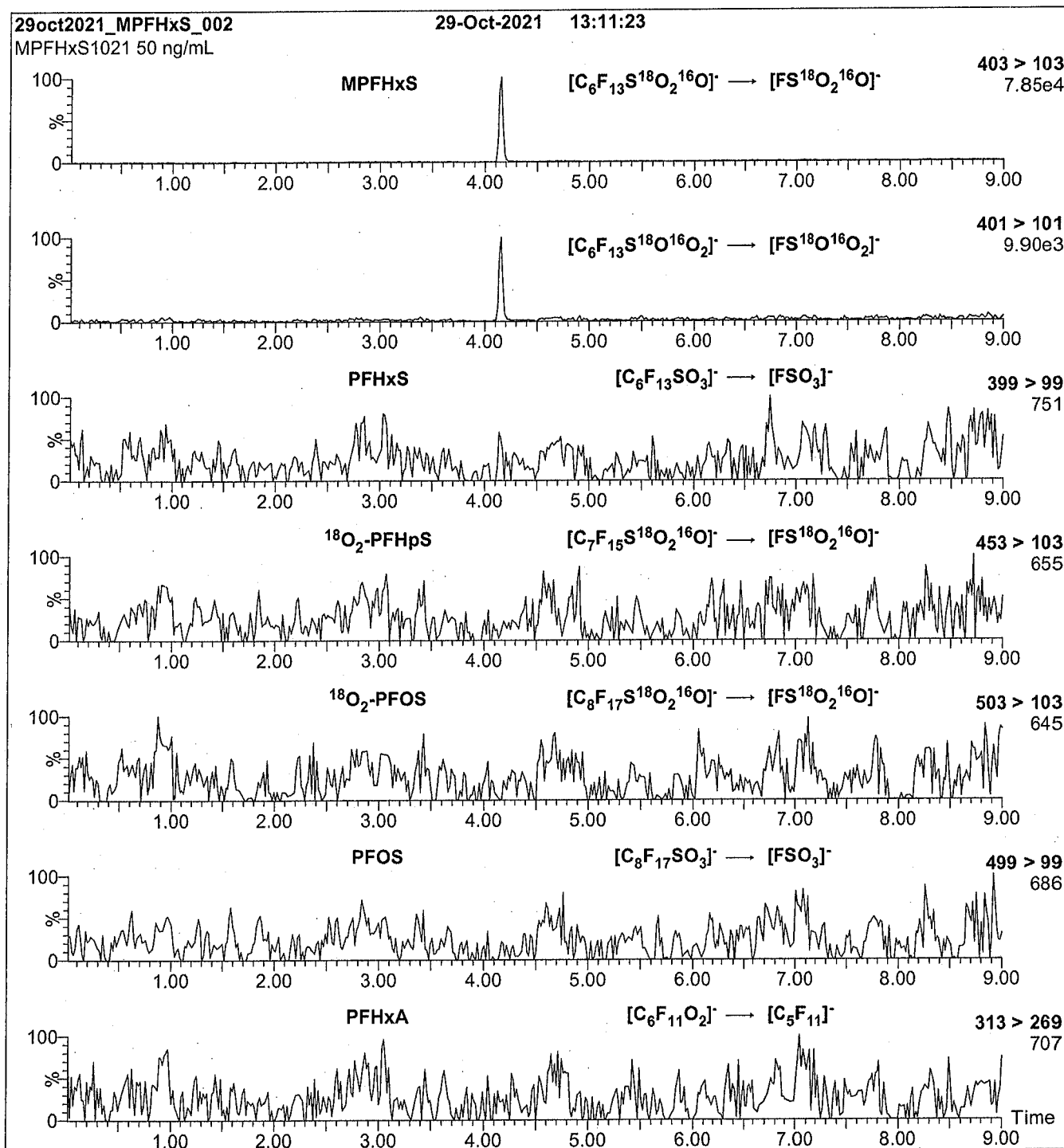
Source: Electrospray (negative)

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

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Darmstadt, Germany

580221-5GM/09-MAY-2018/EA

Analytical Standard Record

22A0123

Description:	PFAS Taurodeoxycholic Acid, Sodium Salt	Expires:	09/30/2023
Standard Type:	Other	Prepared:	10/05/2021
Solvent:	n/a	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:54 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID		516-50-7	1	ug/mL

Analytical Standard Record

22A0123

Description:	PFAS Taurodeoxycholic Acid, Sodium Salt	Expires:	09/30/2023
Standard Type:	Other	Prepared:	10/05/2021
Solvent:	n/a	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:54 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID		516-50-7	1	ug/mL

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHxS	22A0122	18O2-PFHxS	5	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHxS	22A0122	18O2-PFHxS	5	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHXS	22A0122	18O2-PFHXS	5	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

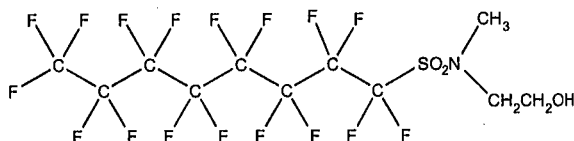


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol **22C0307**

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA: C₁₁H₈F₁₇NO₃S **MOLECULAR WEIGHT:** 557.22
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)
 09/23/2021 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 09/23/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 09/28/2021
 (mm/dd/yyyy)

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

x_1, x_2, \dots, x_n on which it depends is:

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

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

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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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:

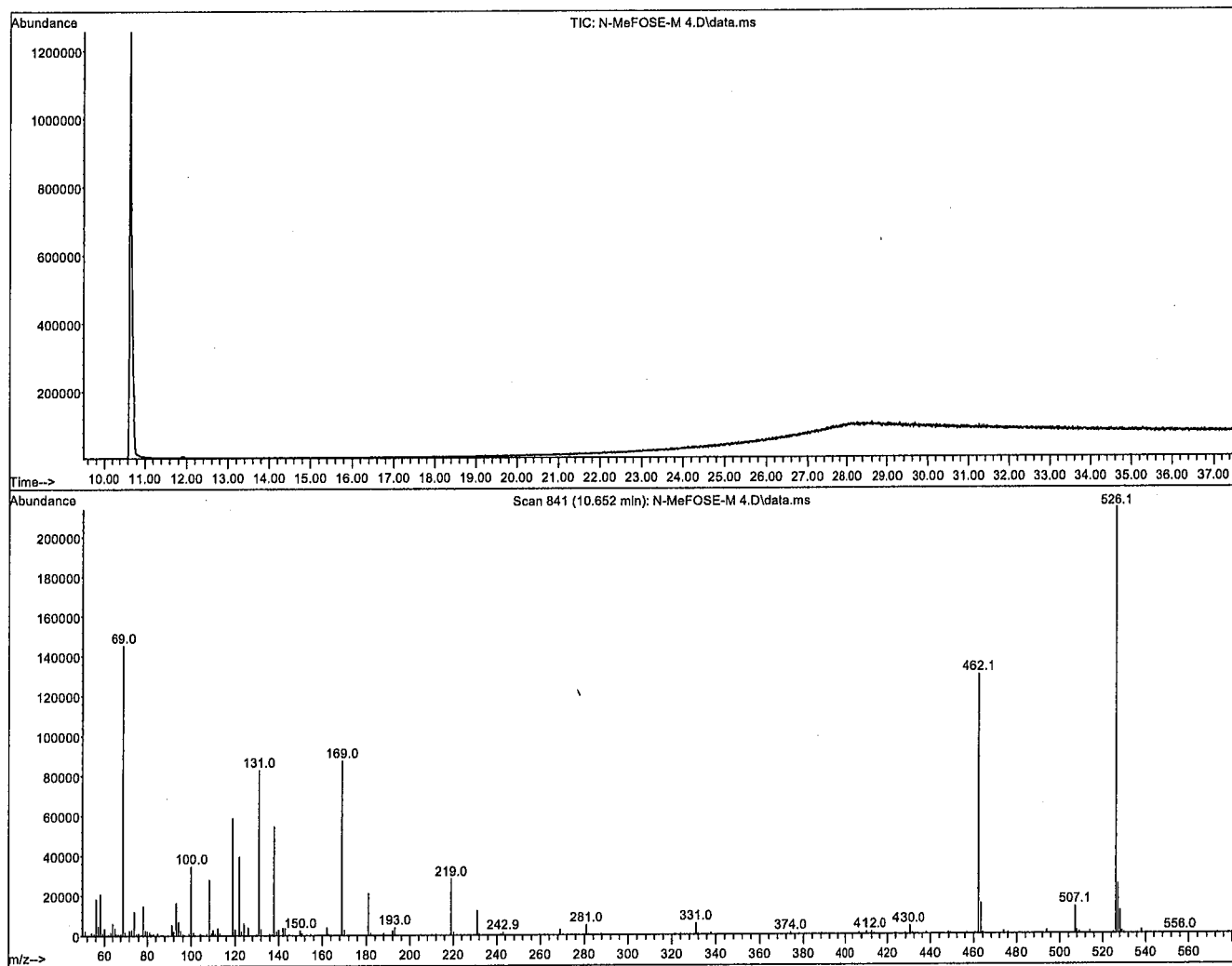
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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

Agilent 7890A HRGC
 Agilent 5975C MSD

Chromatographic Conditions:

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

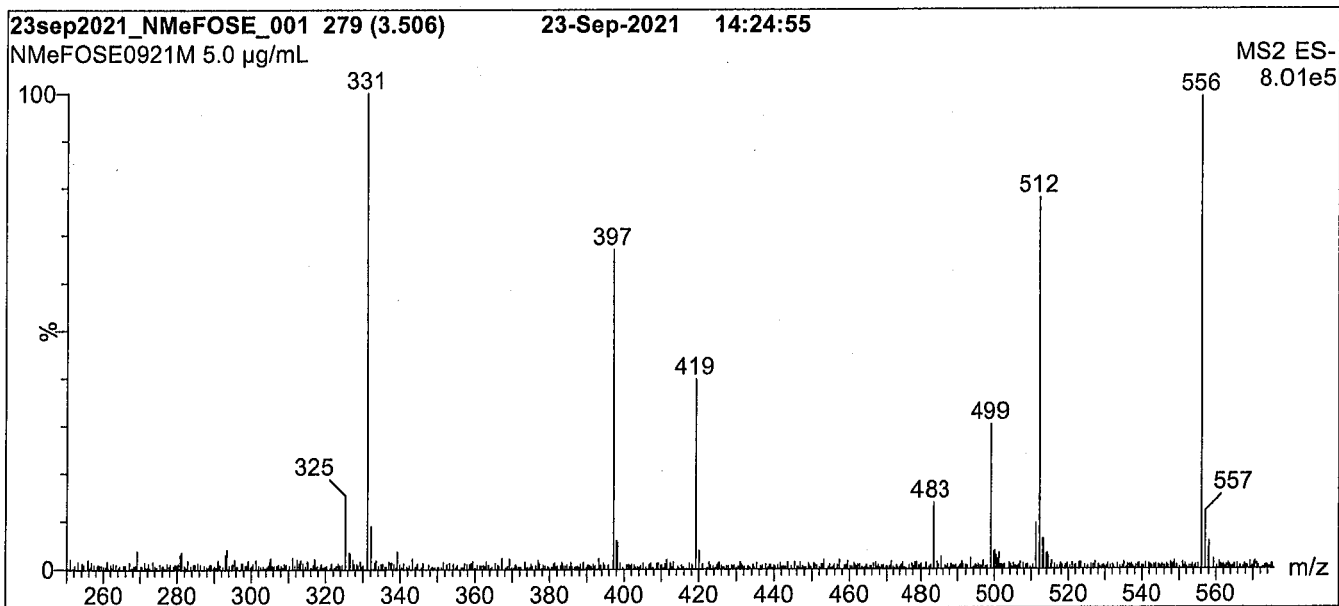
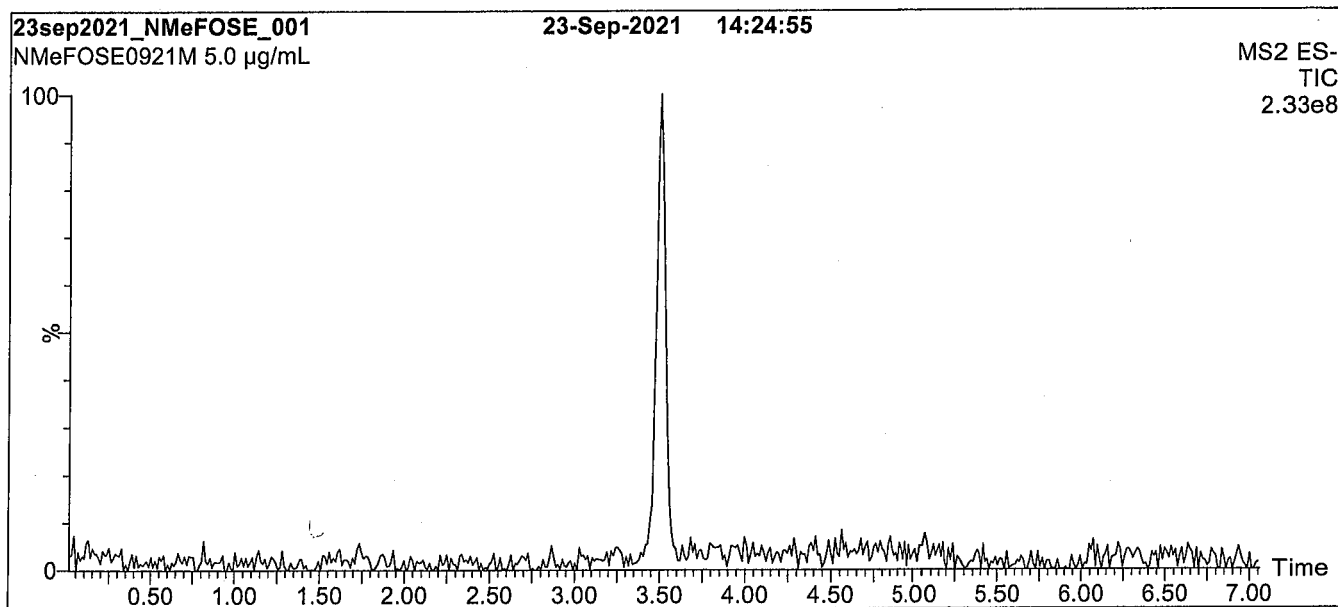
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)
 10°C/min to 310°C
 310°C (10 min)

Ionization: EI+

Detector: 230°C
 Full Scan (50-1000 amu)

Figure 2: N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 2:**

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

Chromatographic Conditions:

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

Mobile phase: Gradient

Start: 30% H₂O / 70% MeOH

Ramp to 90% organic over 8 min and hold for
1.5 min before returning to initial conditions in 1 min.

Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

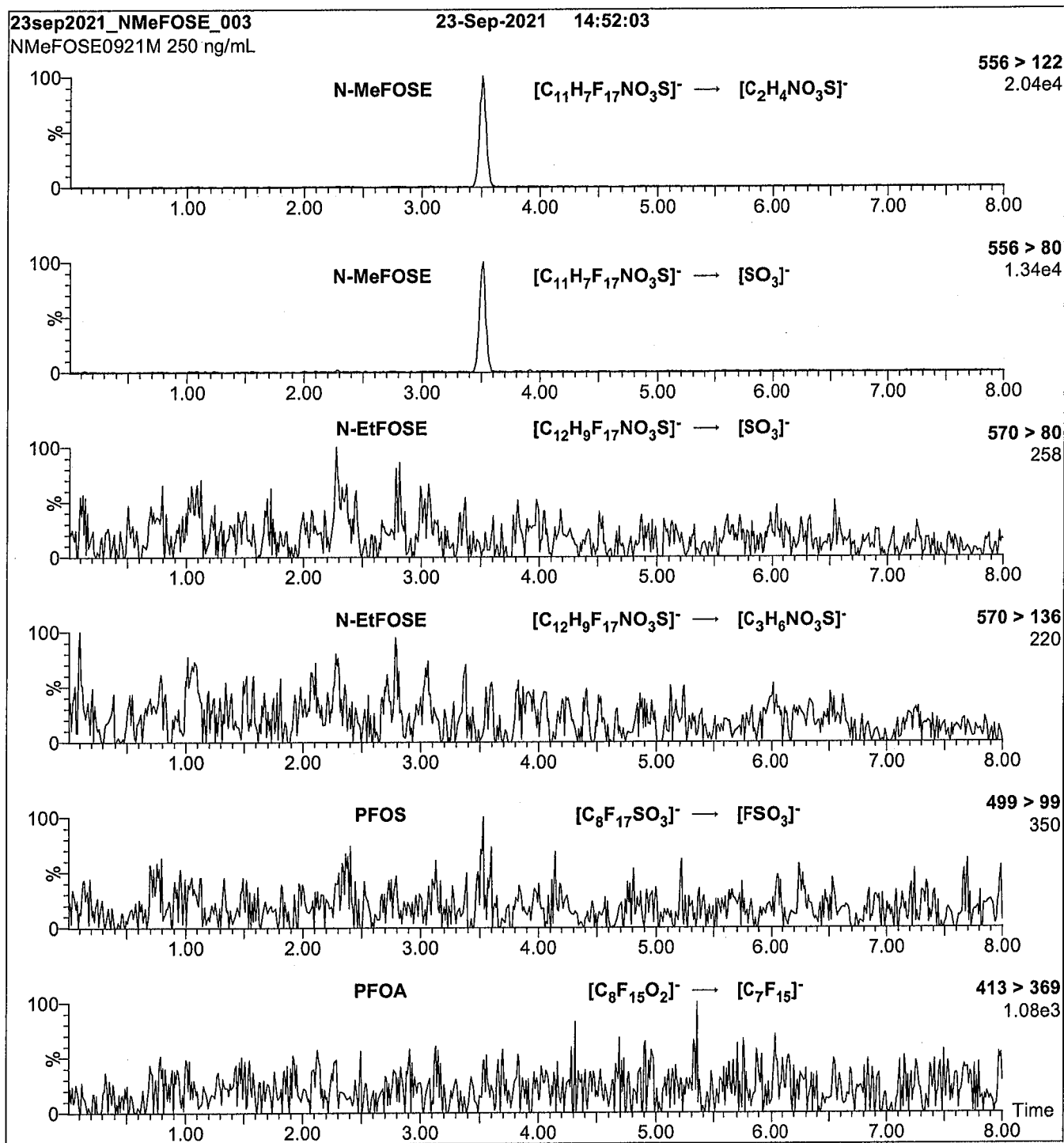
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 65.00

Desolvation Temperature (°C) = 450

Desolvation Gas Flow (L/hr) = 1000

Figure 3: N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column (N-MeFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 36

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Analytical Standard Record

22C0307

Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: NMeFOSE0921M)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

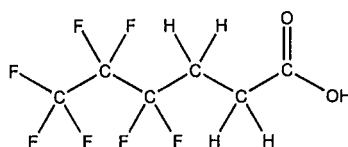
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE		24448-09-7	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA **LOT NUMBER:** FPrPA0122
COMPOUND: 3-Perfluoropropyl propanoic acid **22C0308**
STRUCTURE: **CAS #:** 356-02-5



MOLECULAR FORMULA: $C_6H_5F_7O_2$ **MOLECULAR WEIGHT:** 242.09
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/03/2022
EXPIRY DATE: (mm/dd/yyyy) 02/03/2027
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ($C_8H_3F_7O_2$) 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: 02/04/2022
 (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:

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:

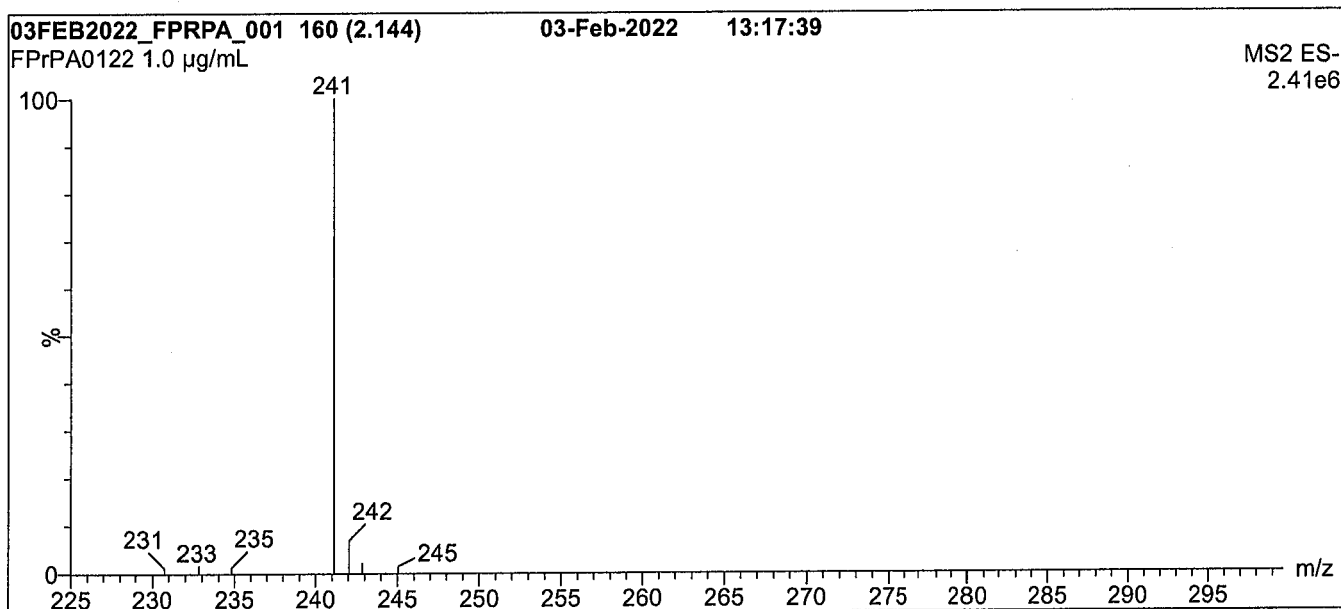
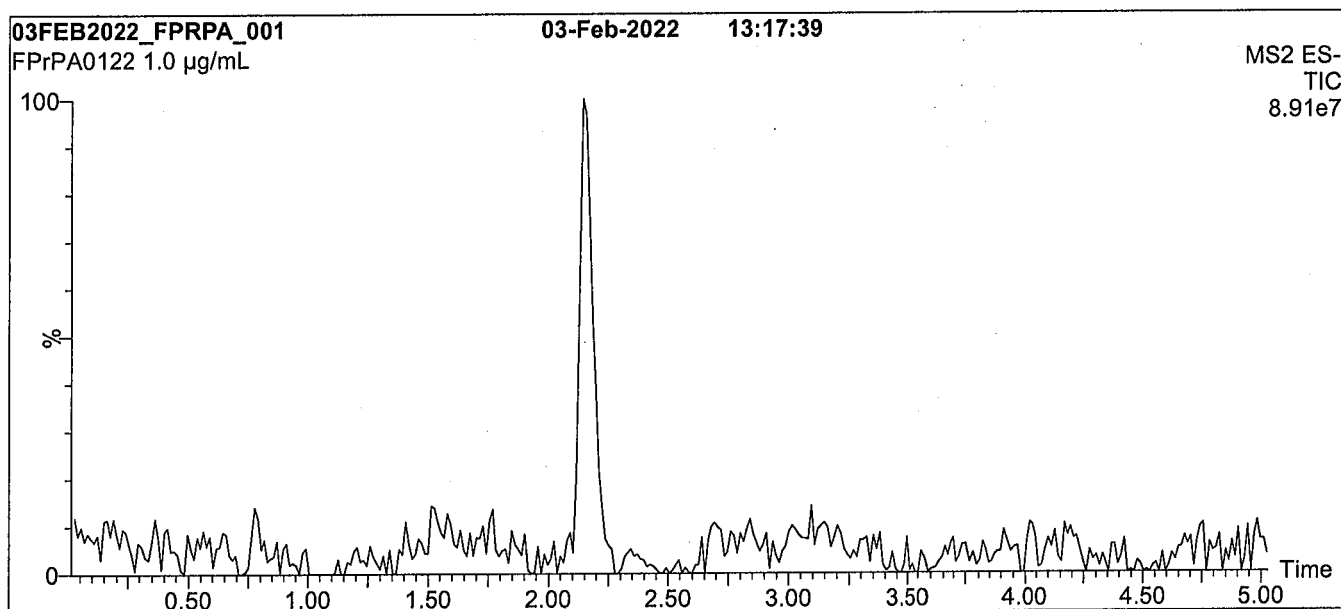
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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

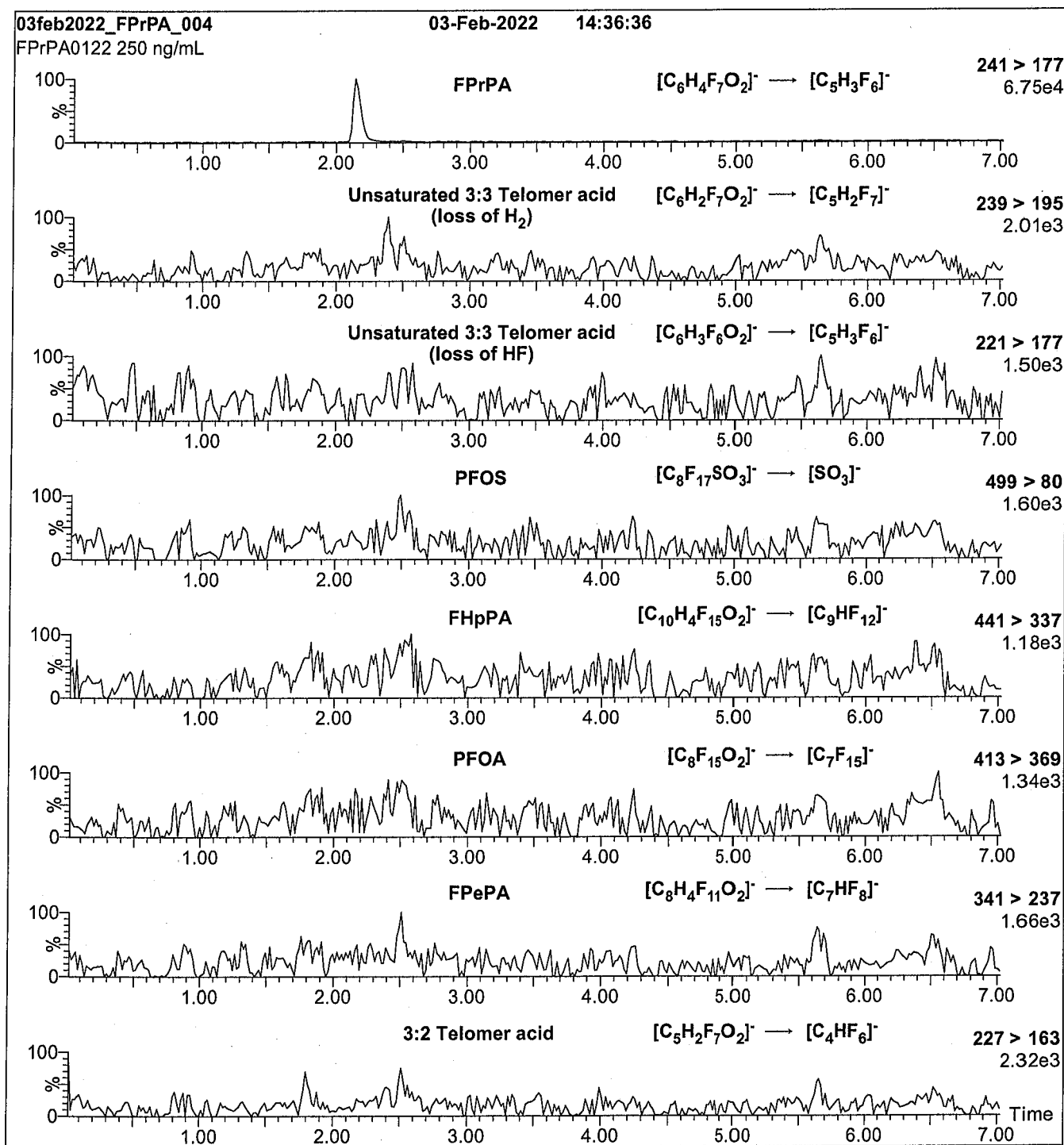
Mobile phase: Gradient
Start: 60% H₂O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

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

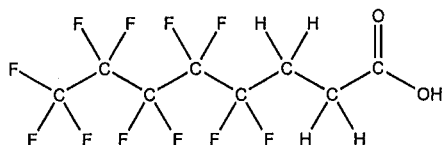


WELLINGTON LABORATORIES

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

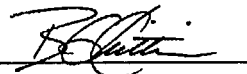
DOCUMENTATION/ DATA ATTACHED:

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:

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SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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

UNCERTAINTY:

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:

