APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

908 N. Temperance Ave., Clovis, CA 93611 - Phone 559-275-2175 - www.applinc.com

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

March 15, 2023

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

RE: Red Hill AFFF Assessment Sampling
23C0038

Enclosed are the results of analyses for samples received by our laboratory on 3/7/2023. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Karen Volpendesta
Project Manager

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APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

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.

The extracted internal standard 13C2-4:2FTS recovered above the upper control limit in sample 01 – AF-RHMW04-WGN01LF-2303W1.

The extracted internal standard 13C2-4:2FTS recovered above the upper control limit in sample 02 – AF-RHMW06-WGN01LF-2303W1.

The extracted internal standard 13C2-4:2FTS recovered above the upper control limit in the BCC0223-BLK1, BCC0223-BS1, and BCC0223-MRL1.

The analytes PFHpA, NEtFOSAA, and 11Cl-PF3ONS recovered above the upper control limit in the SC01019-LCV1.

The analyte 5:3FTcA recovered below the lower control limit in the SC01019-CCV2.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23C0038-01	AF-RHMW04-WGN01LF-2303W1	Water	03/06/2023 10:05	03/07/2023
23C0038-02	AF-RHMW06-WGN01LF-2303W1	Water	03/06/2023 12:10	03/07/2023
23C0038-03	AF-RHMW12A-WGN01LF-2303W1	Water	03/06/2023 10:30	03/07/2023
23C0038-04	AF-RHMW12A-WGFD01LF-2303W1	Water	03/06/2023 10:30	03/07/2023
23C0038-05	AF-RHMW16-WGN01LF-2303W1	Water	03/06/2023 13:15	03/07/2023

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Containers Received

Lab ID	Container Type	Count	Preservation Check
23C0038-01			
	500mL P	2	
23C0038-02			
	500mL P	2	
23C0038-03			
	500mL P	2	
23C0038-04			
	500mL P	2	
23C0038-05			
	500mL P	2	

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results

Sample: AF-RHMW04-WGN01LF-2303W1
23C0038-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.71 U	1.4	0.71	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPEA	0.36 U	0.71	0.36	0.058	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXA	0.18 U	0.36	0.18	0.049	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPA	0.18 U	0.36	0.18	0.037	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOA	0.18 U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNA	0.18 U	0.36	0.18	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDA	0.18 U	0.36	0.18	0.090	ng/L	03/14/23	1	EPA 1633	BCC0223
PFUnA	0.27 U	0.36	0.27	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOA	0.18 U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTRDA	0.27 U	0.36	0.27	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTEDA	0.18 U	0.36	0.18	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFBS	0.18 U	0.36	0.18	0.033	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPES	0.18 U	0.36	0.18	0.056	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXS	0.18 U	0.36	0.18	0.028	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPS	0.18 U	0.36	0.18	0.046	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOS	0.18 U	0.36	0.18	0.057	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNS	0.18 U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDS	0.18 U	0.36	0.18	0.13	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOS	0.18 U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
4:2FTS	0.71 U	1.4	0.71	0.26	ng/L	03/14/23	1	EPA 1633	BCC0223
6:2FTS	0.93 J	1.4	0.71	0.28	ng/L	03/14/23	1	EPA 1633	BCC0223
8:2FTS	0.71 U	1.4	0.71	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOSA	0.18 U	0.36	0.18	0.093	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSA	0.71 U	1.4	0.71	0.42	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSA	0.71 U	1.4	0.71	0.37	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSAA	0.18 U	0.36	0.18	0.094	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSAA	0.18 U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSE	1.1 U	1.4	1.1	0.90	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSE	1.1 U	1.4	1.1	0.93	ng/L	03/14/23	1	EPA 1633	BCC0223
HFPO-DA	0.36 U	0.71	0.36	0.16	ng/L	03/14/23	1	EPA 1633	BCC0223
ADONA	0.36 U	0.71	0.36	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFEESA	0.36 U	0.71	0.36	0.097	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMPA	0.36 U	0.71	0.36	0.048	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMBA	0.36 U	0.71	0.36	0.081	ng/L	03/14/23	1	EPA 1633	BCC0223
NFDHA	0.36 U	0.71	0.36	0.27	ng/L	03/14/23	1	EPA 1633	BCC0223
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
3:3FTCA	0.71 U	1.4	0.71	0.51	ng/L	03/14/23	1	EPA 1633	BCC0223
5:3FTCA	0.71 U	1.4	0.71	0.39	ng/L	03/14/23	1	EPA 1633	BCC0223
7:3FTCA	0.71 U	1.4	0.71	0.49	ng/L	03/14/23	1	EPA 1633	BCC0223
Surrogate: 13C4-PFBA	*83.7%*		*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFPEA	*92.5%*		*35-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFHXA	*91.0%*		*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C4-PFHPA	*92.4%*		*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOA	*86.1%*		*60-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*

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Sample Results
(Continued)

Sample: AF-RHMW04-WGN01LF-2303W1 (Continued)
23C0038-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*78.4%*			*55-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C6-PFDA	*83.7%*			*50-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C7-PFUnA	*75.2%*			*30-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFDOA	*71.6%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFTEDA	*64.0%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFBS	*105%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFHXS	*84.9%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOS	*82.0%*			*45-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-4:2FTS	*219%*	*S2*		*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-6:2FTS	*102%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-8:2FTS	*128%*			*50-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOSA	*63.0%*			*30-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSA	*34.9%*			*15-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSA	*35.0%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSAA	*85.6%*			*45-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSAA	*74.5%*			*10-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D7-NMEFOSE	*37.8%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D9-NETFOSE	*47.3%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-HFPO-DA	*91.3%*			*25-160*			*03/14/23*	1	*EPA 1633*	*BCC0223*

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Sample Results

(Continued)

Sample: AF-RHMW06-WGN01LF-2303W1
23C0038-02 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.41	J	1.4	0.71	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPEA	0.98		0.71	0.36	0.058	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXA	0.45		0.36	0.18	0.049	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPA	0.84		0.36	0.18	0.037	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOA	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNA	0.18	U	0.36	0.18	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDA	0.18	U	0.36	0.18	0.090	ng/L	03/14/23	1	EPA 1633	BCC0223
PFUnA	0.27	U	0.36	0.27	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFBS	0.18	U	0.36	0.18	0.033	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPES	0.18	U	0.36	0.18	0.056	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXS	0.18	U	0.36	0.18	0.028	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPS	0.18	U	0.36	0.18	0.046	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOS	0.18	U	0.36	0.18	0.057	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDS	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
4:2FTS	0.71	U	1.4	0.71	0.26	ng/L	03/14/23	1	EPA 1633	BCC0223
6:2FTS	1.3	J	1.4	0.71	0.28	ng/L	03/14/23	1	EPA 1633	BCC0223
8:2FTS	0.71	U	1.4	0.71	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOSA	0.18	U	0.36	0.18	0.093	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSA	0.71	U	1.4	0.71	0.42	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSA	0.71	U	1.4	0.71	0.37	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSAA	0.18	U	0.36	0.18	0.094	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSE	1.1	U	1.4	1.1	0.90	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSE	1.1	U	1.4	1.1	0.93	ng/L	03/14/23	1	EPA 1633	BCC0223
HFPO-DA	0.36	U	0.71	0.36	0.16	ng/L	03/14/23	1	EPA 1633	BCC0223
ADONA	0.36	U	0.71	0.36	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFEESA	0.36	U	0.71	0.36	0.097	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMPA	0.36	U	0.71	0.36	0.048	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMBA	0.36	U	0.71	0.36	0.081	ng/L	03/14/23	1	EPA 1633	BCC0223
NFDHA	0.36	U	0.71	0.36	0.27	ng/L	03/14/23	1	EPA 1633	BCC0223
9CL-PF3ONS	0.36	U	0.71	0.36	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
11CL-PF3OUDS	0.36	U	0.71	0.36	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
3:3FTCA	0.71	U	1.4	0.71	0.51	ng/L	03/14/23	1	EPA 1633	BCC0223
5:3FTCA	0.71	U	1.4	0.71	0.40	ng/L	03/14/23	1	EPA 1633	BCC0223
7:3FTCA	0.71	U	1.4	0.71	0.49	ng/L	03/14/23	1	EPA 1633	BCC0223
Surrogate: 13C4-PFBA	*82.9%*		*10-130*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFPEA	*86.4%*		*35-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFHXA	*87.8%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C4-PFHPA	*85.7%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOA	*85.1%*		*60-140*				*03/14/23*	1	*EPA 1633*	*BCC0223*

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Sample Results
(Continued)

Sample: AF-RHMW06-WGN01LF-2303W1 (Continued)
23C0038-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*78.4%*			*55-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C6-PFDA	*80.1%*			*50-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C7-PFUnA	*77.6%*			*30-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFDOA	*80.2%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFTEDA	*58.7%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFBS	*95.3%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFHXS	*86.7%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOS	*81.7%*			*45-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-4:2FTS	*208%*	*S2*		*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-6:2FTS	*88.2%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-8:2FTS	*113%*			*50-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOSA	*67.4%*			*30-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSA	*32.5%*			*15-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSA	*33.0%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSAA	*96.7%*			*45-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSAA	*74.3%*			*10-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D7-NMEFOSE	*40.6%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D9-NETFOSE	*51.0%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-HFPO-DA	*87.3%*			*25-160*			*03/14/23*	1	*EPA 1633*	*BCC0223*

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Sample Results

(Continued)

Sample: AF-RHMW12A-WGN01LF-2303W1
23C0038-03 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.6		1.5	0.73	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPEA	4.6		0.73	0.36	0.059	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXA	1.5		0.36	0.18	0.050	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPA	0.33	J	0.36	0.18	0.037	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOA	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNA	0.18	U	0.36	0.18	0.074	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDA	0.18	U	0.36	0.18	0.092	ng/L	03/14/23	1	EPA 1633	BCC0223
PFUnA	0.27	U	0.36	0.27	0.15	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFBS	0.18	U	0.36	0.18	0.033	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPES	0.18	U	0.36	0.18	0.057	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXS	0.18	U	0.36	0.18	0.029	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPS	0.18	U	0.36	0.18	0.047	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOS	0.18	U	0.36	0.18	0.058	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDS	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
4:2FTS	0.73	U	1.5	0.73	0.26	ng/L	03/14/23	1	EPA 1633	BCC0223
6:2FTS	1.1	J	1.5	0.73	0.29	ng/L	03/14/23	1	EPA 1633	BCC0223
8:2FTS	0.73	U	1.5	0.73	0.075	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOSA	0.18	U	0.36	0.18	0.095	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSA	0.73	U	1.5	0.73	0.43	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSA	0.73	U	1.5	0.73	0.37	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSAA	0.18	U	0.36	0.18	0.096	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSE	1.1	U	1.5	1.1	0.92	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSE	1.1	U	1.5	1.1	0.95	ng/L	03/14/23	1	EPA 1633	BCC0223
HFPO-DA	0.36	U	0.73	0.36	0.16	ng/L	03/14/23	1	EPA 1633	BCC0223
ADONA	0.36	U	0.73	0.36	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFEESA	0.36	U	0.73	0.36	0.099	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMPA	0.36	U	0.73	0.36	0.049	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMBA	0.36	U	0.73	0.36	0.082	ng/L	03/14/23	1	EPA 1633	BCC0223
NFDHA	0.36	U	0.73	0.36	0.27	ng/L	03/14/23	1	EPA 1633	BCC0223
9CL-PF3ONS	0.36	U	0.73	0.36	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
11CL-PF3OUDS	0.36	U	0.73	0.36	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
3:3FTCA	0.73	U	1.5	0.73	0.52	ng/L	03/14/23	1	EPA 1633	BCC0223
5:3FTCA	0.73	U	1.5	0.73	0.40	ng/L	03/14/23	1	EPA 1633	BCC0223
7:3FTCA	0.73	U	1.5	0.73	0.50	ng/L	03/14/23	1	EPA 1633	BCC0223
Surrogate: 13C4-PFBA	*86.6%*		*10-130*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFPEA	*95.2%*		*35-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFHXA	*87.4%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C4-PFHPA	*87.5%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOA	*93.2%*		*60-140*				*03/14/23*	1	*EPA 1633*	*BCC0223*

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results
(Continued)

Sample: AF-RHMW12A-WGN01LF-2303W1 (Continued)
23C0038-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*89.1%*			*55-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C6-PFDA	*84.8%*			*50-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C7-PFUnA	*79.8%*			*30-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFDOA	*73.4%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFTEDA	*62.1%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFBS	*98.9%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFHXS	*91.7%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOS	*87.9%*			*45-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-4:2FTS	*198%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-6:2FTS	*105%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-8:2FTS	*127%*			*50-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOSA	*66.3%*			*30-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSA	*33.3%*			*15-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSA	*33.4%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSAA	*94.3%*			*45-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSAA	*81.3%*			*10-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D7-NMEFOSE	*35.9%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D9-NETFOSE	*49.3%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-HFPO-DA	*90.8%*			*25-160*			*03/14/23*	1	*EPA 1633*	*BCC0223*

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results

(Continued)

Sample: AF-RHMW12A-WGFD01LF-2303W1
23C0038-04 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.5		1.4	0.72	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPEA	4.7		0.72	0.36	0.058	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXA	1.5		0.36	0.18	0.049	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPA	0.47		0.36	0.18	0.037	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOA	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNA	0.18	U	0.36	0.18	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDA	0.18	U	0.36	0.18	0.091	ng/L	03/14/23	1	EPA 1633	BCC0223
PFUnA	0.27	U	0.36	0.27	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFBS	0.18	U	0.36	0.18	0.033	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPES	0.18	U	0.36	0.18	0.056	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXS	0.18	U	0.36	0.18	0.028	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPS	0.18	U	0.36	0.18	0.046	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOS	0.18	U	0.36	0.18	0.057	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDS	0.18	U	0.36	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
4:2FTS	0.72	U	1.4	0.72	0.26	ng/L	03/14/23	1	EPA 1633	BCC0223
6:2FTS	0.80	J	1.4	0.72	0.28	ng/L	03/14/23	1	EPA 1633	BCC0223
8:2FTS	0.72	U	1.4	0.72	0.073	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOSA	0.18	U	0.36	0.18	0.093	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSA	0.72	U	1.4	0.72	0.42	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSA	0.72	U	1.4	0.72	0.37	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSAA	0.18	U	0.36	0.18	0.095	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSE	1.1	U	1.4	1.1	0.91	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSE	1.1	U	1.4	1.1	0.94	ng/L	03/14/23	1	EPA 1633	BCC0223
HFPO-DA	0.36	U	0.72	0.36	0.16	ng/L	03/14/23	1	EPA 1633	BCC0223
ADONA	0.36	U	0.72	0.36	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFEESA	0.36	U	0.72	0.36	0.098	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMPA	0.36	U	0.72	0.36	0.048	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMBA	0.36	U	0.72	0.36	0.081	ng/L	03/14/23	1	EPA 1633	BCC0223
NFDHA	0.36	U	0.72	0.36	0.27	ng/L	03/14/23	1	EPA 1633	BCC0223
9CL-PF3ONS	0.36	U	0.72	0.36	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
11CL-PF3OUDS	0.36	U	0.72	0.36	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
3:3FTCA	0.72	U	1.4	0.72	0.51	ng/L	03/14/23	1	EPA 1633	BCC0223
5:3FTCA	0.72	U	1.4	0.72	0.40	ng/L	03/14/23	1	EPA 1633	BCC0223
7:3FTCA	0.72	U	1.4	0.72	0.50	ng/L	03/14/23	1	EPA 1633	BCC0223
Surrogate: 13C4-PFBA	*86.6%*		*10-130*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFPEA	*94.9%*		*35-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFHXA	*89.8%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C4-PFHPA	*84.0%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOA	*93.8%*		*60-140*				*03/14/23*	1	*EPA 1633*	*BCC0223*

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results
(Continued)

Sample: AF-RHMW12A-WGFD01LF-2303W1 (Continued)
23C0038-04 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*85.2%*			*55-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C6-PFDA	*83.4%*			*50-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C7-PFUnA	*79.0%*			*30-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFDOA	*73.0%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFTEDA	*55.4%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFBS	*94.9%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFHXS	*91.8%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOS	*84.2%*			*45-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-4:2FTS	*198%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-6:2FTS	*93.3%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-8:2FTS	*138%*			*50-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOSA	*60.9%*			*30-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSA	*34.5%*			*15-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSA	*35.2%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSAA	*87.6%*			*45-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSAA	*74.9%*			*10-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D7-NMEFOSE	*40.2%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D9-NETFOSE	*44.4%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-HFPO-DA	*95.0%*			*25-160*			*03/14/23*	1	*EPA 1633*	*BCC0223*

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results

(Continued)

Sample: AF-RHMW16-WGN01LF-2303W1
23C0038-05 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.74	U	1.5	0.74	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPEA	0.37	U	0.74	0.37	0.060	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXA	0.18	U	0.37	0.18	0.051	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPA	0.18	U	0.37	0.18	0.038	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOA	0.18	U	0.37	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNA	0.18	U	0.37	0.18	0.075	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDA	0.18	U	0.37	0.18	0.093	ng/L	03/14/23	1	EPA 1633	BCC0223
PFUnA	0.28	U	0.37	0.28	0.15	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOA	0.18	U	0.37	0.18	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTRDA	0.28	U	0.37	0.28	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
PFTEDA	0.18	U	0.37	0.18	0.18	ng/L	03/14/23	1	EPA 1633	BCC0223
PFBS	0.18	U	0.37	0.18	0.034	ng/L	03/14/23	1	EPA 1633	BCC0223
PFPES	0.18	U	0.37	0.18	0.058	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHXS	0.18	U	0.37	0.18	0.029	ng/L	03/14/23	1	EPA 1633	BCC0223
PFHPS	0.18	U	0.37	0.18	0.047	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOS	0.18	U	0.37	0.18	0.059	ng/L	03/14/23	1	EPA 1633	BCC0223
PFNS	0.18	U	0.37	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDS	0.18	U	0.37	0.18	0.14	ng/L	03/14/23	1	EPA 1633	BCC0223
PFDOS	0.18	U	0.37	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
4:2FTS	0.74	U IR1,	1.5	0.74	0.27	ng/L	03/14/23	1	EPA 1633	BCC0223
6:2FTS	0.74	U	1.5	0.74	0.29	ng/L	03/14/23	1	EPA 1633	BCC0223
8:2FTS	0.74	U	1.5	0.74	0.076	ng/L	03/14/23	1	EPA 1633	BCC0223
PFOSA	0.18	U	0.37	0.18	0.096	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSA	0.74	U	1.5	0.74	0.44	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSA	0.74	U	1.5	0.74	0.38	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSAA	0.18	U	0.37	0.18	0.097	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSAA	0.18	U	0.37	0.18	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
NMeFOSE	1.1	U	1.5	1.1	0.93	ng/L	03/14/23	1	EPA 1633	BCC0223
NEtFOSE	1.1	U	1.5	1.1	0.96	ng/L	03/14/23	1	EPA 1633	BCC0223
HFPO-DA	0.37	U	0.74	0.37	0.16	ng/L	03/14/23	1	EPA 1633	BCC0223
ADONA	0.37	U	0.74	0.37	0.11	ng/L	03/14/23	1	EPA 1633	BCC0223
PFEESA	0.37	U	0.74	0.37	0.10	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMPA	0.37	U	0.74	0.37	0.050	ng/L	03/14/23	1	EPA 1633	BCC0223
PFMBA	0.37	U	0.74	0.37	0.084	ng/L	03/14/23	1	EPA 1633	BCC0223
NFDHA	0.37	U	0.74	0.37	0.28	ng/L	03/14/23	1	EPA 1633	BCC0223
9CL-PF3ONS	0.37	U	0.74	0.37	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
11CL-PF3OUDS	0.37	U	0.74	0.37	0.19	ng/L	03/14/23	1	EPA 1633	BCC0223
3:3FTCA	0.74	U	1.5	0.74	0.53	ng/L	03/14/23	1	EPA 1633	BCC0223
5:3FTCA	0.74	U	1.5	0.74	0.41	ng/L	03/14/23	1	EPA 1633	BCC0223
7:3FTCA	0.74	U	1.5	0.74	0.51	ng/L	03/14/23	1	EPA 1633	BCC0223
Surrogate: 13C4-PFBA	*84.5%*		*10-130*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFPEA	*89.1%*		*35-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C5-PFHXA	*88.5%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C4-PFHPA	*85.3%*		*55-150*				*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOA	*88.4%*		*60-140*				*03/14/23*	1	*EPA 1633*	*BCC0223*

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Sample Results
(Continued)

Sample: AF-RHMW16-WGN01LF-2303W1 (Continued)
23C0038-05 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*90.9%*			*55-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C6-PFDA	*96.3%*			*50-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C7-PFUnA	*82.4%*			*30-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFDOA	*80.5%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-PFTEDA	*66.3%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFBS	*93.6%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-PFHXS	*87.0%*			*55-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOS	*86.9%*			*45-140*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-4:2FTS	*183%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-6:2FTS	*97.0%*			*60-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C2-8:2FTS	*117%*			*50-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C8-PFOSA	*71.4%*			*30-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSA	*35.6%*			*15-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSA	*37.2%*			*10-130*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D3-NMEFOSAA	*94.9%*			*45-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D5-NETFOSAA	*94.6%*			*10-200*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D7-NMEFOSE	*45.8%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: D9-NETFOSE	*57.2%*			*10-150*			*03/14/23*	1	*EPA 1633*	*BCC0223*
Surrogate: 13C3-HFPO-DA	*87.3%*			*25-160*			*03/14/23*	1	*EPA 1633*	*BCC0223*

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Method: EPA 1633										
Batch: BCC0223 - EPA 1633										
Blank (BCC0223-BLK1)										
	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	0.30 U	0.40	0.30	0.16						
PFDOA	0.20 U	0.40	0.20	0.11						
PFTRDA	0.30 U	0.40	0.30	0.20						
PFTEDA	0.20 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	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	*27.8*				*32.0*		*86.9*	*10-130*		
13C5-PFPEA	*16.0*				*16.0*		*99.9*	*35-150*		
13C5-PFHXA	*7.61*				*8.00*		*95.1*	*55-150*		