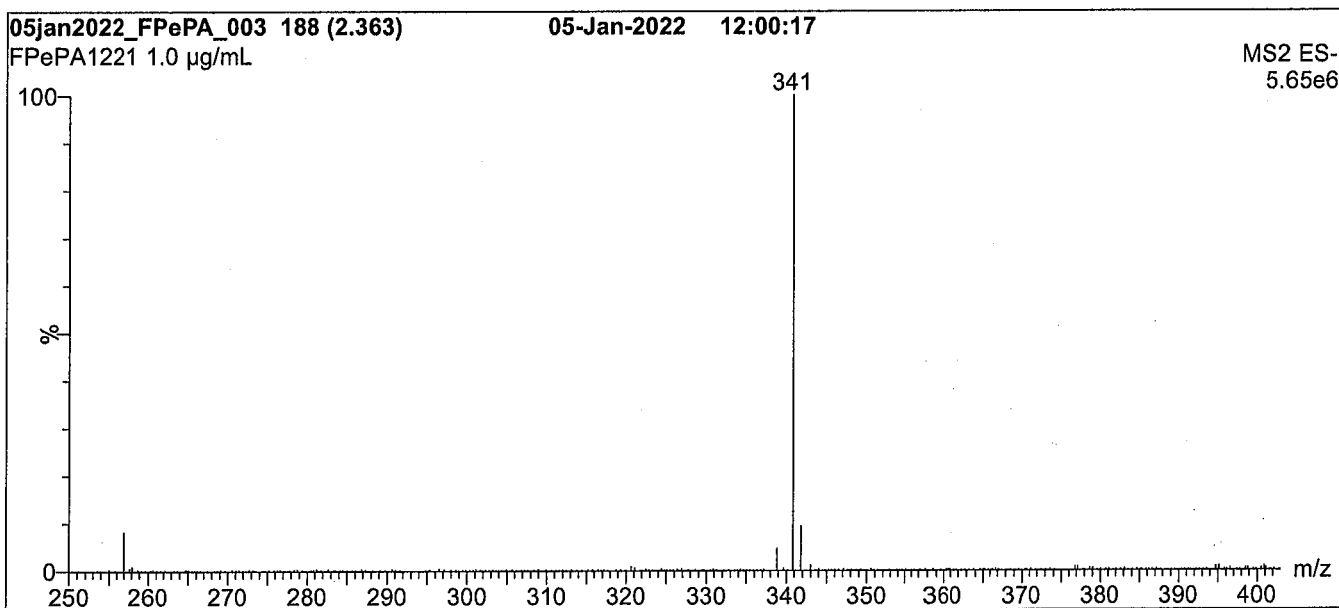
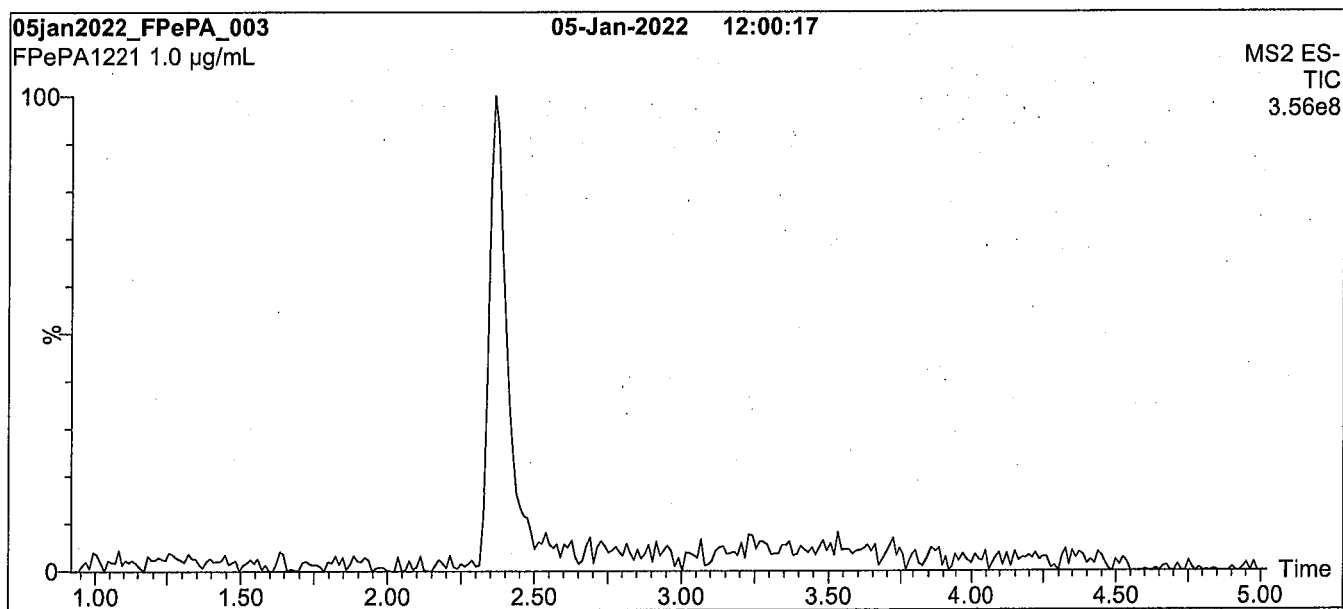
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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Figure 1: 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

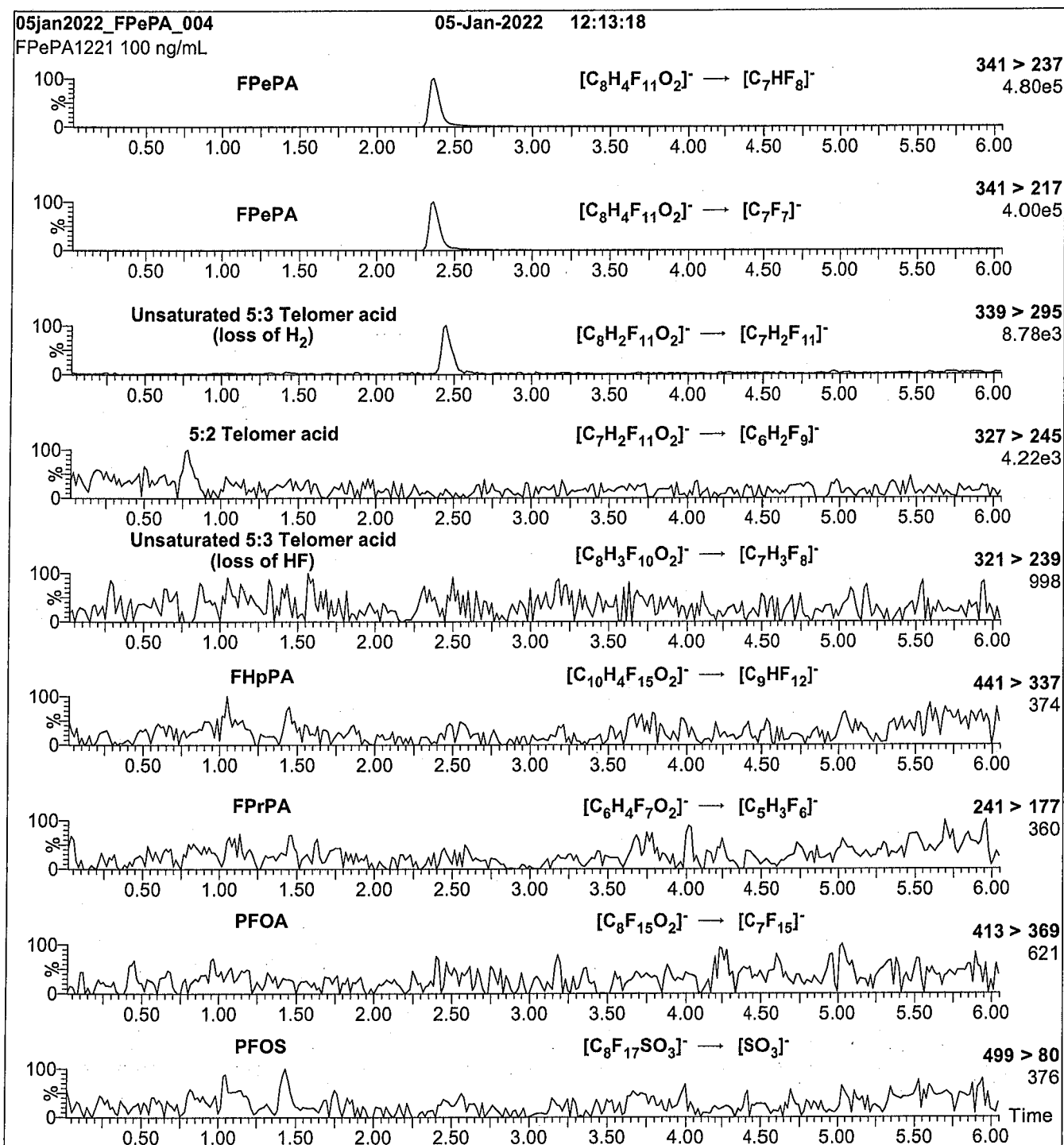
Mobile phase: Gradient
 Start: 45% H₂O / 55% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min and hold for
 3 min before returning to initial conditions in 0.75 min.
 Time: 12 min

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

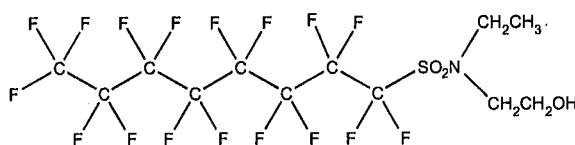
Analyte	Parent	CAS Number	Concentration	Units
5:3FTCA		914637-49-3	50	ug/mL



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: $C_{12}H_{10}F_{17}NO_3S$ **MOLECULAR WEIGHT:** 571.25
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **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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$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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:

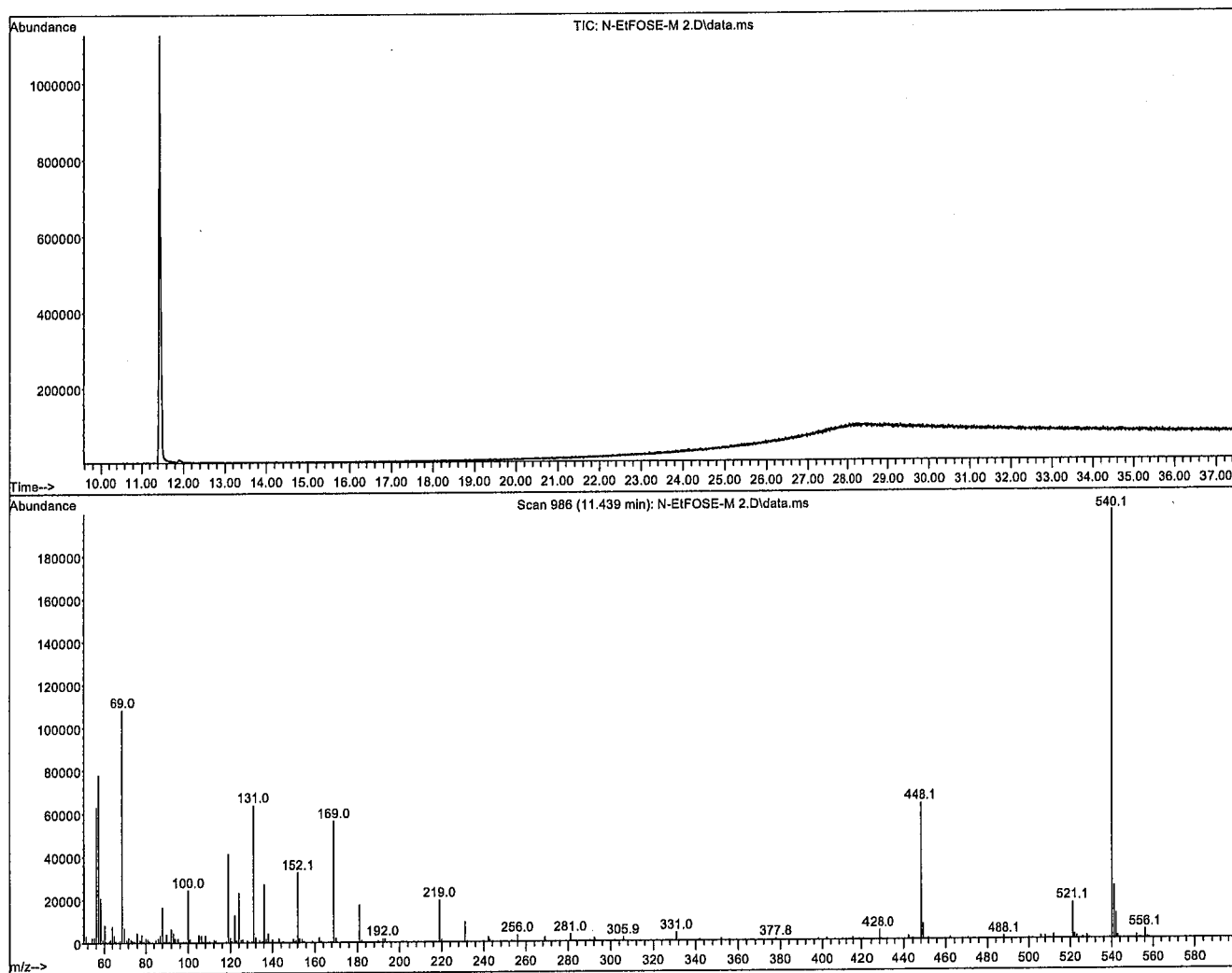
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QUALITY MANAGEMENT:

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

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

Agilent 7890A HRGC
 Agilent 5975C MSD

Chromatographic Conditions:

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

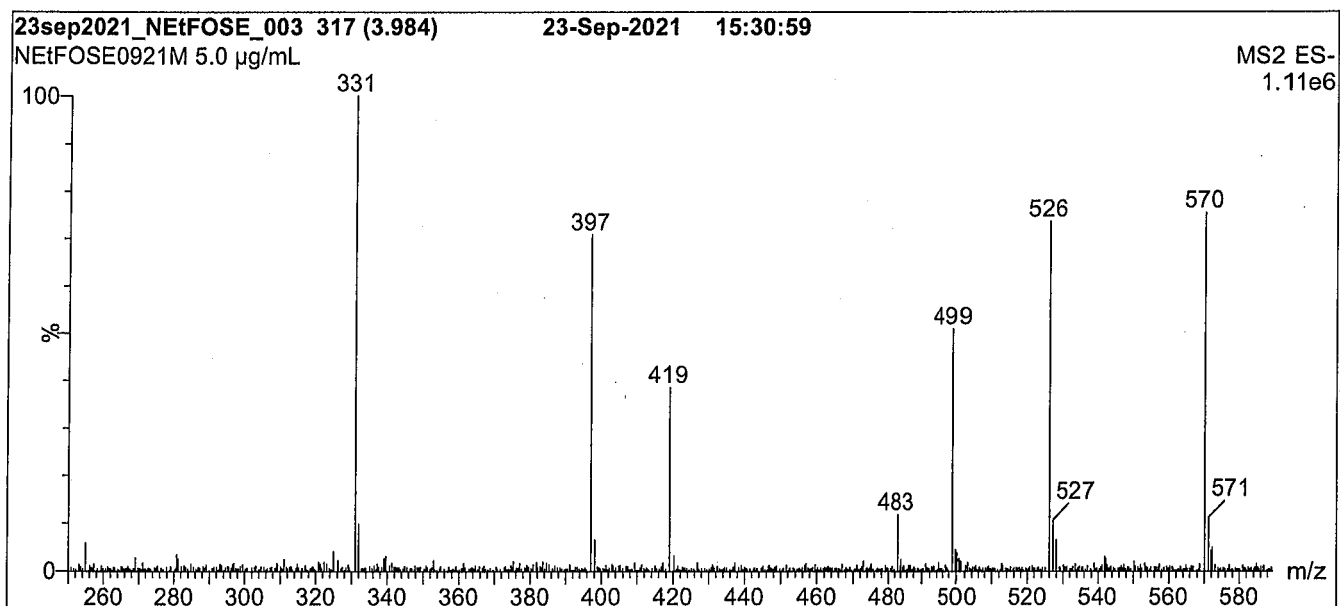
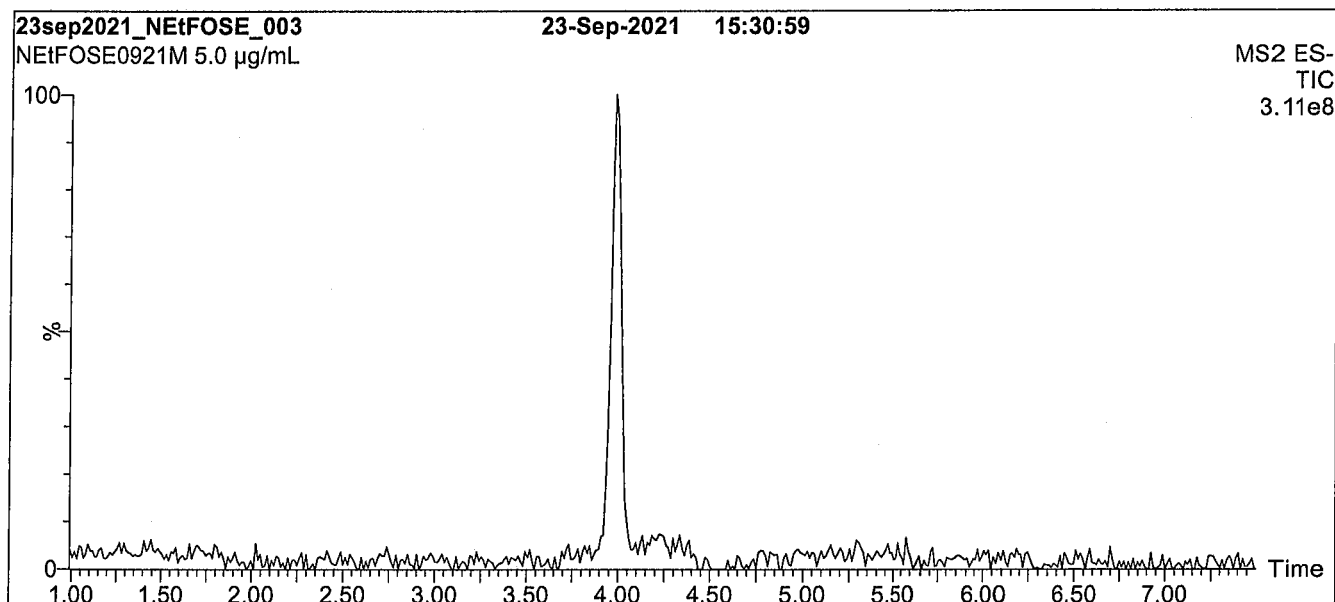
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)
 10°C/min to 325°C
 325°C (10 min)

Ionization: EI+

Detector: 230°C
 Full Scan (50-1000 amu)

Figure 2: N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 2:**

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

Chromatographic Conditions:

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

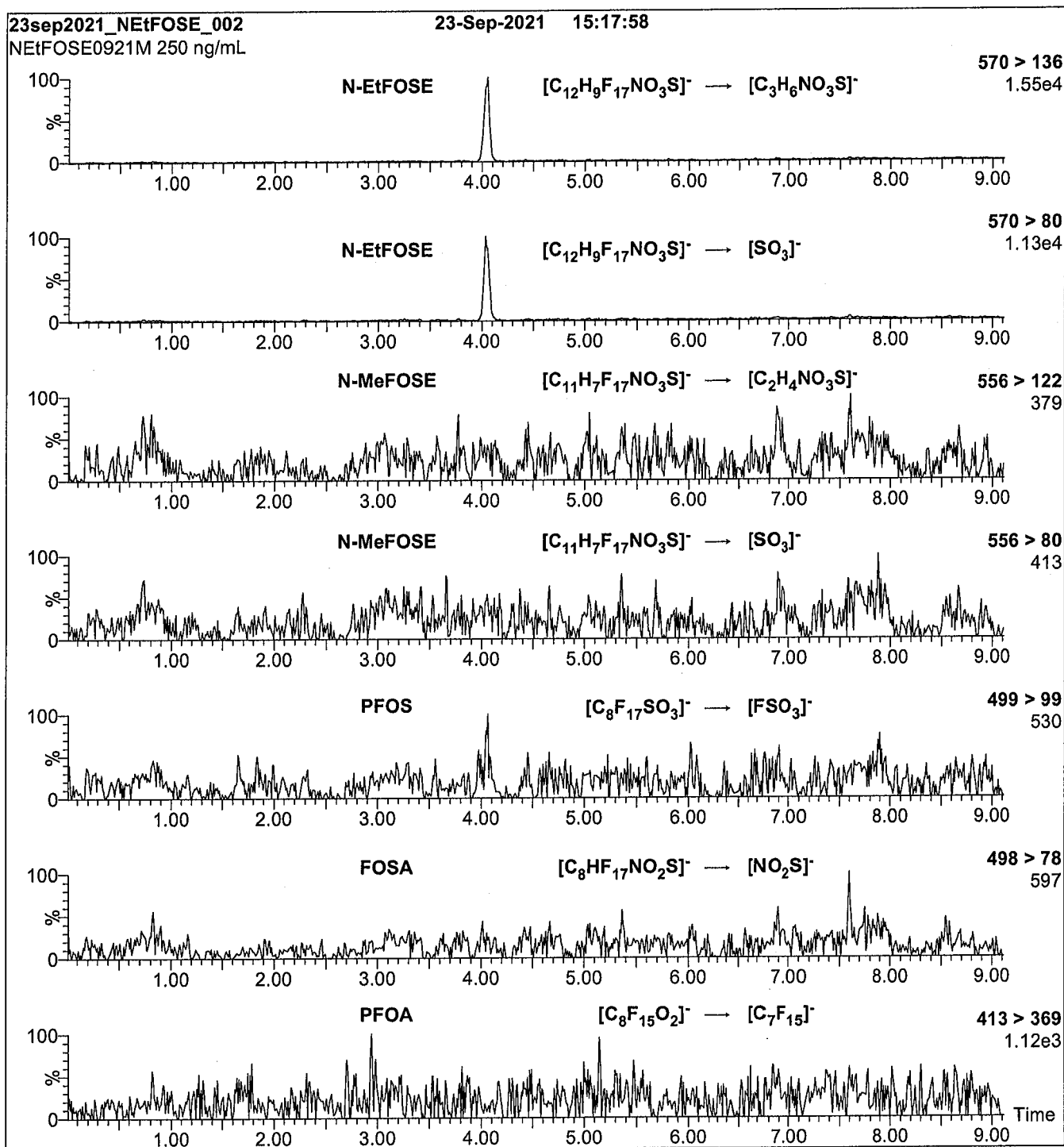
Mobile phase: Gradient
Start: 30% H₂O / 70% MeOH
Ramp to 90% organic over 8 min and hold for
1.5 min before returning to initial conditions in 1 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (L/hr) = 1000

Figure 3: N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

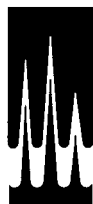
Collision Energy (eV) = 32

Analytical Standard Record

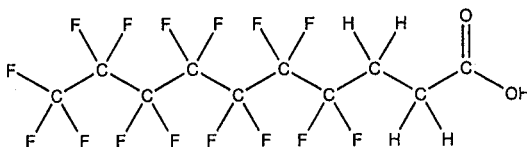
22C0310

Description:	PFAS - SAS NETFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: NETFOSE0921M)
Final Volume (mls):	1	Department:	NETFOSE
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NETFOSE		1691-99-2	50	ug/mL

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: FHpPA **LOT NUMBER:** FHpPA1020
COMPOUND: 3-Perfluoroheptyl propanoic acid **22C0311**
STRUCTURE: **CAS #:** 812-70-4



MOLECULAR FORMULA: $C_{10}H_6F_{16}O_2$ **MOLECULAR WEIGHT:** 442.12
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/12/2020
EXPIRY DATE: (mm/dd/yyyy) 11/12/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 11/27/2020
(mm/dd/yyyy)

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

INTENDED USE:

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:

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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.

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LIMITED WARRANTY:

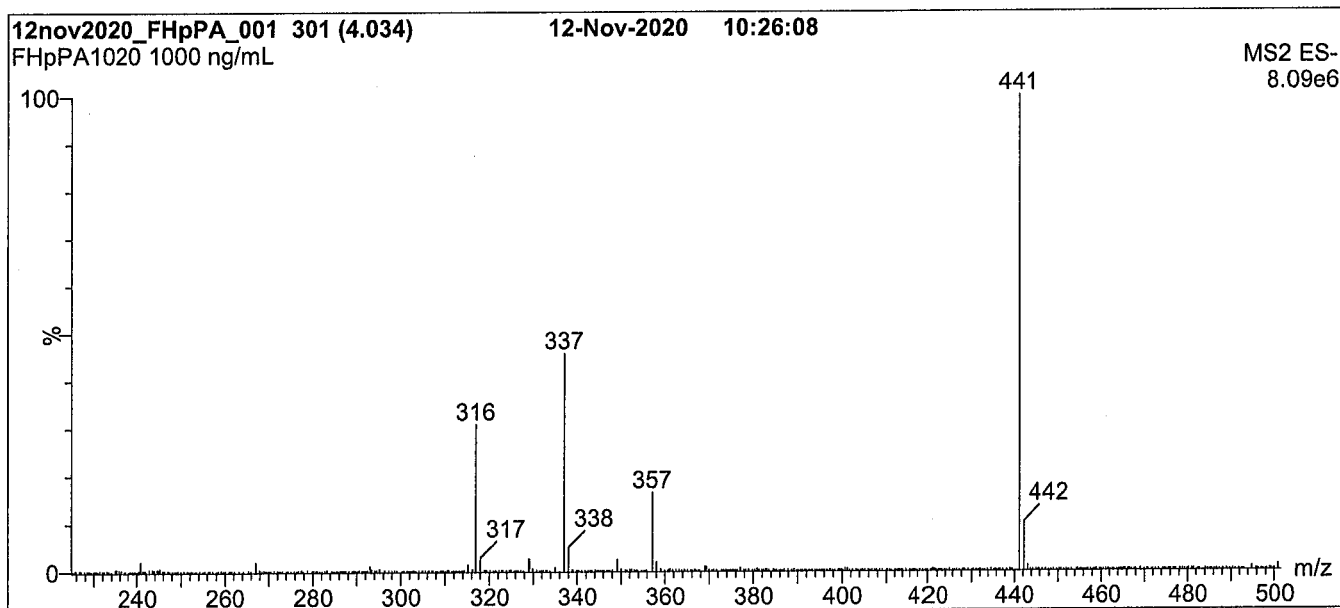
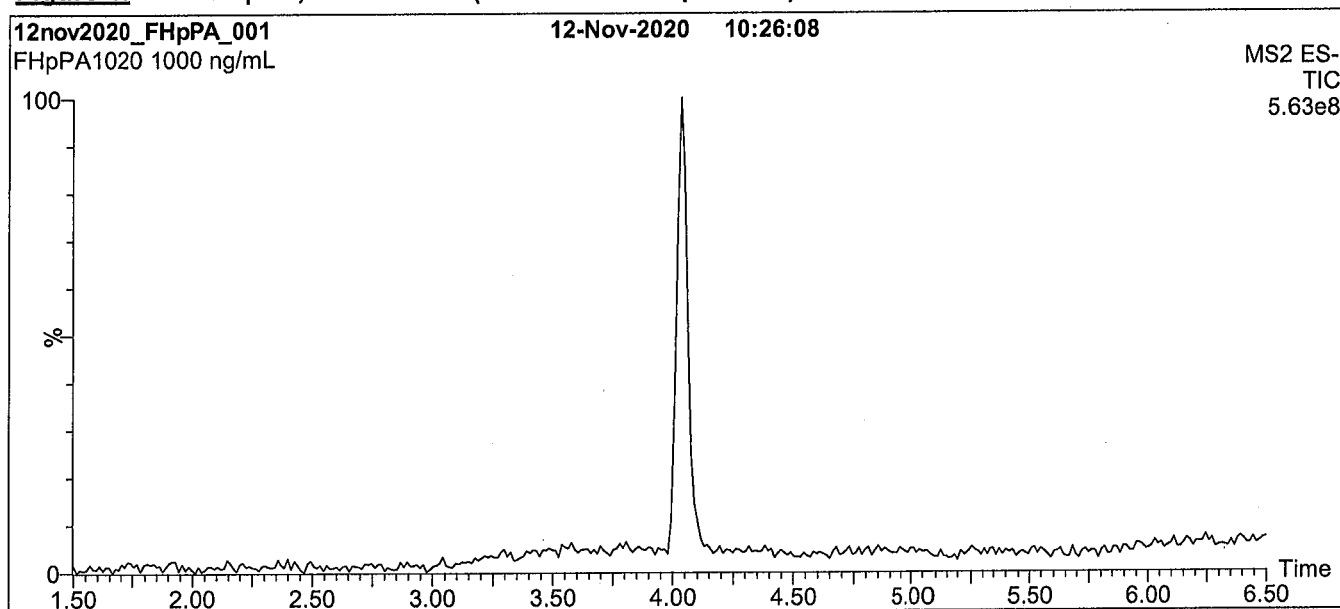
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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-ASQ National Accreditation Board (ANAB; AR-1523).



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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)

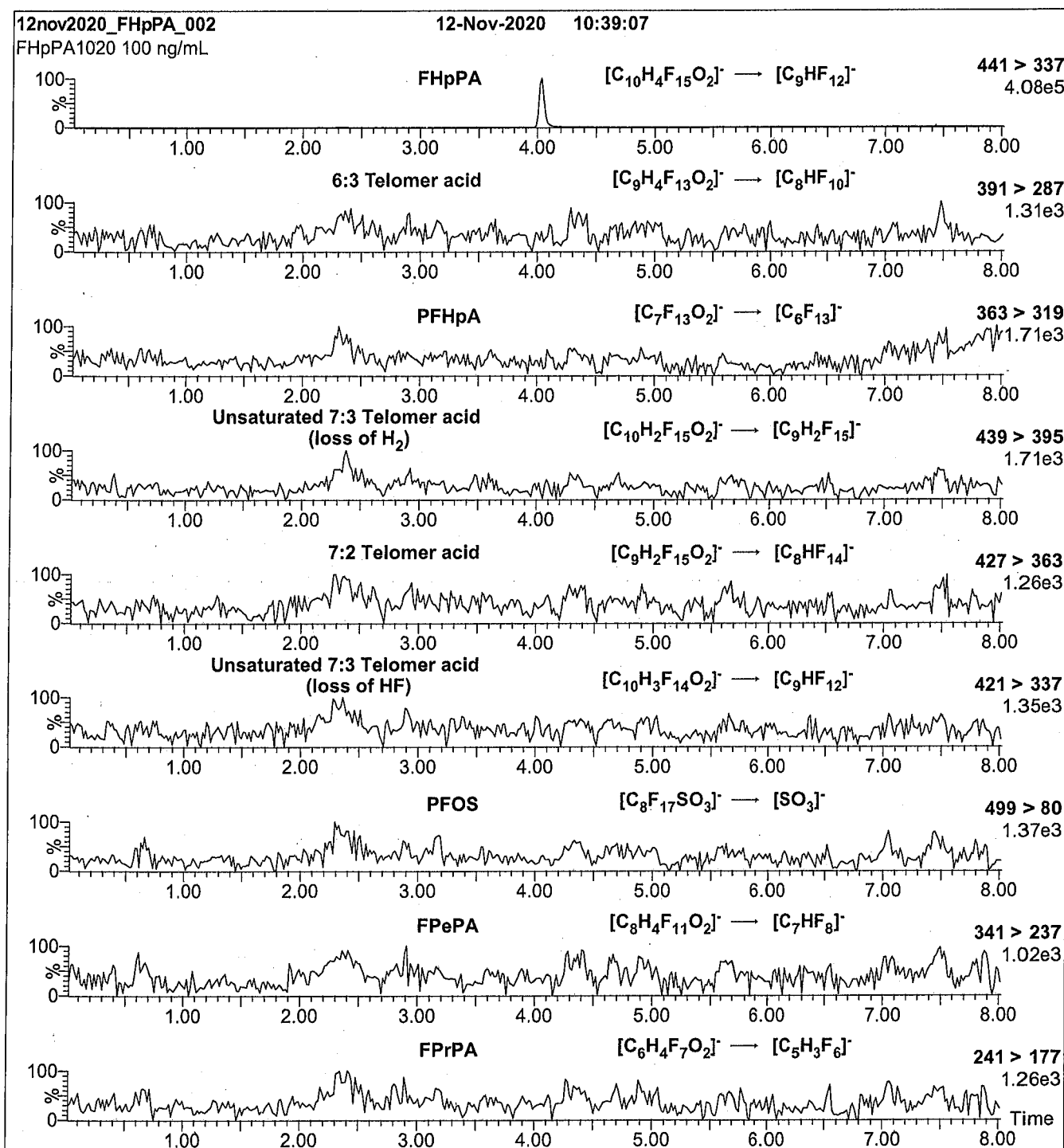
Source: Electrospray (negative)