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

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 (BCC0223-BLK1)							Prepared: 03/13/23 12:58 Analyzed: 03/14/23 16:09				
	ng/L										
Surrogates											
13C4-PFHPA	*7.66*					*8.00*		*95.8*	*55-150*		
13C8-PFOA	*6.97*					*8.00*		*87.1*	*60-140*		
13C9-PFNA	*3.54*					*4.00*		*88.5*	*55-140*		
13C6-PFDA	*3.25*					*4.00*		*81.3*	*50-140*		
13C7-PFUnA	*2.92*					*4.00*		*72.9*	*30-140*		
13C2-PFDOA	*3.24*					*4.00*		*81.1*	*10-150*		
13C2-PFTEDA	*2.55*					*4.00*		*63.7*	*10-130*		
13C3-PFBS	*8.03*					*8.00*		*100*	*55-150*		
13C3-PFHXS	*7.45*					*8.00*		*93.1*	*55-150*		
13C8-PFOS	*7.31*					*8.00*		*91.4*	*45-140*		
13C2-4:2FTS	*33.9*	S2				*16.0*		*212*	*60-200*		
13C2-6:2FTS	*16.0*					*16.0*		*99.8*	*60-200*		
13C2-8:2FTS	*17.0*					*16.0*		*106*	*50-200*		
13C8-PFOSA	*5.38*					*8.00*		*67.3*	*30-130*		
D3-NMEFOSA	*2.20*					*8.00*		*27.5*	*15-130*		
D5-NETFOSA	*2.44*					*8.00*		*30.5*	*10-130*		
D3-NMEFOSAA	*13.6*					*16.0*		*84.7*	*45-200*		
D5-NETFOSAA	*11.9*					*16.0*		*74.1*	*10-200*		
D7-NMEFOSE	*31.0*					*80.0*		*38.8*	*10-150*		
D9-NETFOSE	*41.2*					*80.0*		*51.6*	*10-150*		
13C3-HFPO-DA	*30.7*					*32.0*		*96.1*	*25-160*		
LCS (BCC0223-BS1)							Prepared: 03/13/23 12:58 Analyzed: 03/14/23 16:22				
	ng/L										
PFBA	17.8					16.0		111	58-148		
PFPEA	9.03					8.00		113	54-152		
PFHXA	4.49					4.00		112	55-152		
PFHPA	4.59					4.00		115	54-154		
PFOA	4.51					4.00		113	52-161		
PFNA	4.27					4.00		107	59-149		
PFDA	4.49					4.00		112	52-147		
PFUnA	5.21					4.00		130	48-159		
PFDOA	5.21					4.00		130	64-142		
PFTRDA	4.39					4.00		110	49-148		
PFTEDA	4.47					4.00		112	47-161		
PFBS	4.22					3.54		119	62-144		
PFPES	5.16					3.76		137	59-151		
PFHXS	4.35					3.66		119	57-146		
PFHPS	3.85					3.82		101	55-152		
PFOS	4.10					3.72		110	58-149		
PFNS	4.57					3.84		119	52-148		
PFDS	4.18					3.86		108	51-147		
PFDOS	3.45					3.88		88.8	36-145		
4:2FTS	18.2					15.0		121	67-146		
6:2FTS	18.5					15.2		122	61-151		
8:2FTS	16.5					15.4		107	63-152		
PFOSA	4.77					4.00		119	61-148		

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

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 (BCC0223-BS1)						Prepared: 03/13/23 12:58		Analyzed: 03/14/23 16:22		
	ng/L									
NMeFOSA	18.6				16.0		116	63-145		
NEtFOSA	18.3				16.0		114	65-139		
NMeFOSAA	3.84				4.00		96.1	58-144		
NEtFOSAA	4.46				4.00		111	59-146		
NMeFOSE	18.6				16.0		116	71-136		
NEtFOSE	17.0				16.0		106	69-137		
HFPO-DA	10.3				8.00		129	63-144		
ADONA	8.26				7.56		109	68-146		
PFEESA	8.57				7.12		120	56-151		
PFMPA	8.17				8.00		102	51-145		
PFMBA	7.96				8.00		99.5	55-148		
NFDHA	8.75				8.00		109	48-161		
9CL-PF3ONS	9.47				7.48		127	56-156		
11CL-PF3OUDS	8.64				7.56		114	46-156		
3:3FTCA	16.7				16.0		104	62-129		
5:3FTCA	16.5				16.0		103	63-134		
7:3FTCA	14.4				16.0		90.1	50-138		
Surrogates										
13C4-PFBA	*27.7*				*32.0*		*86.5*	*10-130*		
13C5-PFPEA	*16.2*				*16.0*		*102*	*35-150*		
13C5-PFHXA	*7.49*				*8.00*		*93.6*	*55-150*		
13C4-PFHPA	*7.50*				*8.00*		*93.8*	*55-150*		
13C8-PFOA	*7.30*				*8.00*		*91.2*	*60-140*		
13C9-PFNA	*3.37*				*4.00*		*84.3*	*55-140*		
13C6-PFDA	*3.53*				*4.00*		*88.4*	*50-140*		
13C7-PFUnA	*2.98*				*4.00*		*74.6*	*30-140*		
13C2-PFDOA	*3.14*				*4.00*		*78.6*	*10-150*		
13C2-PFTEDA	*2.68*				*4.00*		*67.1*	*10-130*		
13C3-PFBS	*7.36*				*8.00*		*92.0*	*55-150*		
13C3-PFHXS	*6.86*				*8.00*		*85.7*	*55-150*		
13C8-PFOS	*6.63*				*8.00*		*82.9*	*45-140*		
13C2-4:2FTS	*31.3*				*16.0*		*196*	*60-200*		
13C2-6:2FTS	*14.2*				*16.0*		*89.0*	*60-200*		
13C2-8:2FTS	*17.7*				*16.0*		*111*	*50-200*		
13C8-PFOSA	*5.05*				*8.00*		*63.1*	*30-130*		
D3-NMEFOSA	*2.74*				*8.00*		*34.2*	*15-130*		
D5-NETFOSA	*2.86*				*8.00*		*35.8*	*10-130*		
D3-NMEFOSAA	*14.1*				*16.0*		*88.3*	*45-200*		
D5-NETFOSAA	*12.0*				*16.0*		*75.2*	*10-200*		
D7-NMEFOSE	*33.7*				*80.0*		*42.1*	*10-150*		
D9-NETFOSE	*46.3*				*80.0*		*57.9*	*10-150*		
13C3-HFPO-DA	*31.4*				*32.0*		*98.2*	*25-160*		

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

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 (BCC0223-MRL1)						Prepared: 03/13/23 12:58		Analyzed: 03/14/23 16:35		
	ng/L									
PFBA	1.88				1.60		117	44-157		
PFPEA	0.940				0.800		117	57-148		
PFHXA	0.562				0.400		141	62-149		
PFHPA	0.504				0.400		126	56-150		
PFOA	0.522				0.400		131	57-161		
PFNA	0.464				0.400		116	53-157		
PFDA	0.443				0.400		111	43-158		
PFUnA	0.414				0.400		104	50-155		
PFDOA	0.488				0.400		122	60-141		
PFTRDA	0.485				0.400		121	52-140		
PFTEDA	0.426				0.400		107	52-156		
PFBS	0.409				0.354		116	63-145		
PFPES	0.476				0.376		127	58-144		
PFHXS	0.428				0.366		117	44-158		
PFHPS	0.373 J				0.382		97.7	51-150		
PFOS	0.475				0.372		128	43-162		
PFNS	0.408				0.384		106	46-151		
PFDS	0.375 J				0.386		97.1	50-144		
PFDOS	0.369 J				0.388		95.0	30-138		
4:2FTS	1.71				1.50		114	52-158		
6:2FTS	2.25				1.52		148	48-158		
8:2FTS	1.67				1.54		109	46-165		
PFOSA	0.487				0.400		122	47-163		
NMeFOSA	1.77				1.60		111	54-155		
NEtFOSA	1.62				1.60		101	49-156		
NMeFOSAA	0.403				0.400		101	32-160		
NEtFOSAA	0.495				0.400		124	51-154		
NMeFOSE	1.90				1.60		119	56-151		
NEtFOSE	1.61				1.60		101	60-147		
HFPO-DA	1.09				0.800		137	58-154		
ADONA	0.863				0.756		114	61-148		
PFEESA	0.853				0.712		120	56-144		
PFMPA	0.796 J				0.800		99.5	48-150		
PFMBA	0.807				0.800		101	49-154		
NFDHA	0.839				0.800		105	47-160		
9CL-PF3ONS	0.957				0.748		128	44-167		
11CL-PF3OUDS	0.984				0.756		130	36-158		
3:3FTCA	1.50 J				1.60		93.5	32-161		
5:3FTCA	1.56 J				1.60		97.8	39-156		
7:3FTCA	1.48 J				1.60		92.5	36-149		
Surrogates										
13C4-PFBA	*27.9*				*32.0*		*87.1*	*10-130*		
13C5-PFPEA	*14.9*				*16.0*		*93.3*	*35-150*		
13C5-PFHXA	*6.95*				*8.00*		*86.9*	*55-150*		
13C4-PFHPA	*7.37*				*8.00*		*92.1*	*55-150*		
13C8-PFOA	*7.34*				*8.00*		*91.8*	*60-140*		
13C9-PFNA	*3.24*				*4.00*		*81.1*	*55-140*		

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AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
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Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

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 (BCC0223-MRL1)							Prepared: 03/13/23 12:58 Analyzed: 03/14/23 16:35				
	ng/L										
Surrogates											
13C6-PFDA	*3.62*					*4.00*		*90.5*	*50-140*		
13C7-PFUnA	*3.21*					*4.00*		*80.3*	*30-140*		
13C2-PFDOA	*3.14*					*4.00*		*78.6*	*10-150*		
13C2-PFTEDA	*2.78*					*4.00*		*69.6*	*10-130*		
13C3-PFBS	*7.71*					*8.00*		*96.4*	*55-150*		
13C3-PFHXS	*7.01*					*8.00*		*87.7*	*55-150*		
13C8-PFOS	*6.59*					*8.00*		*82.3*	*45-140*		
13C2-4:2FTS	*32.9*	S2				*16.0*		*205*	*60-200*		
13C2-6:2FTS	*14.7*					*16.0*		*92.0*	*60-200*		
13C2-8:2FTS	*17.0*					*16.0*		*106*	*50-200*		
13C8-PFOSA	*5.07*					*8.00*		*63.4*	*30-130*		
D3-NMEFOSA	*2.25*					*8.00*		*28.1*	*15-130*		
D5-NETFOSA	*2.35*					*8.00*		*29.4*	*10-130*		
D3-NMEFOSAA	*13.0*					*16.0*		*81.2*	*45-200*		
D5-NETFOSAA	*11.4*					*16.0*		*71.1*	*10-200*		
D7-NMEFOSE	*28.5*					*80.0*		*35.6*	*10-150*		
D9-NETFOSE	*38.6*					*80.0*		*48.2*	*10-150*		
13C3-HFPO-DA	*28.6*					*32.0*		*89.4*	*25-160*		

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 03/15/2023 16:26

Notes and Definitions

Item	Definition
CV1	Calibration verification recovered below the lower control limit
CV2	Calibration verification recovered above the upper control limit
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
S2	Surrogate recovered above the upper control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
DF	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

LOQ, Limit of Quantitation = Method Reporting Limit (MRL).

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

WORK ORDER

23C0038

Printed: 03/15/2023 4:27 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: 03/07/2023 02:05 PM
Date Due: 03/14/2023 (5.00 day TAT)

Logged In By: Megan Salata
Received By: Megan Salata

Analysis		Comments
23C0038-01 AF-RHMW04-WGN01LF-2303W1 [Water] Sampled 3/6/2023 10:05:00AM		
1633	NONE	"Report relevant surrogates"
23C0038-02 AF-RHMW06-WGN01LF-2303W1 [Water] Sampled 3/6/2023 12:10:00PM		
1633	NONE	"Report relevant surrogates"
23C0038-03 AF-RHMW12A-WGN01LF-2303W1 [Water] Sampled 3/6/2023 10:30:00AM		
1633	NONE	"Report relevant surrogates"
23C0038-04 AF-RHMW12A-WGFD01LF-2303W1 [Water] Sampled 3/6/2023 10:30:00AM		
1633	NONE	"Report relevant surrogates"
23C0038-05 AF-RHMW16-WGN01LF-2303W1 [Water] Sampled 3/6/2023 1:15:00PM		
1633	NONE	"Report relevant surrogates"

23C0038 **Sample Receipt Log**

Default Cooler

Samples Received at: **-1.4°C**

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

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

ELECTRONIC CHAIN OF CUSTODY RECORD 23C0038
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 2303W1AFAL08

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-954-4512 / 303-796-4624	Company Name: AECOM	Phone:
Address: 1001 Bishop St ste1600 Honolulu, HI 96813	Fax:	Address:	Fax:
Attn: Watson Tanji / Katie Abbott		Attn: Sheree Smith	
Email: watson.tanji@aecom.com/katie.abbott@aecom.com		Email: USAPimaging@aecom.com	

Project Name/Number	Sampler (Print)	Date Shipped: 3/6/23
CTO N6274223F0104 / 60697810	Olivia Shively	Carrier: United
Purchase Order Number	Sampler (Signature)	Waybill No. 016-2732 6968
		Comments: EDMS upload database: JBPHE
		EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	PFAS EPA Draft 1633	Analysis Requested/Method Number
AF-RHMW04-WGN01LF-2303W1	RHMW04	3/6/2023	1005	HST	2	✔			✔	

3/6/23

Bottle Temperature: IR B1.0 / -1.4°C

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

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

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Olivia Shively	3/6/23	1255			3/6/23	1530	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/23	1405	

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

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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. 2303W1AFAL09

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: AECOM	Company Name: AECOM
Phone: 808-954-4512 / 303-796-4624	Phone:
Address: 1001 Bishop St ste1600 Honolulu, HI 96813	Address:
Fax:	Fax:
Attn: Watson Tanji / Katie Abbott	Attn: Sheree Smith
Email: watson.tanji@aecom.com/katie.abbott@aecom.com	Email: USAPimaging@aecom.com

Project Name/Number	Sampler (Print)	Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: PFAS EPA Draft 1633
CTO N6274223F0104 / 60697810	Olivia Shively	AF-RHMW06-WGN01LF-2303W1	RHMW06	3/6/23	1210	HST	2	✔			✔
Purchase Order Number	Sampler (Signature)										

Date Shipped: 3/6/23
Carrier: United
Waybill No. 516-2732 6961
Comments: EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW

Bottle Temperature:

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

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

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Olivia Shively	3/6/23	1255			3/6/23	1530	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/23	1405	

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

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APPL, Inc.
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ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

C.O.C. 2303W1AFAL05

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-954-4512 / 303-796-4624
Address: 1001 Bishop St ste1600
Honolulu, HI 96813 Fax:
Attn: Watson Tanji / Katie Abbott
Email: watson.tanji@aecom.com/katie.abbott@aecom.com

Invoice to: PLEASE PRINT

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

Project Name/Number: CTO N6274223F0104 / 60697810
Purchase Order Number:
Sampler (Print): Zoe Diermier
Sampler (Signature): Zoe Diermier

Date Shipped: 3/6/23
Carrier: United
Waybill No. 016-27326984
Comments: EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		Analysis Requested/Method Number: PFAS EPA Draft 1633
AF-RHMW12A-WGN01LF-2303W1		3/6/23	1030	HST	2	✔				✔
AF-RHMW12A-WGFD01LF-2303W1		3/6/23	1030	HST	2	✔				✔

Bottle Temperature:

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

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

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Zoe Diermier	3/6/23	1515			3/6/23	1550	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/23	1405	

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

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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. 2303W1AFAL06

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-954-4512 / 303-796-4624	Company Name: AECOM	Phone:
Address: 1001 Bishop St ste1600 Honolulu, HI 96813	Fax:	Address:	Fax:
Attn: Watson Tanji / Katie Abbott		Attn: Sheree Smith	
Email: watson.tanji@aecom.com/katie.abbott@aecom.com		Email: USAPimaging@aecom.com	

Project Name/Number	Sampler (Print)	Date Shipped: 3/6/23
CTO N6274223F0104 / 60697810	Hunter Nishikawa	Carrier: United
Purchase Order Number	Sampler (Signature)	Waybill No: 816-27326964
		Comments: EDMS upload database: JBPHE
		EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: PFAS EPA Draft 1633
AF-RHMW16-WGN01LF-2303W1	RHSF	3/6/23	1315	HST	2	✔			✔

Analysis Requested/Method Number: #2 3/6/23; #2 3/6/23

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

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

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Hunter Nishikawa	3/6/23	1515			3/6/23	1550	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/23	405	

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

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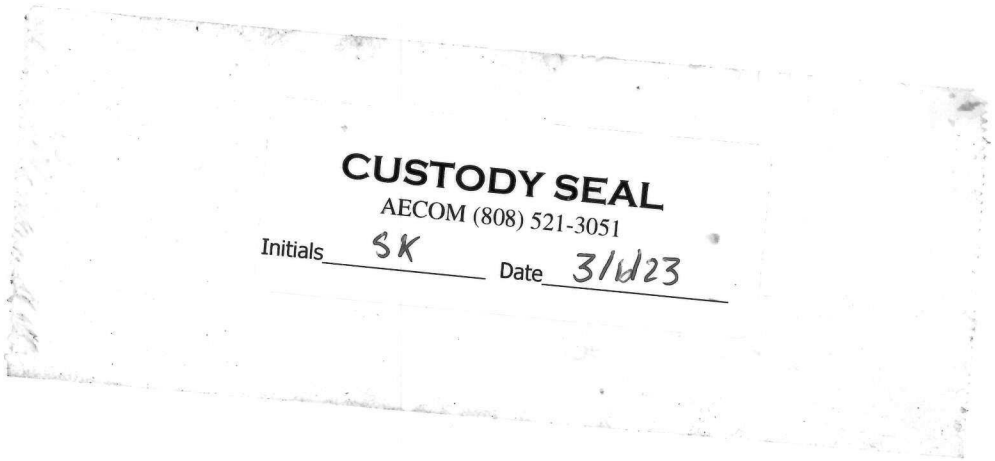

CUSTODY SEAL
AECOM (808) 521-3051
Initials SK
Date 3/6/23

PFAS

SAMPLE DATA

FORM I
ANALYSIS DATA SHEET

AF-RHMW04-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-01	File ID:	S2023-03-14A (12)
Sampled:	03/06/23 10:05	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:14
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	561.38 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.71 U	1.4	0.71	0.19	
PFPEA	0.36 U	0.71	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	0.090	
PFUnA	0.27 U	0.36	0.27	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	0.93 J	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-RHMW04-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-01	File ID:	S2023-03-14A (12)
Sampled:	03/06/23 10:05	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:14
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	561.38 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

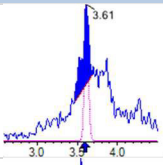
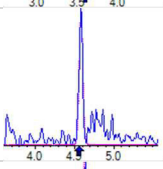
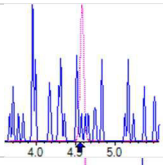
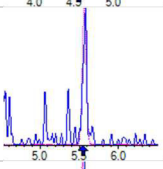
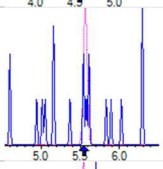
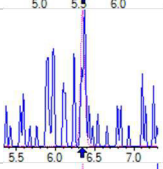
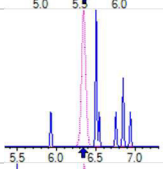
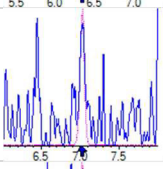
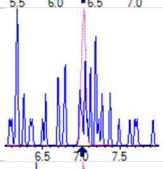
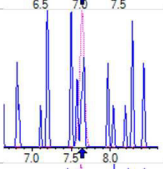
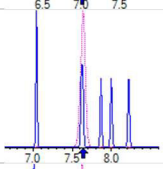
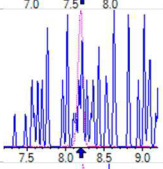
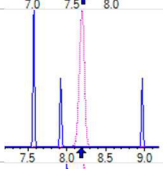
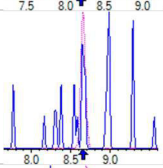
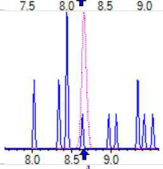
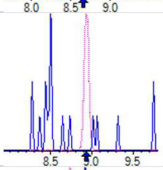
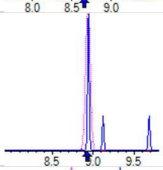
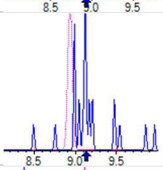
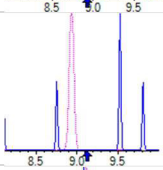
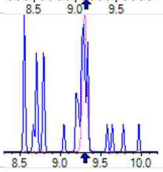
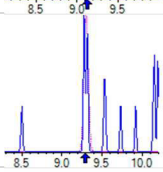
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.71	0.36	0.11	
PFEESA	0.36 U	0.71	0.36	0.097	
PFMPA	0.36 U	0.71	0.36	0.048	
PFMBA	0.36 U	0.71	0.36	0.081	
NFDHA	0.36 U	0.71	0.36	0.27	
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