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:	FHpPA
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

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

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

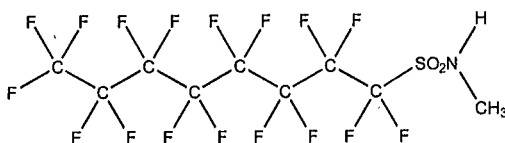
Analyte	Parent	CAS Number	Concentration	Units
7:3FTCA		812-70-4	50	ug/mL



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

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

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LIMITED WARRANTY:

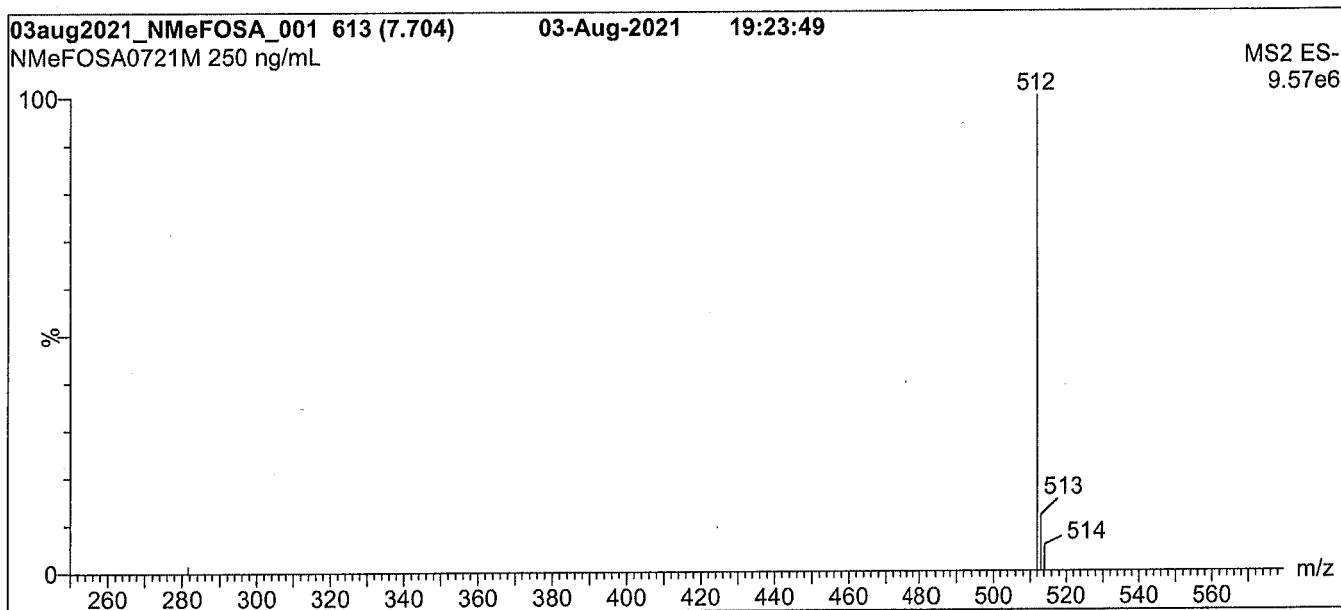
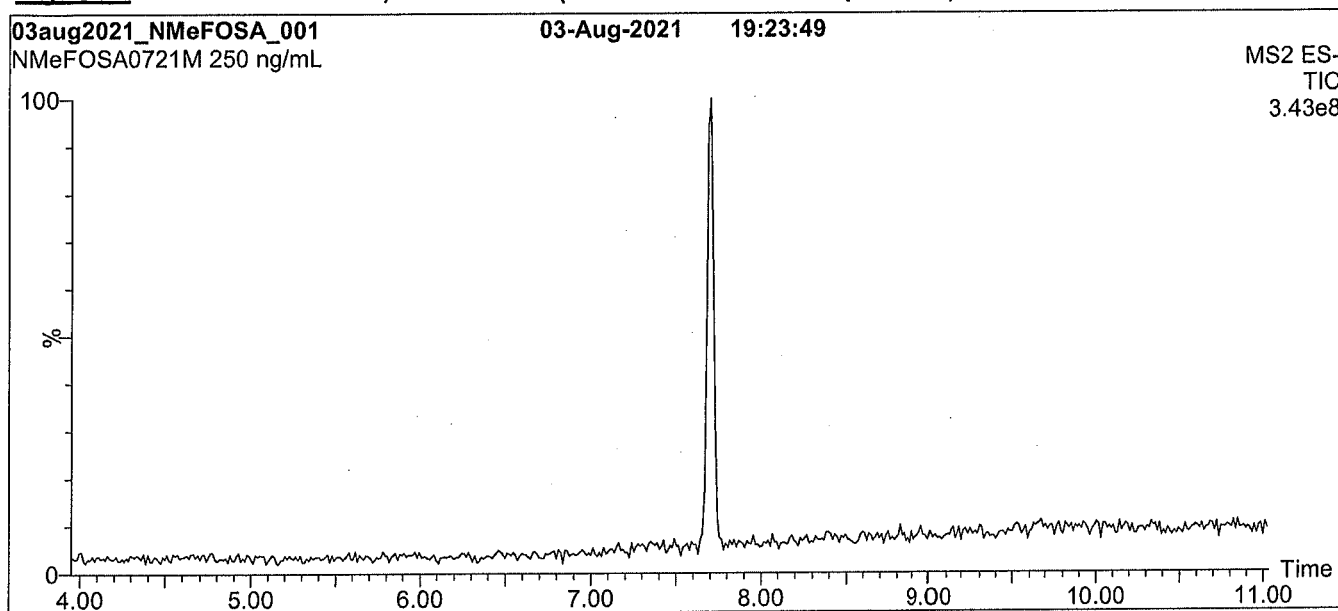
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QUALITY MANAGEMENT:

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Figure 1: N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

Chromatographic Conditions:

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

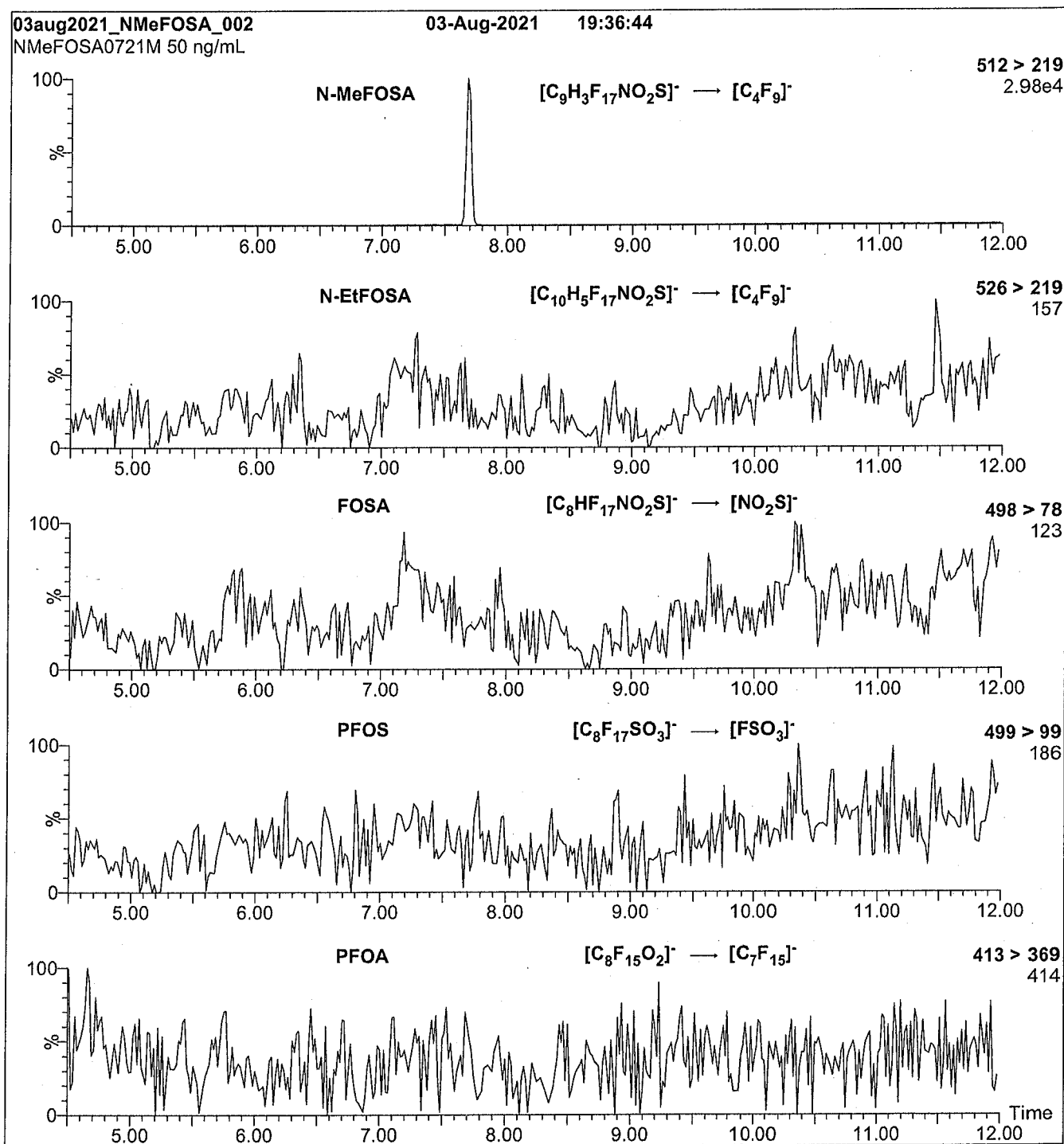
Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 24

Analytical Standard Record

22C0312

Description:	PFAS - SAS NMeFOSA 50ug/mL	Expires:	08/03/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

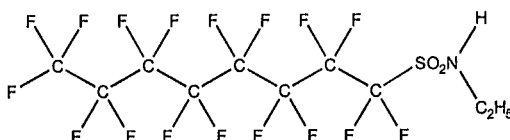
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M **LOT NUMBER:** NEtFOSA0821M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide **22C0313**
STRUCTURE: **CAS #:** 4151-50-2



MOLECULAR FORMULA: C₁₀H₆F₁₇NO₂S **MOLECULAR WEIGHT:** 527.20
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/12/2021
EXPIRY DATE: (mm/dd/yyyy) 08/12/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

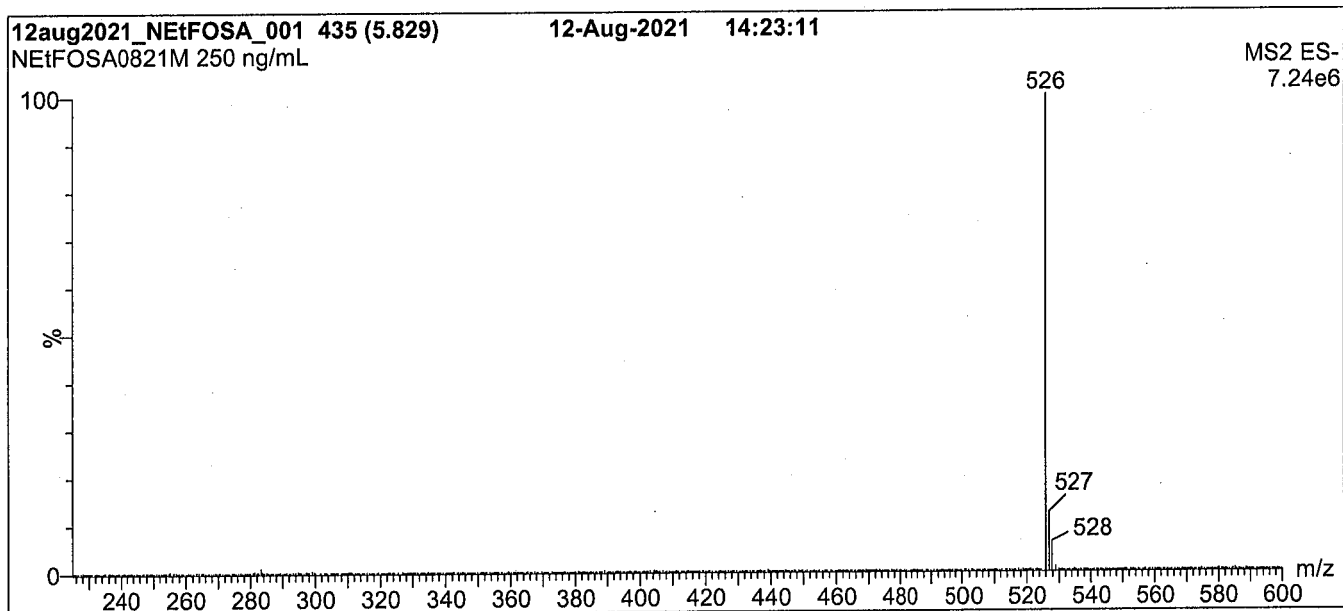
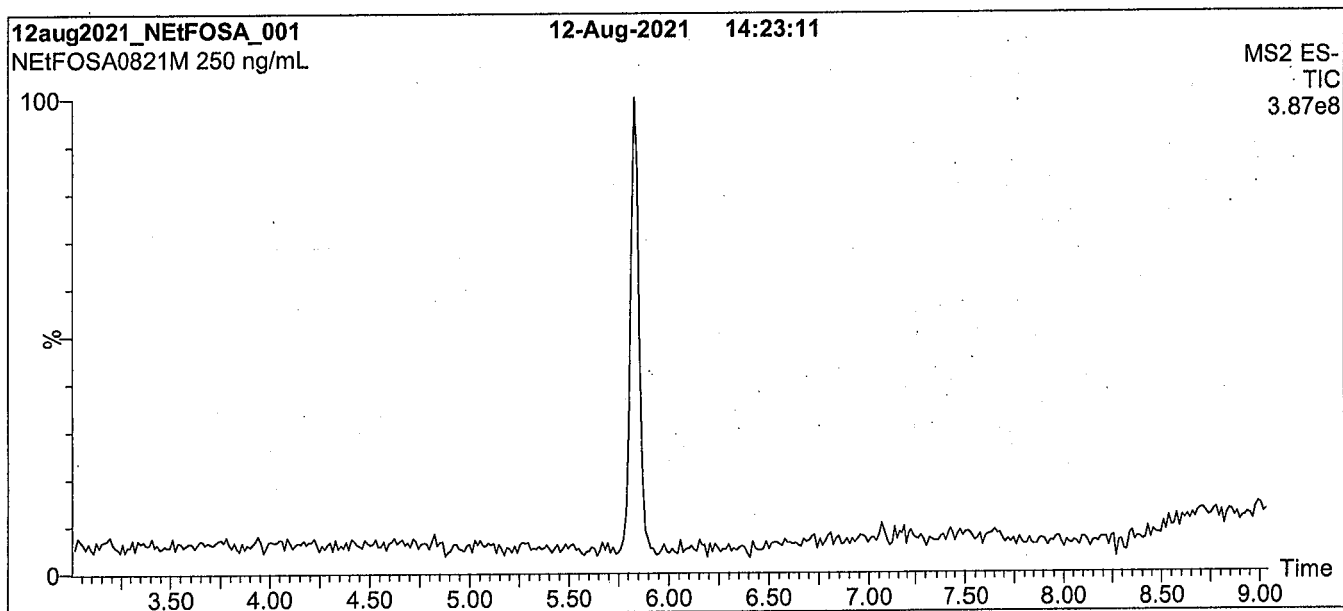
- See page 2 for further details.