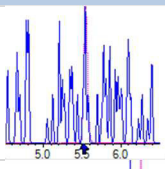
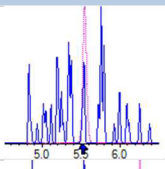
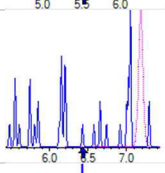
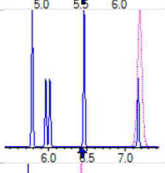
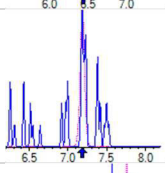
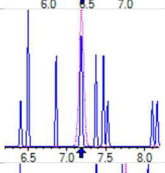
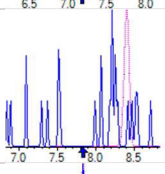
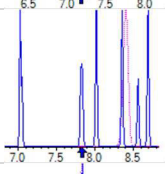
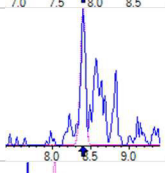
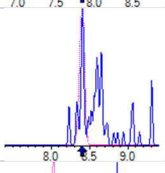
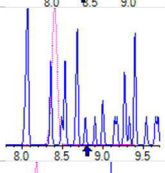
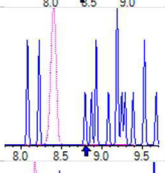
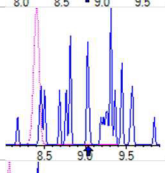
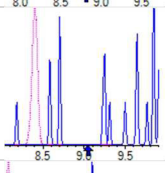
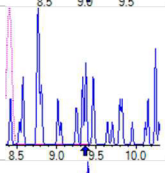
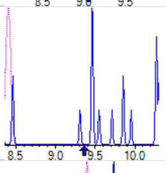
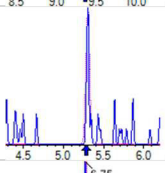
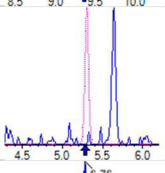
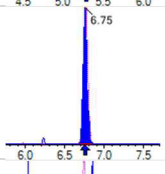
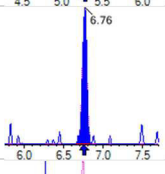
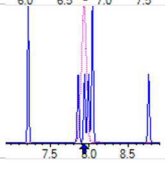
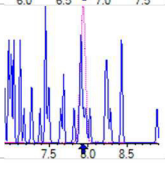
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 6502	(3.61 , 1.00) (0.00 , N/A , 0.0)	17.4	N/A 0.0 0.0	0.0358	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

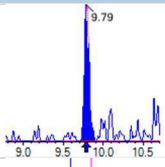
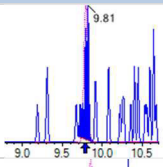
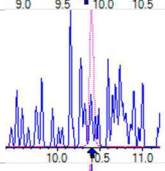
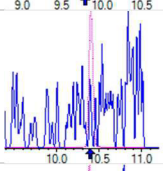
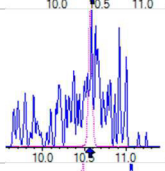
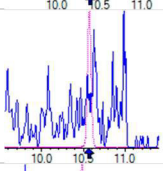
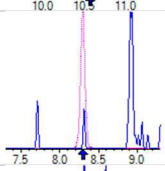
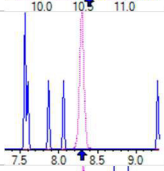
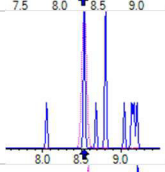
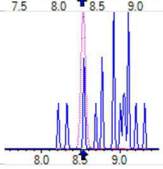
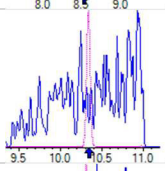
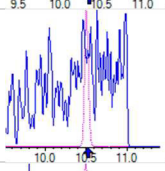
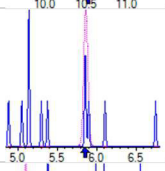
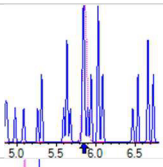
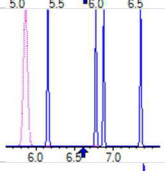
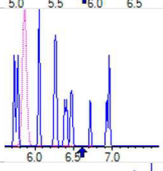
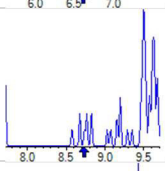
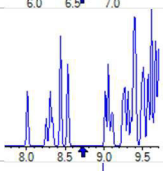
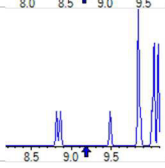
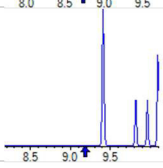
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 28698 (427.0 / 81.0) 16953	(6.75 , 1.00) (-0.01 , N/A , -0.6)	313.0 120.0	0.5907 85.5 80.5	0.2612	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

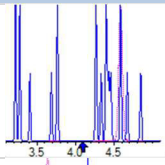
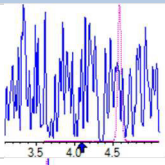
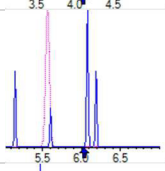
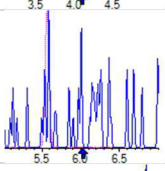
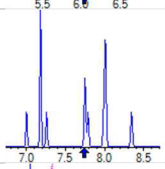
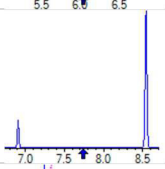
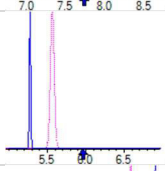
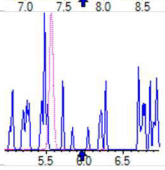
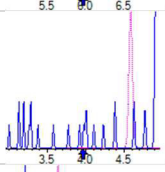
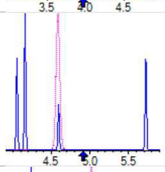
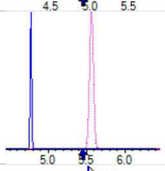
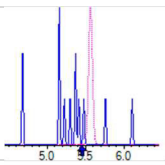
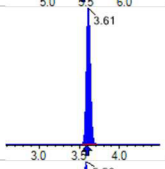
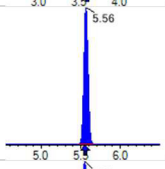
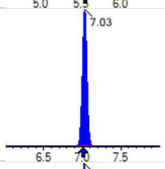
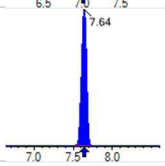
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7246 (498.0 / 478.0) 819	(9.79 , 1.00) (0.00 , N/A , -1.3)	39.0 13.8	0.1130 508.7 453.2	0.0055	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

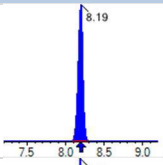
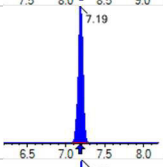
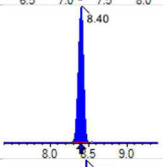
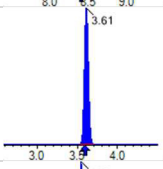
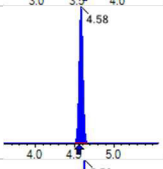
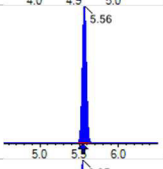
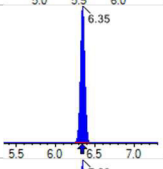
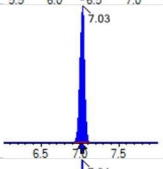
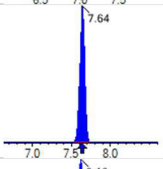
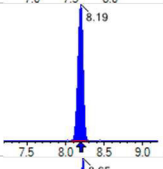
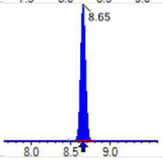
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 220658	(3.61 , N/A) (N/A , 0.03 , N/A)	2559.0	N/A	1.0301 [1.0000]	103.0% { 122.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 330082	(5.56 , N/A) (N/A , 0.02 , N/A)	2188.7	N/A	1.0510 [1.0000]	105.1% { 116.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 464722	(7.03 , N/A) (N/A , 0.01 , N/A)	2902.9	N/A	1.0063 [1.0000]	100.6% { 117.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 473341	(7.64 , N/A) (N/A , 0.01 , N/A)	259779.0	N/A	1.1342 [1.0000]	113.4% { 120.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

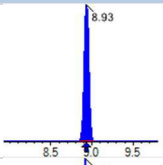
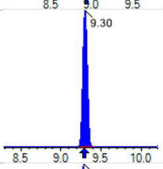
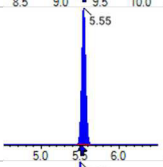
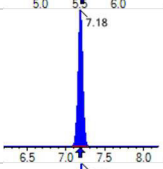
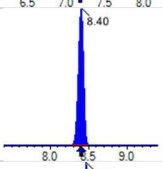
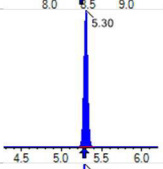
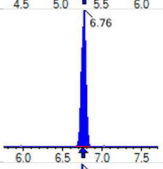
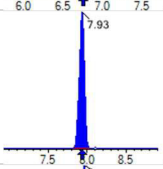
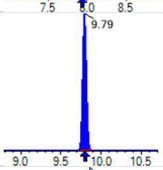
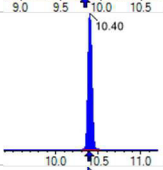
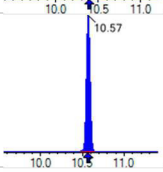
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 477876	(8.19 , N/A) (N/A , 0.00 , N/A)	206005.1	N/A	1.1899 [1.0000]	119.0% { 117.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 570398	(7.19 , N/A) (N/A , 0.01 , N/A)	2403.8	N/A	0.8402 [1.0000]	84.0% { 105.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1100514	(8.40 , N/A) (N/A , 0.00 , N/A)	1062.3	N/A	1.2826 [1.0000]	128.3% { 118.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1758613	(3.61 , N/A) (N/A , 0.03 , N/A)	7712.1	N/A	6.6970 [8.0000]	83.7% { 95.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1410439	(4.58 , N/A) (N/A , 0.02 , N/A)	4739.9	N/A	3.6989 [4.0000]	92.5% { 97.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 837322	(5.56 , N/A) (N/A , 0.02 , N/A)	3512.9	N/A	1.8199 [2.0000]	91.0% { 94.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 810167	(6.35 , N/A) (N/A , 0.01 , N/A)	3130.0	N/A	1.8486 [2.0000]	92.4% { 87.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 869610	(7.03 , N/A) (N/A , 0.01 , N/A)	2858.8	N/A	1.7224 [2.0000]	86.1% { 85.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 394158	(7.64 , N/A) (N/A , 0.01 , N/A)	10125.1	N/A	0.7837 [1.0000]	78.4% { 86.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 481587	(8.19 , N/A) (N/A , 0.01 , N/A)	1354.2	N/A	0.8373 [1.0000]	83.7% { 97.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 482099	(8.65 , N/A) (N/A , 0.00 , N/A)	1200.9	N/A	0.7518 [1.0000]	75.2% { 92.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

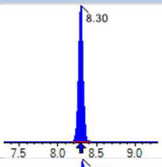
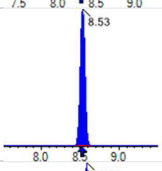
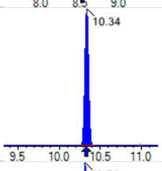
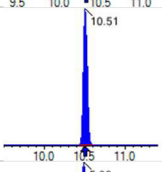
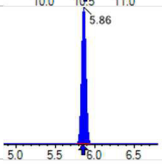
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 401516	(8.93 , N/A) (N/A , 0.00 , N/A)	2741.8	N/A	0.7163 [1.0000]	71.6% { 88.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 378293	(9.30 , N/A) (N/A , 0.01 , N/A)	1403.5	N/A	0.6399 [1.0000]	64.0% { 93.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1903456	(5.55 , N/A) (N/A , 0.02 , N/A)	3432.0	N/A	2.1064 [2.0000]	105.3% { 92.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 996694	(7.18 , N/A) (N/A , 0.01 , N/A)	2625.5	N/A	1.6984 [2.0000]	84.9% { 79.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2419992	(8.40 , N/A) (N/A , 0.01 , N/A)	2630.5	N/A	1.6401 [2.0000]	82.0% { 94.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 501765	(5.30 , N/A) (N/A , 0.02 , N/A)	3136.8	N/A	8.7538 [4.0000]	218.8% { 183.8% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 305961	(6.76 , N/A) (N/A , 0.01 , N/A)	1450.0	N/A	4.0656 [4.0000]	101.6% { 91.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 416179	(7.93 , N/A) (N/A , 0.01 , N/A)	1414.8	N/A	5.1047 [4.0000]	127.6% { 103.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3178668	(9.79 , N/A) (N/A , 0.00 , N/A)	4529.3	N/A	1.2595 [2.0000]	63.0% { 80.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 450457	(10.40 , N/A) (N/A , 0.01 , N/A)	2527.9	N/A	0.6976 [2.0000]	34.9% { 52.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 411050	(10.57 , N/A) (N/A , 0.01 , N/A)	2689.7	N/A	0.6993 [2.0000]	35.0% { 52.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (12)
Acquired: 2023/03/14 - 17:14

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 863759	(8.30 , N/A) (N/A , 0.00 , N/A)	1179.4	N/A	3.4233 [4.0000]	85.6% { 95.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 842306	(8.53 , N/A) (N/A , 0.01 , N/A)	16962.4	N/A	2.9787 [4.0000]	74.5% { 93.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1517921	(10.34 , N/A) (N/A , 0.01 , N/A)	1747.4	N/A	7.5541 [20.0000]	37.8% { 51.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2241458	(10.51 , N/A) (N/A , 0.00 , N/A)	1532.4	N/A	9.4511 [20.0000]	47.3% { 61.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1855956	(5.86 , N/A) (N/A , 0.02 , N/A)	2871.7	N/A	7.3048 [8.0000]	91.3% { 88.3% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW06-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-02	File ID:	S2023-03-14A (13)
Sampled:	03/06/23 12:10	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:27
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	560.35 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.41 J	1.4	0.71	0.19	
PFPEA	0.98	0.71	0.36	0.058	
PFHXA	0.45	0.36	0.18	0.049	
PFHPA	0.84	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	0.090	
PFUnA	0.27 U	0.36	0.27	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	0.71 U	1.4	0.71	0.26	
6:2FTS	1.3 J	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-RHMW06-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-02	File ID:	S2023-03-14A (13)
Sampled:	03/06/23 12:10	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:27
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	560.35 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

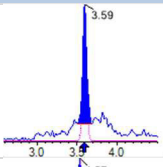
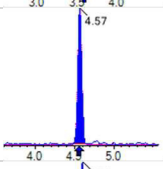
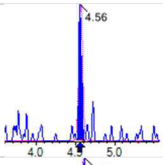
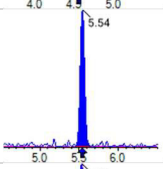
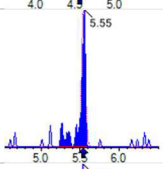
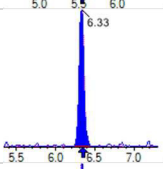
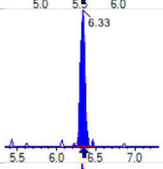
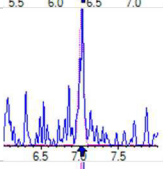
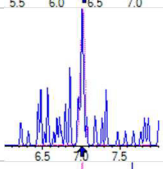
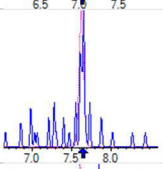
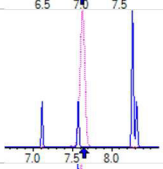
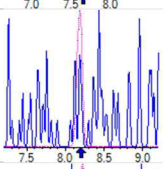
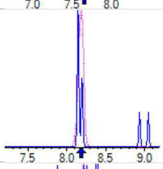
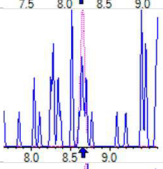
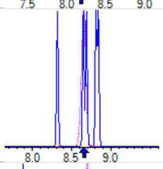
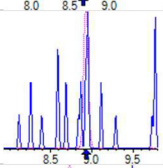
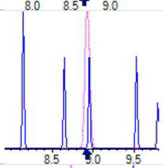
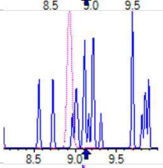
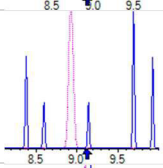
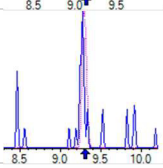
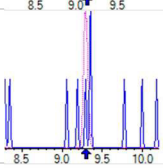
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.71	0.36	0.11	
PFEESA	0.36 U	0.71	0.36	0.097	
PFMPA	0.36 U	0.71	0.36	0.048	
PFMBA	0.36 U	0.71	0.36	0.081	
NFDHA	0.36 U	0.71	0.36	0.27	
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4	0.71	0.40	
7:3FTCA	0.71 U	1.4	0.71	0.49	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

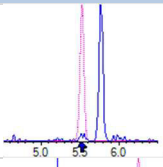
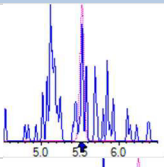
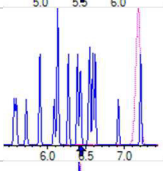
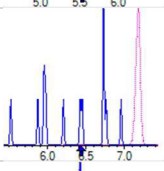
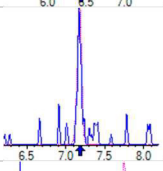
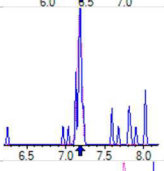
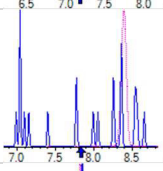
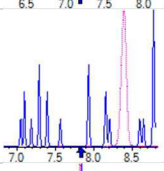
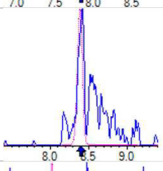
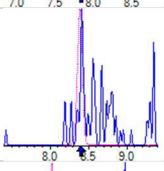
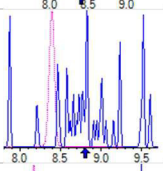
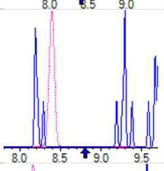
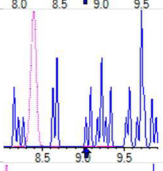
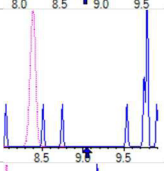
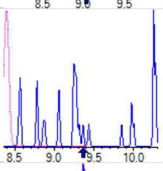
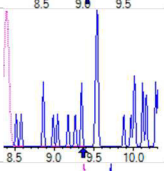
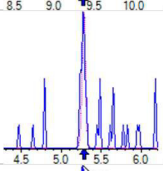
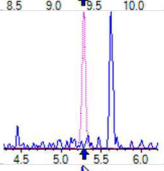
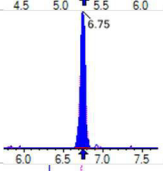
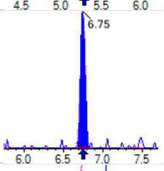
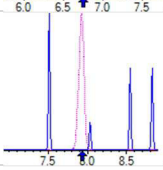
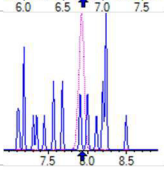
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 19767	(3.59 , 1.00) (0.00 , N/A , 0.0)	57.4	N/A 0.0 0.0	0.1143	N/A			
PFPeA	(263.0 / 219.0) 84433 (263.0 / 69.0) 1487	(4.57 , 1.00) (0.00 , N/A , 0.6)	411.5 38.2	0.0176 155.6 162.2	0.2753	N/A			
PFHxA	(313.0 / 269.0) 47632 (313.0 / 119.0) 6315	(5.54 , 1.00) (0.00 , N/A , -0.6)	239.3 3549.8	0.1326 125.9 139.5	0.1253	N/A			
PFHpA	(363.0 / 319.0) 78727 (363.0 / 169.0) 20131	(6.33 , 1.00) (-0.01 , N/A , -0.1)	610.7 1396.5	0.2557 78.4 85.2	0.2346	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

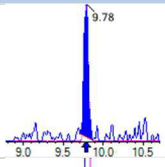
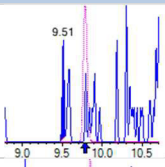
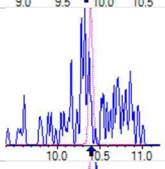
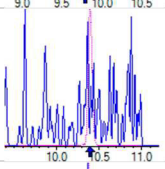
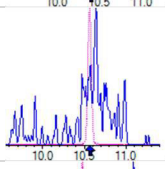
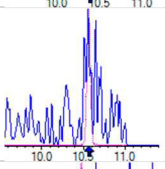
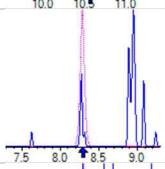
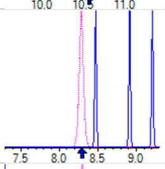
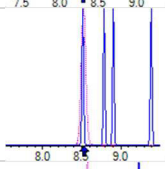
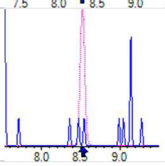
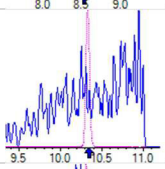
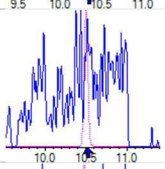
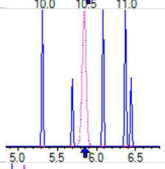
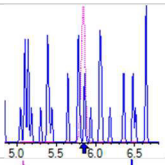
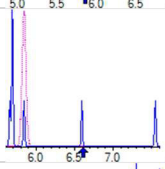
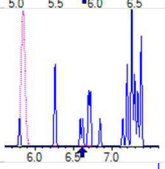
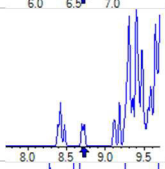
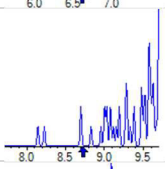
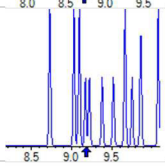
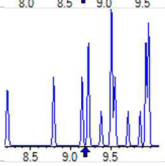
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 40134 (427.0 / 81.0) 27792	(6.75 , 1.00) (0.00 , N/A , 0.2)	1294.2 146.0	0.6925 100.2 94.4	0.3724	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