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Certified By: 
B.G. Chittim, General Manager

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

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

Figure 1: N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

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

Chromatographic Conditions:

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

Mobile phase: Gradient

Start: 30% H₂O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

Analytical Standard Record

22C0313

Description:	PFAS - SAS NETFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Other	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: NETFOSA0821M)
Final Volume (mls):	1	Department:	NETFOSA
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

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



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF 22F0058

**Native Replacement PFAS
Solution/Mixture**

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

DESCRIPTION:

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

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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

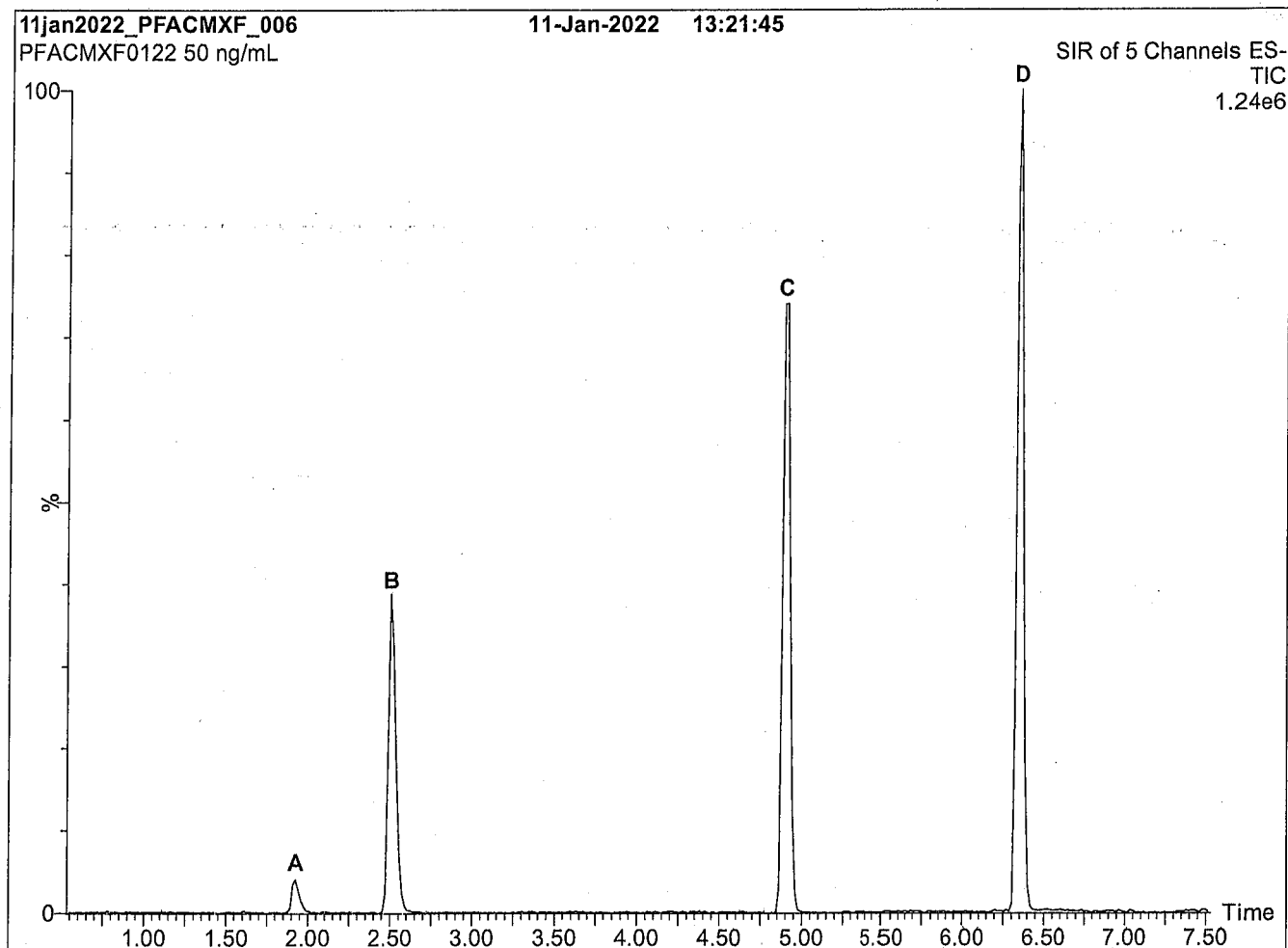
Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

* Concentrations have been rounded to three significant figures.

Certified By: 

B.G. Chittim, General Manager

Date: 01/12/2022
(mm/dd/yyyy)

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

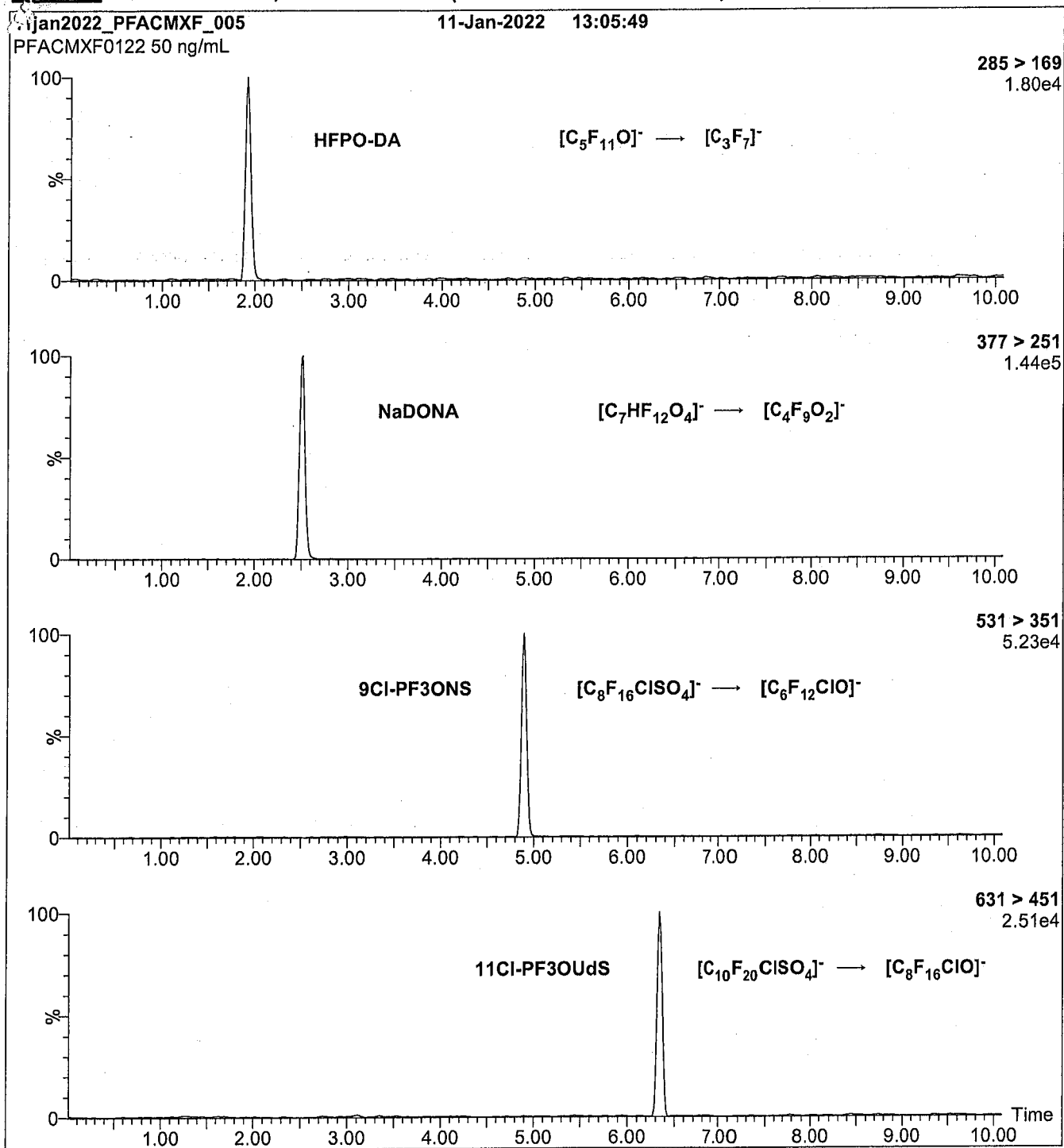
Mobile phase: Gradient
 Start: 45% H₂O / 55% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 8 min and hold for 2 min
 before returning to initial conditions in 0.75 min.
 Time: 12 min

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.

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).



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

Compound	Acronym	Concentration* ($\mu\text{g/mL}$)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4.00		1
Perfluoro-n-pentanoic acid	PFPeA	2.00		2
Perfluoro-n-hexanoic acid	PFHxA	1.00		5
Perfluoro-n-heptanoic acid	PFHpA	1.00		7
Perfluoro-n-octanoic acid	PFOA	1.00		11
Perfluoro-n-nonanoic acid	PFNA	1.00		14
Perfluoro-n-decanoic acid	PFDA	1.00		18
Perfluoro-n-undecanoic acid	PFUdA	1.00		23
Perfluoro-n-dodecanoic acid	PFDoA	1.00		26
Perfluoro-n-tridecanoic acid	PFTrDA	1.00		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1.00		29
Perfluoro-1-octanesulfonamide	FOSA	1.00		25
N-methylperfluorooctanesulfonamidoacetic acid ^a	N-MeFOSAA: linear isomer	0.760		20
	N-MeFOSAA: Σ branched isomers	0.240		17
N-ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	0.775		22
	N-EtFOSAA: Σ branched isomers	0.225		21
Compound	Acronym	Concentration* ($\mu\text{g/mL}$)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1.00	0.887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1.00	0.941	6
Potassium perfluorohexadisulfonate ^c	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: Σ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctadisulfonate ^d	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: Σ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decadisulfonate	L-PFDS	1.00	0.965	24
Sodium perfluoro-1-dodecadisulfonate	L-PFDoS	1.00	0.970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4.00	3.75	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4.00	3.80	10
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2FTS	4.00	3.84	16

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

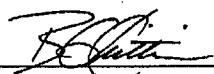
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: _____


B.G. Chittim, General Manager

Date: 09/23/2021

(mm/dd/yyyy)

Table B: br-NMeFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_3$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\quad \quad \quad \text{CF}_3$ $\quad \quad \quad $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	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.

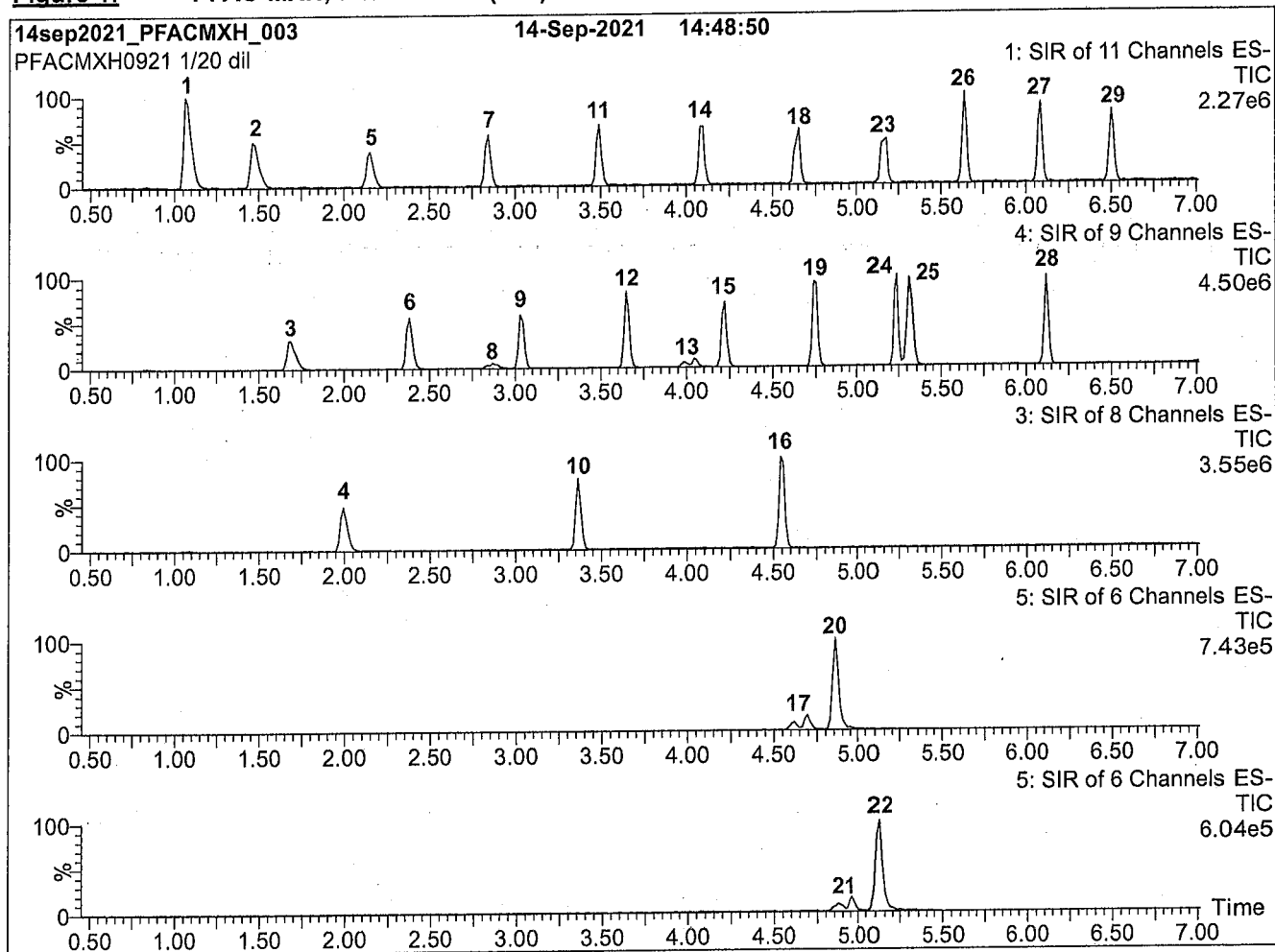
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