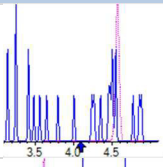
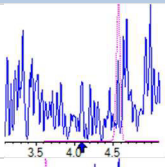
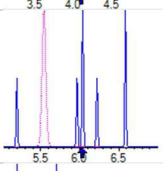
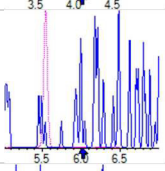
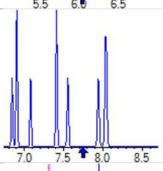
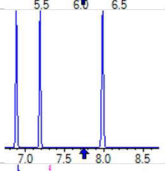
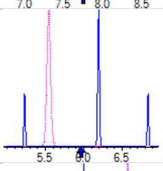
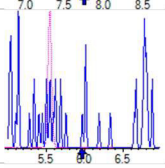
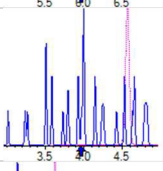
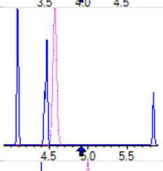
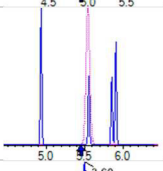
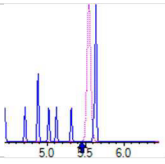
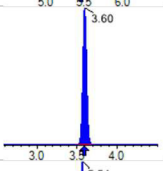
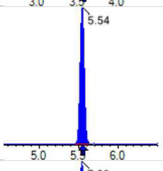
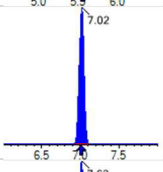
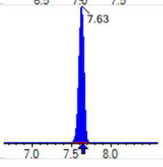
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 9155 (498.0 / 478.0) 305	(9.78 , 1.00) (0.00 , N/A , 16.4)	45.0 10.5	0.0333 150.0 133.6	0.0069	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

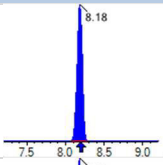
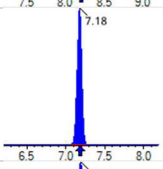
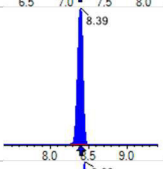
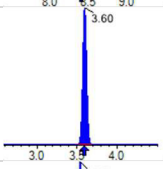
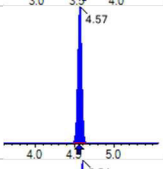
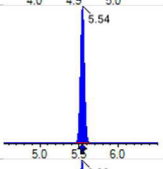
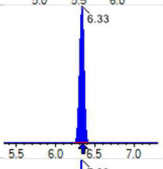
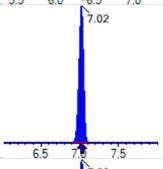
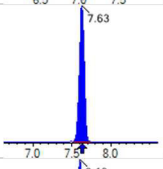
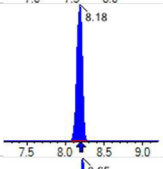
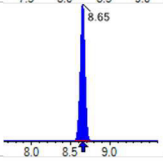
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 212393	(3.60 , N/A) (N/A , 0.01 , N/A)	2159.1	N/A	0.9916 [1.0000]	99.2% { 117.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 349415	(5.54 , N/A) (N/A , 0.00 , N/A)	4011.7	N/A	1.1125 [1.0000]	111.3% { 122.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 469644	(7.02 , N/A) (N/A , 0.00 , N/A)	56187.6	N/A	1.0169 [1.0000]	101.7% { 118.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 458488	(7.63 , N/A) (N/A , 0.00 , N/A)	4417.9	N/A	1.0987 [1.0000]	109.9% { 116.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

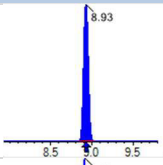
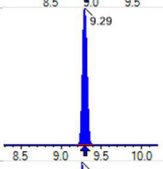
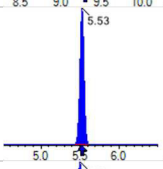
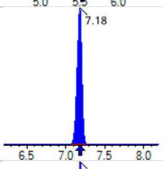
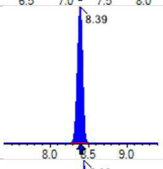
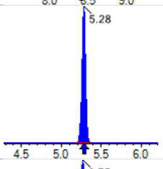
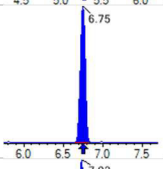
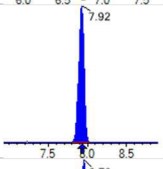
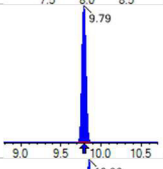
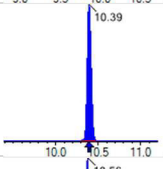
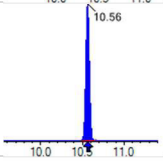
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 474020	(8.18 , N/A) (N/A , 0.00 , N/A)	330443.1	N/A	1.1803 [1.0000]	118.0% { 116.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 644403	(7.18 , N/A) (N/A , 0.00 , N/A)	5078.8	N/A	0.9492 [1.0000]	94.9% { 118.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1031855	(8.39 , N/A) (N/A , 0.00 , N/A)	1773.1	N/A	1.2025 [1.0000]	120.3% { 110.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1675531	(3.60 , N/A) (N/A , 0.01 , N/A)	6401.2	N/A	6.6289 [8.0000]	82.9% { 91.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1394472	(4.57 , N/A) (N/A , 0.01 , N/A)	4504.3	N/A	3.4547 [4.0000]	86.4% { 95.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 855553	(5.54 , N/A) (N/A , 0.00 , N/A)	3033.8	N/A	1.7567 [2.0000]	87.8% { 96.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 795367	(6.33 , N/A) (N/A , 0.00 , N/A)	79717.0	N/A	1.7144 [2.0000]	85.7% { 85.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 868043	(7.02 , N/A) (N/A , 0.00 , N/A)	4962.5	N/A	1.7013 [2.0000]	85.1% { 85.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 381730	(7.63 , N/A) (N/A , 0.00 , N/A)	272.0	N/A	0.7836 [1.0000]	78.4% { 83.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 457026	(8.18 , N/A) (N/A , -0.01 , N/A)	1561.8	N/A	0.8011 [1.0000]	80.1% { 92.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 493372	(8.65 , N/A) (N/A , 0.00 , N/A)	3045.9	N/A	0.7757 [1.0000]	77.6% { 94.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

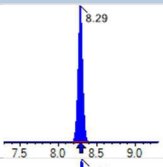
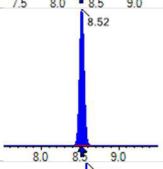
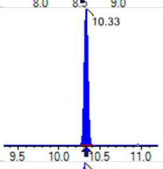
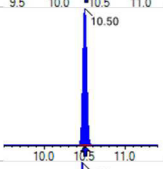
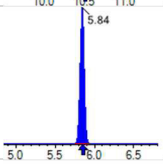
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 446110	(8.93 , N/A) (N/A , 0.00 , N/A)	7984.9	N/A	0.8023 [1.0000]	80.2% { 97.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 344305	(9.29 , N/A) (N/A , 0.00 , N/A)	2564.2	N/A	0.5871 [1.0000]	58.7% { 85.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1946365	(5.53 , N/A) (N/A , 0.00 , N/A)	5533.6	N/A	1.9065 [2.0000]	95.3% { 94.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1149312	(7.18 , N/A) (N/A , 0.00 , N/A)	7952.3	N/A	1.7335 [2.0000]	86.7% { 91.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2259955	(8.39 , N/A) (N/A , -0.01 , N/A)	2487.5	N/A	1.6336 [2.0000]	81.7% { 87.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 538997	(5.28 , N/A) (N/A , 0.00 , N/A)	2251.2	N/A	8.3234 [4.0000]	208.1% { 197.5% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 300075	(6.75 , N/A) (N/A , 0.00 , N/A)	1423.4	N/A	3.5294 [4.0000]	88.2% { 90.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 416831	(7.92 , N/A) (N/A , 0.00 , N/A)	1188.6	N/A	4.5255 [4.0000]	113.1% { 103.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3188507	(9.79 , N/A) (N/A , 0.00 , N/A)	3710.5	N/A	1.3474 [2.0000]	67.4% { 80.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 393537	(10.39 , N/A) (N/A , 0.00 , N/A)	1854.2	N/A	0.6500 [2.0000]	32.5% { 46.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 364213	(10.56 , N/A) (N/A , 0.00 , N/A)	1651.1	N/A	0.6609 [2.0000]	33.0% { 46.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (13)
Acquired: 2023/03/14 - 17:27

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , 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) 915250	(8.29 , N/A) (N/A , 0.00 , N/A)	1694.3	N/A	3.8688 [4.0000]	96.7% { 101.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 787530	(8.52 , N/A) (N/A , 0.00 , N/A)	81700.7	N/A	2.9703 [4.0000]	74.3% { 87.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1528173	(10.33 , N/A) (N/A , 0.00 , N/A)	1606.4	N/A	8.1112 [20.0000]	40.6% { 51.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2269627	(10.50 , N/A) (N/A , 0.00 , N/A)	2138.4	N/A	10.2066 [20.0000]	51.0% { 62.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1877579	(5.84 , N/A) (N/A , 0.00 , N/A)	3790.6	N/A	6.9811 [8.0000]	87.3% { 89.3% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW12A-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-03	File ID:	S2023-03-14A (14)
Sampled:	03/06/23 10:30	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:39
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	550.71 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.6	1.5	0.73	0.19	
PFPEA	4.6	0.73	0.36	0.059	
PFHXA	1.5	0.36	0.18	0.050	
PFHPA	0.33 J	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	0.092	
PFUnA	0.27 U	0.36	0.27	0.15	
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	0.057	
PFHXS	0.18 U	0.36	0.18	0.029	
PFHPS	0.18 U	0.36	0.18	0.047	
PFOS	0.18 U	0.36	0.18	0.058	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.73 U	1.5	0.73	0.26	
6:2FTS	1.1 J	1.5	0.73	0.29	
8:2FTS	0.73 U	1.5	0.73	0.075	
PFOSA	0.18 U	0.36	0.18	0.095	
NMeFOSA	0.73 U	1.5	0.73	0.43	
NEtFOSA	0.73 U	1.5	0.73	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.096	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.5	1.1	0.92	
NEtFOSE	1.1 U	1.5	1.1	0.95	
HFPO-DA	0.36 U	0.73	0.36	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW12A-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-03	File ID:	S2023-03-14A (14)
Sampled:	03/06/23 10:30	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:39
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	550.71 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

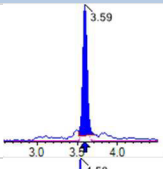
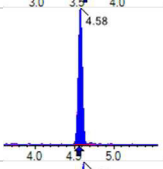
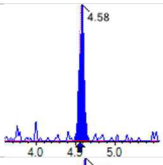
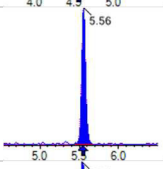
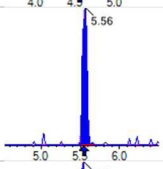
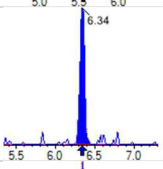
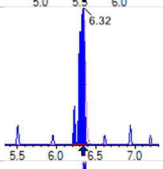
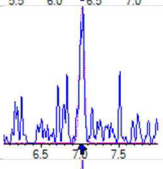
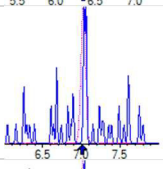
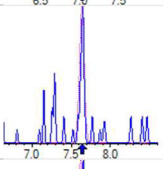
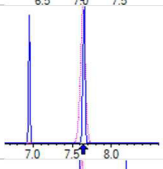
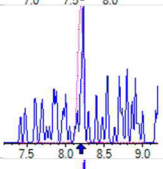
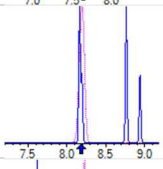
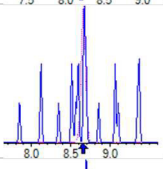
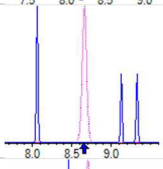
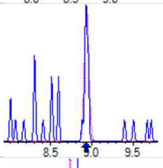
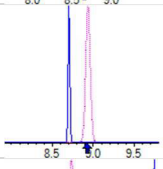
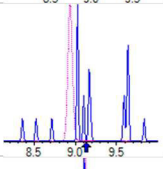
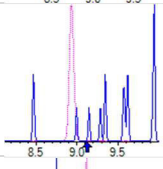
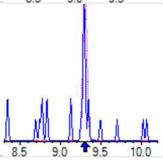
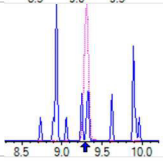
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.73	0.36	0.11	
PFEESA	0.36 U	0.73	0.36	0.099	
PFMPA	0.36 U	0.73	0.36	0.049	
PFMBA	0.36 U	0.73	0.36	0.082	
NFDHA	0.36 U	0.73	0.36	0.27	
9CL-PF3ONS	0.36 U	0.73	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.73	0.36	0.19	
3:3FTCA	0.73 U	1.5	0.73	0.52	
5:3FTCA	0.73 U	1.5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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