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

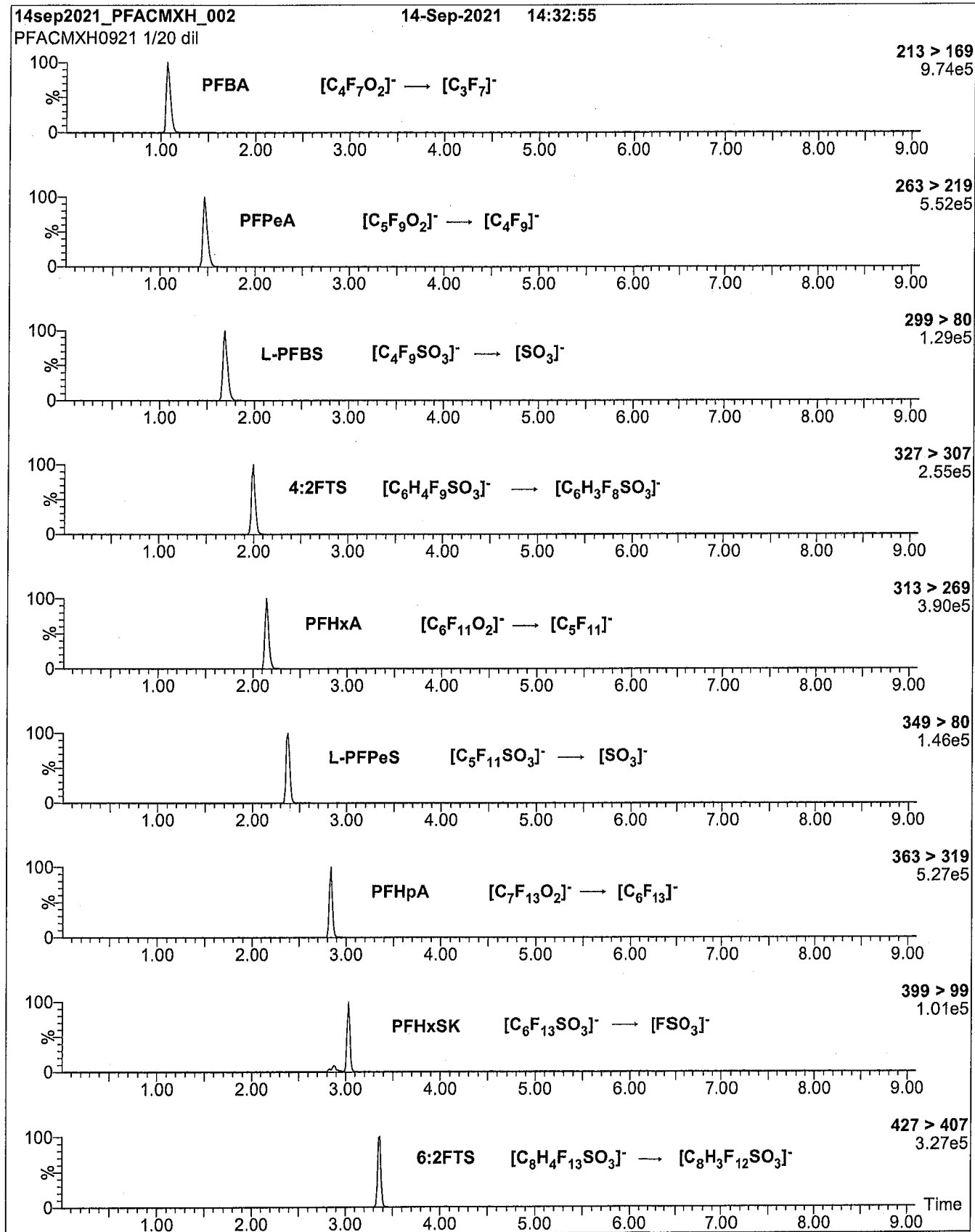
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

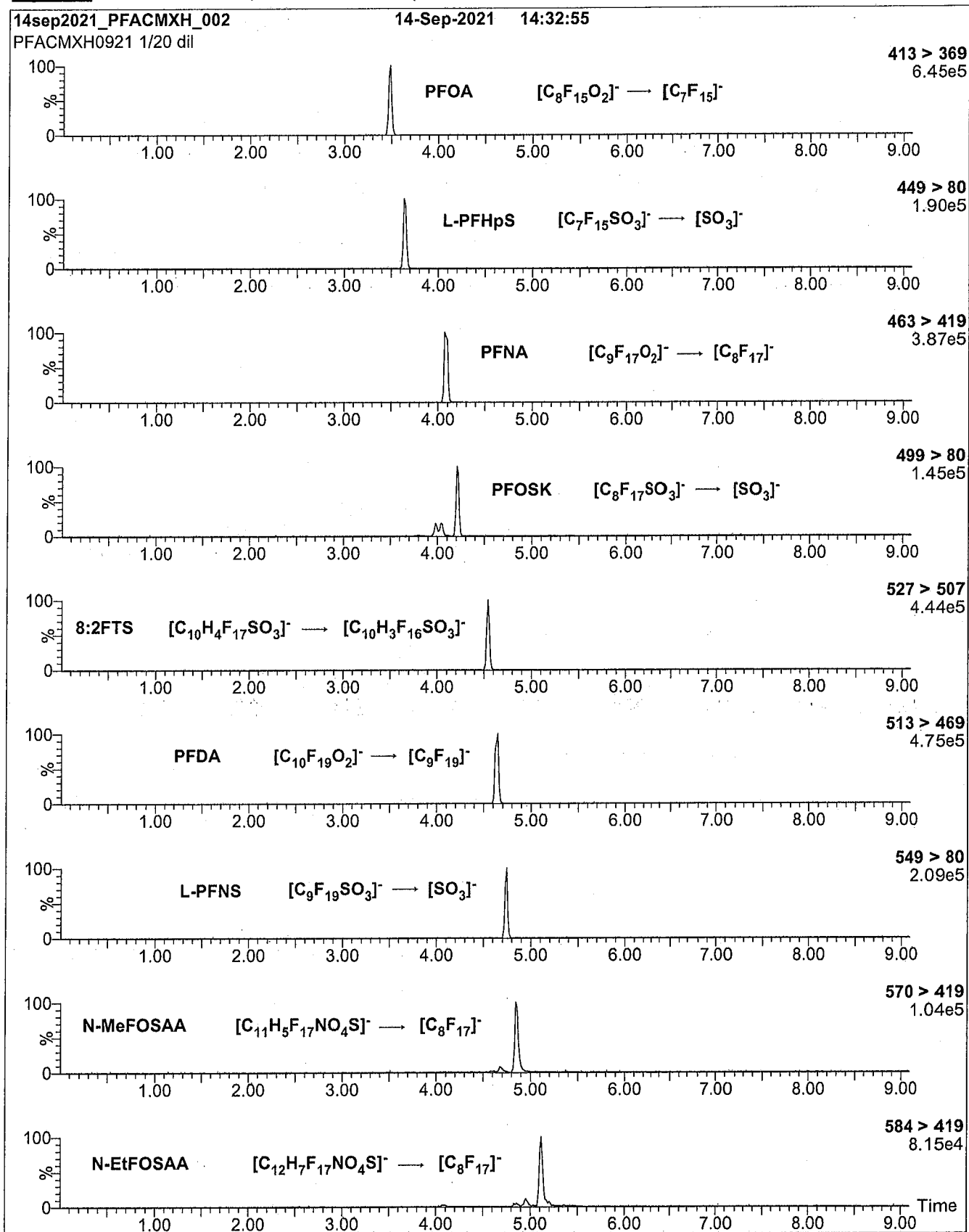
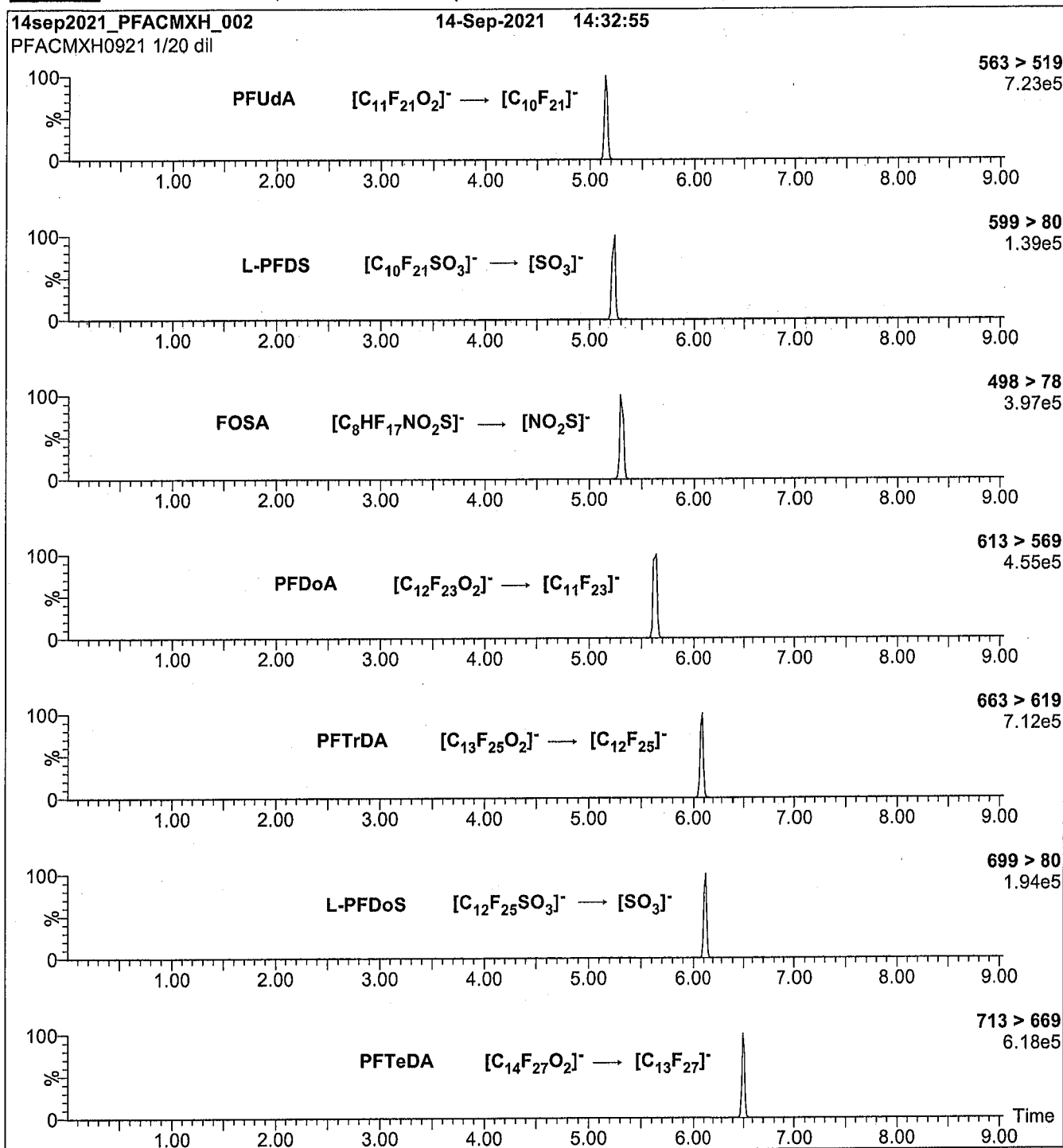
Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)

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.

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

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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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HOMOGENEITY:

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x_1, x_2, \dots, x_n on which it depends is:

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

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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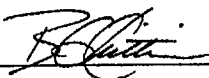
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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

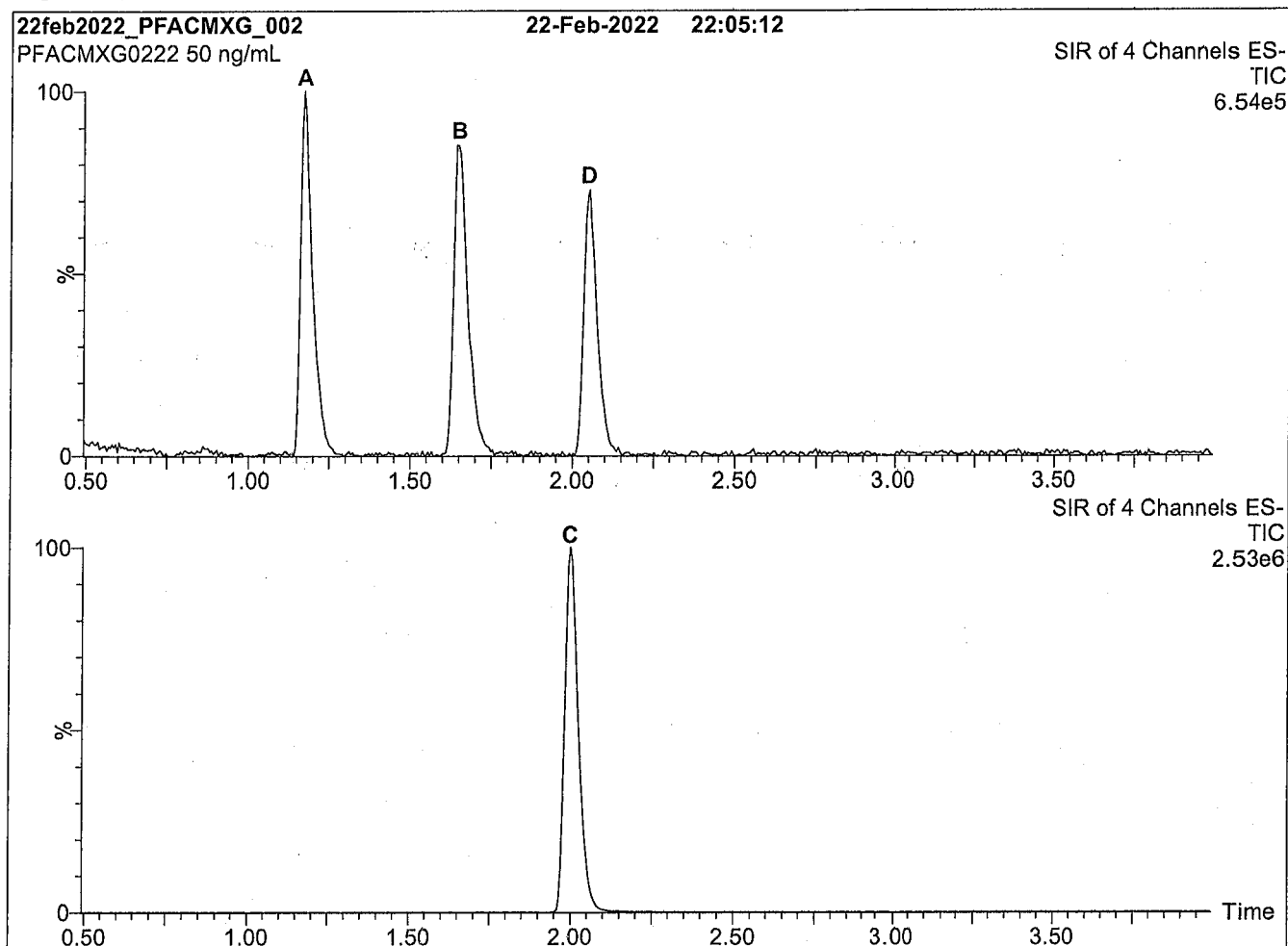
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: _____


B.G. Chittim, General Manager

Date: 03/03/2022
(mm/dd/yyyy)

Figure 1: PFAC-MXG; LC/MS Data (SIR)**Conditions for Figure 1:**

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

Chromatographic Conditions:

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

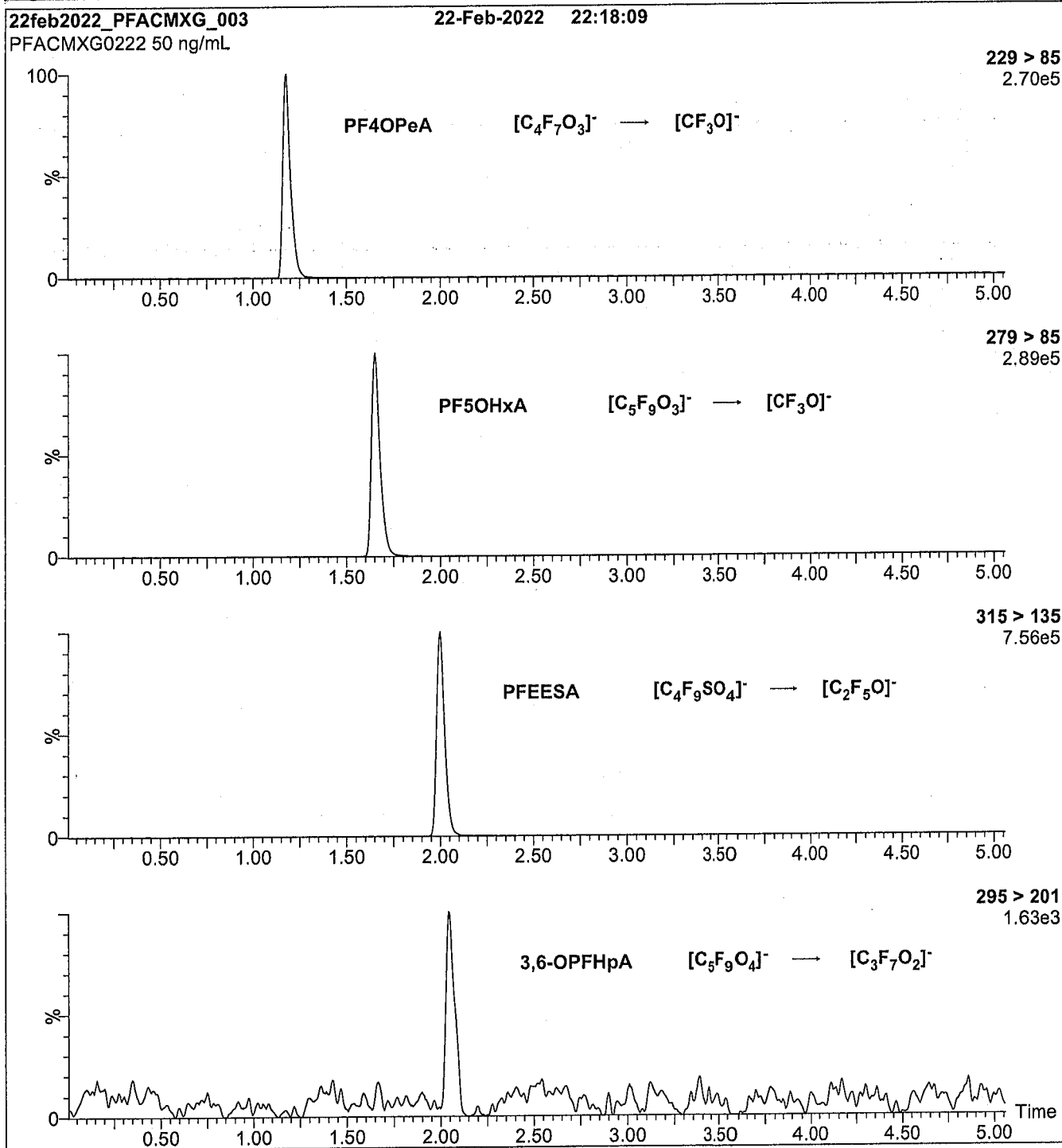
Mobile phase: Gradient
Start: 50% H₂O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = variable (15-35)
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: PFAC-MXG; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (PFAC-MXG)

Mobile phase: Same as Figure 1

Flow: 300 μ L/min**MS Parameters:**

Collision Gas (mbar) = 3.33e-3

Collision Energy (eV) = 8-48 (variable)

Analytical Standard Record

22F0061

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG
Comments:	contains NFDHA PFMBA PFMPA PFEESA @ 2ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

Analytical Standard Record

22F0445

Description:	TDCA 1000ug/mL	Expires:	09/19/2023
Standard Type:	Other	Prepared:	01/12/2022
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	25	Department:	PFAS
Vials:	1	Last Edit:	11/14/2022 14:31 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID	22A0123	516-50-7	1000	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22A0123	PFAS Taurodeoxycholic Acid, Sodium Salt neat	10/09/2021	Calbiochem	3761825	09/30/2023	06/22/2022 13:01 by DAG	25000

Analytical Standard Record

22F0446

Description:	TCDA 100ug/mL	Expires:	09/19/2023
Standard Type:	Other	Prepared:	01/13/2022
Solvent:	62097	Prepared By:	Dipti Gokal
Final Volume (mls):	3	Department:	PFAS
Vials:	1	Last Edit:	06/22/2022 13:05 by DAG

Analyte	Parent	CAS Number	Concentration	Units
TAURODEOXYCHOLIC ACID	22F0445	516-50-7	100	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22F0445	TCDA 1000ug/mL	01/12/2022	Calbiochem	3761825	09/19/2023	06/22/2022 13:05 by DAG	0.3

Analytical Standard Record

22I0153

Description:	PFAS - MIX 1633 200ng/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	09/13/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	6	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE	22C0307	24448-09-7	0.8	ug/mL
3:3FTCA	22C0308	113507-82-7	0.8	ug/mL
5:3FTCA	22C0309	914637-49-3	0.8	ug/mL
NEtFOSE	22C0310	1691-99-2	0.8	ug/mL
7:3FTCA	22C0311	812-70-4	0.8	ug/mL
NMeFOSA	22C0312	31506-32-8	0.8	ug/mL
NEtFOSA	22C0313	4151-50-2	0.8	ug/mL
11CL-PF3OUDS	22F0058	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22F0058	756426-58-1	0.374	ug/mL
ADONA	22F0058	919005-14-4	0.378	ug/mL
HFPO-DA	22F0058	13252-13-6	0.4	ug/mL
4:2FTS	22F0059	757124-72-4	0.75	ug/mL
6:2FTS	22F0059	27619-97-2	0.76	ug/mL
8:2FTS	22F0059	39108-34-4	0.768	ug/mL
NEtFOSAA	22F0059	2991-50-6	0.2	ug/mL
NMeFOSAA	22F0059	2355-31-9	0.2	ug/mL
PFBA	22F0059	375-22-4	0.8	ug/mL
PFBS	22F0059	375-73-5	0.177	ug/mL
PFDA	22F0059	335-76-2	0.2	ug/mL
PFDOA	22F0059	307-55-1	0.2	ug/mL
PFDOS	22F0059	79780-39-5	0.194	ug/mL
PFDS	22F0059	335-77-3	0.193	ug/mL
PFHPA	22F0059	375-85-9	0.2	ug/mL
PFHPS	22F0059	375-92-8	0.191	ug/mL
PFHXA	22F0059	307-24-4	0.2	ug/mL
PFHXS	22F0059	355-46-4	0.183	ug/mL
PFNA	22F0059	375-95-1	0.2	ug/mL
PFNS	22F0059	68259-12-1	0.192	ug/mL
PFOA	22F0059	335-67-1	0.2	ug/mL
PFOS	22F0059	1763-23-1	0.186	ug/mL
PFOSA	22F0059	754-91-6	0.2	ug/mL
PFPEA	22F0059	2706-90-3	0.4	ug/mL
PFPEs	22F0059	630402-22-1	0.188	ug/mL
PFTEDA	22F0059	376-06-7	0.2	ug/mL
PFTRDA	22F0059	72629-94-8	0.2	ug/mL
PFUnA	22F0059	2058-94-8	0.2	ug/mL
NFDHA	22F0061	151772-58-6	0.4	ug/mL
PFEESA	22F0061	113507-82-7	0.356	ug/mL
PFMBA	22F0061	863090-89-5	0.4	ug/mL
PFMPA	22F0061	377-73-1	0.4	ug/mL

Analytical Standard Record

22I0153

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22C0307	PFAS - SAS N-MeFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0308	PFAS - SAS FPrPA 50ug/mL	03/15/2022	Wellington Laboratories	FPrPA0122	02/03/2027	03/15/2022 15:59	by DAG	0.096
22C0309	PFAS - SAS FPePA 50ug/mL	03/15/2022	Wellington Laboratories	FPePA1221	01/05/2027	03/15/2022 15:59	by DAG	0.096
22C0310	PFAS - SAS NEtFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0311	PFAS - SAS FHpPA 50ug/mL	03/15/2022	Wellington Laboratories	HHpPA1020	11/12/2025	03/15/2022 16:00	by DAG	0.096
22C0312	PFAS - SAS NMeFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSA0721M	08/03/2026	03/15/2022 16:00	by DAG	0.096
22C0313	PFAS - SAS NEtFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSA0821M	08/12/2026	08/17/2022 10:49	by LYA	0.096
22F0058	PFAS - MIX MXF 2ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	09/15/2022 09:32	by DAG	1.2
22F0059	PFAS - MIX MXH 2ug/mL	09/09/2021	Wellington Laboratories	PFACMXH0921	09/14/2026	09/15/2022 09:33	by DAG	1.2
22F0061	PFAS - MIX MXG 2ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	09/15/2022 09:34	by DAG	1.2

Analytical Standard Record

22J0297

Description:	T-PFOA	Expires:	01/27/2027
Standard Type:	Other	Prepared:	01/27/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFOA0122)
Vials:	1	Last Edit:	10/18/2022 12:59 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA		335-67-1	50	ug/mL



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: T-PFOA **LOT NUMBER:** TPFOA0122
COMPOUND: Ammonium perfluorooctanoate (Technical Grade)
STRUCTURE: (see Table A) **CAS #:** 3825-26-1
 (for linear ammonium perfluorooctanoate)
MOLECULAR FORMULA: $C_8F_{15}O_2NH_4$
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ (gravimetric)
CHEMICAL PURITY: Technical material
SOLVENT(S): Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy) 01/27/2022
EXPIRY DATE: (mm/dd/yyyy) 01/27/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)
 Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

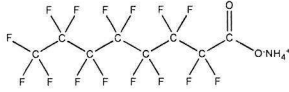
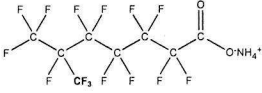
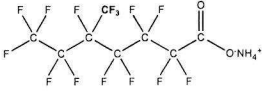
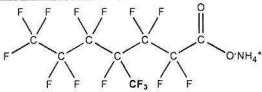
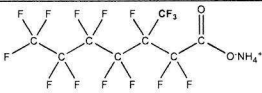
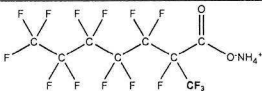
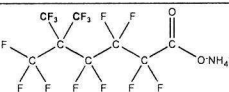
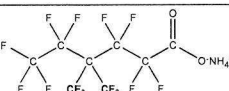
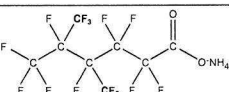
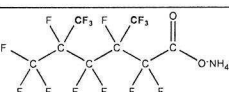
- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only*.
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

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Certified By: 
 B.G. Chittim, General Manager **Date:** 01/27/2022
 (mm/dd/yyyy)

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Table A: T-PFOA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	Ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9.0
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4.0
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3.0
6	Ammonium 2-trifluoromethylperfluoroheptanoate		
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		0.50
9	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ¹⁹F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: PFOSA0922)
Final Volume (mls):	1	Department:	PFOSA
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-FOSA

Perfluorooctanesulfonamide Isomeric Mix

<u>PRODUCT CODE:</u>	br-FOSA
<u>LOT NUMBER:</u>	brFOSA0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Isopropanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/14/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	10/07/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 754-91-6 (for linear isomer).

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Table A: br-FOSA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Compound	Structure	Percent Composition by ¹⁹ F-NMR
1	Perfluoro-1-octanesulfonamide	CF ₃ (CF ₂) ₇ SO ₂ NH ₂	66.6
2	Perfluoro-1-methyl-1-heptanesulfonamide**	CF ₃ (CF ₂) ₅ CF(SO ₂ NH ₂) CF ₃	0.8
3	Perfluoro-2-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₄ CF(CF ₃)SO ₂ NH ₂ CF ₃	0.3
4	Perfluoro-3-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₃ CF(CF ₃) ₂ SO ₂ NH ₂ CF ₃	4.2
5	Perfluoro-4-methyl-1-heptanesulfonamide	CF ₃ (CF ₂) ₂ CF(CF ₃) ₂ SO ₂ NH ₂ CF ₃	3.5
6	Perfluoro-5-methyl-1-heptanesulfonamide	CF ₃ CF ₂ CF(CF ₃) ₄ SO ₂ NH ₂ CF ₃	7.8
7	Perfluoro-6-methyl-1-heptanesulfonamide	CF ₃ CF(CF ₃) ₅ SO ₂ NH ₂ CF ₃	16.8
8	Perfluoro-5,5-dimethyl-1-hexanesulfonamide	CF ₃ CF ₃ C(CF ₃) ₄ SO ₂ NH ₂ CF ₃	0.2

* Percent of total perfluorooctanesulfonamide isomers only.

** Systematic Name: Perfluoro-2-octanesulfonamide.

Certified By: 
B.G. Chittim, General Manager

Date: 11/15/2022
(mm/dd/yyyy)

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: PFOSA0922)
Final Volume (mls):	1	Department:	PFOSA
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Analytical Standard Record

22J0301

Description:	br-NMeFOSA	Expires:	08/23/2027
Standard Type:	Other	Prepared:	08/23/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: br-NMeFOSA0822)
Final Volume (mls):	1	Department:	
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

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



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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	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NH} \\ \\ \text{CH}_3 \end{array}$	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**	$\begin{array}{c} \text{CF}_3(\text{CF}_2)_5\text{CF}\text{SO}_2\text{NH} \\ \quad \\ \text{CF}_3 \quad \text{CH}_2\text{CH}_3 \end{array}$	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:	br-NMeFOSE0922)
Vials:	1	Last Edit:	10/18/2022 13:41 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NETFOSE		1691-99-2	50	ug/mL



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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	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_2\text{CH}_3$	64.6
2	2-(N-Ethylperfluoro-2-methyl-1-heptanesulfonamido)ethanol	$\text{CF}_3(\text{CF}_2)_4\text{CF}(\text{CF}_2)\text{SO}_2\text{NCH}_2\text{CH}_2\text{OH}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	0.2
3	2-(N-Ethylperfluoro-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 $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	4.1
4	2-(N-Ethylperfluoro-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 $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	4.3
5	2-(N-Ethylperfluoro-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 $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	8.8
6	2-(N-Ethylperfluoro-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 $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	17.8
7	2-(N-Ethylperfluoro-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 $ $\text{CF}_3 \quad \quad \quad \text{CH}_2\text{CH}_3$	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:	PFAS ^{MXF0122})
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(MXH0822)
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-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



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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.

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

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	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-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

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

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} , C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4 , C_6 , and C_8), three mass-labelled (one ^{13}C and two ^2H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^2H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C -labelled components all have chemical purities >98% and isotopic purities of $\geq 99\%$. The individual ^2H -labelled components all have chemical purities >98% and isotopic purities of $\geq 98\%$.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₄)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		22
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		17
N-methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)