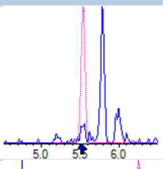
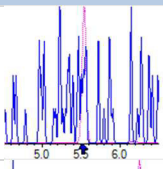
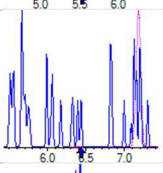
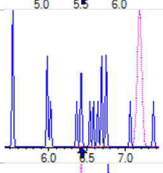
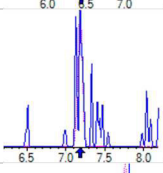
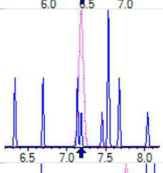
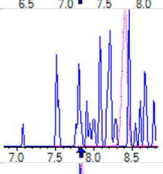
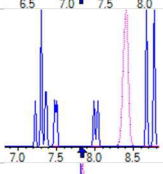
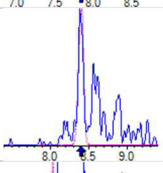
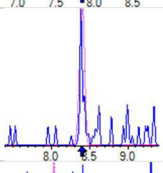
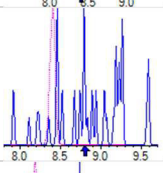
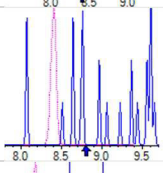
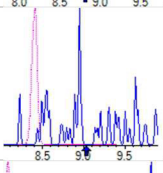
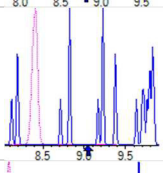
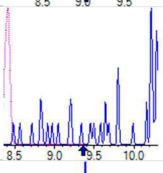
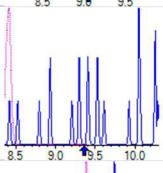
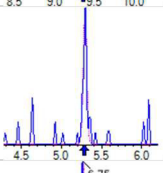
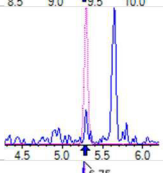
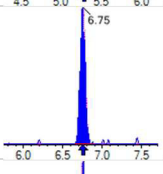
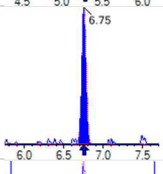
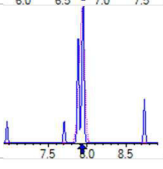
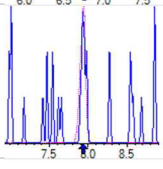
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 82917	(3.59 , 1.00) (0.00 , N/A , 0.0)	136.5	N/A 0.0 0.0	0.4533	N/A			
PFPeA	(263.0 / 219.0) 402147 (263.0 / 69.0) 5662	(4.58 , 1.00) (0.00 , N/A , -0.5)	1021.4 85.1	0.0141 124.3 129.7	1.2689	N/A			
PFHxA	(313.0 / 269.0) 145112 (313.0 / 119.0) 16558	(5.56 , 1.00) (0.00 , N/A , 0.0)	578.6 800125.8	0.1141 108.3 120.1	0.4088	N/A			
PFHpA	(363.0 / 319.0) 29204 (363.0 / 169.0) 7762	(6.34 , 1.00) (0.00 , N/A , 1.1)	1516.0 1706.4	0.2658 81.5 88.6	0.0909	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

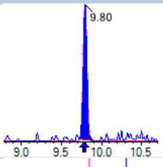
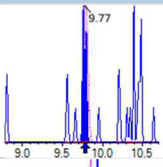
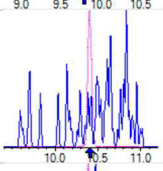
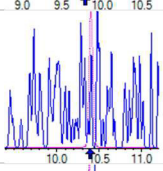
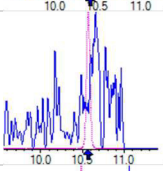
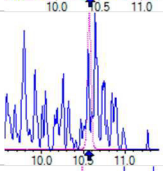
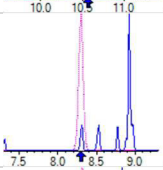
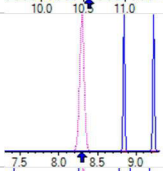
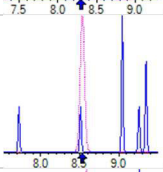
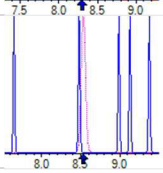
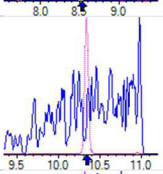
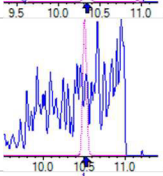
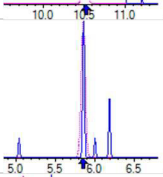
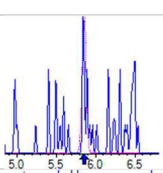
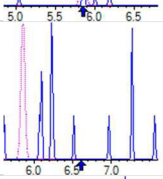
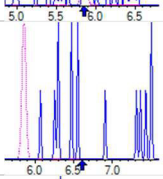
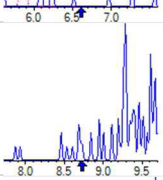
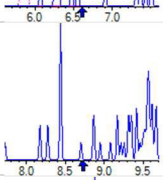
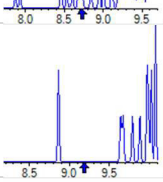
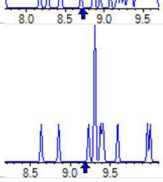
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 38307 (427.0 / 81.0) 24770	(6.75 , 1.00) (0.00 , N/A , 0.1)	593.5 156.2	0.6466 93.6 88.2	0.3076	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

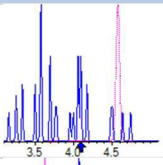
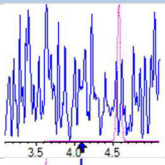
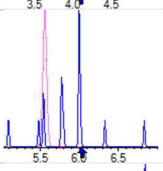
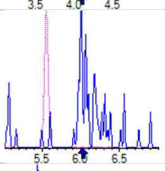
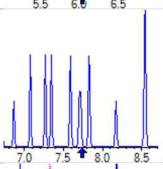
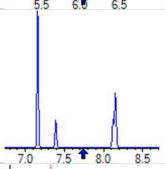
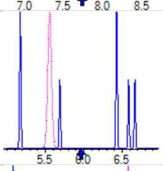
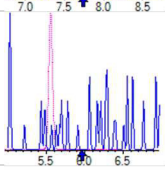
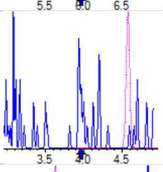
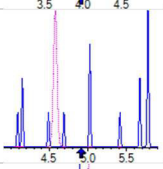
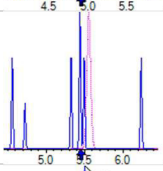
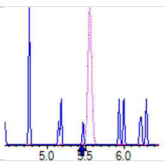
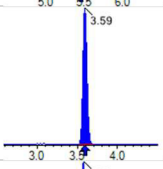
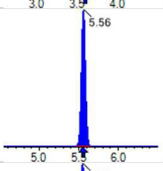
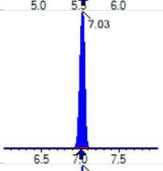
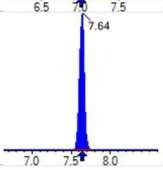
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 14867 (498.0 / 478.0) 782	(9.80 , 1.00) (0.00 , N/A , 1.2)	93.1 15.5	0.0526 236.8 211.0	0.0114	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

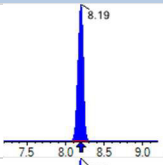
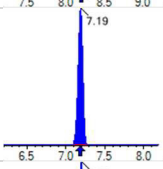
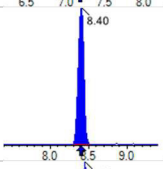
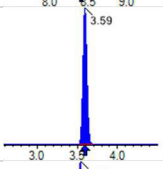
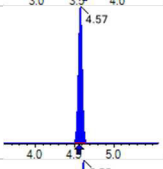
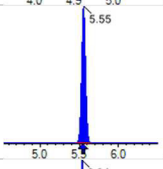
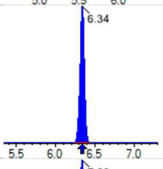
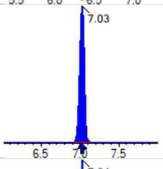
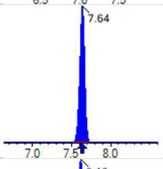
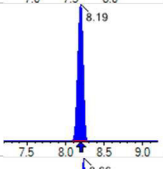
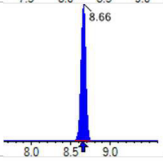
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 214986	(3.59 , N/A) (N/A , 0.01 , N/A)	1670.7	N/A	1.0037 [1.0000]	100.4% { 119.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 327702	(5.56 , N/A) (N/A , 0.01 , N/A)	3038.0	N/A	1.0434 [1.0000]	104.3% { 115.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 457339	(7.03 , N/A) (N/A , 0.01 , N/A)	448422.4	N/A	0.9903 [1.0000]	99.0% { 115.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 440230	(7.64 , N/A) (N/A , 0.01 , N/A)	40698.1	N/A	1.0549 [1.0000]	105.5% { 112.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

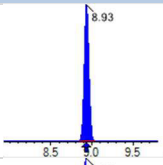
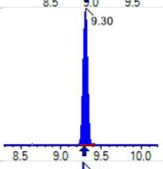
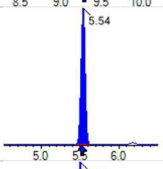
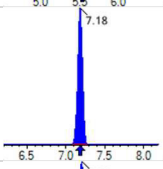
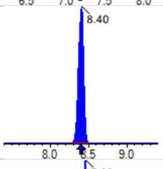
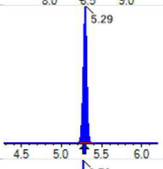
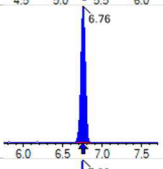
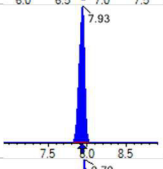
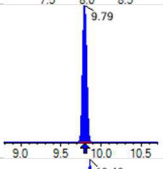
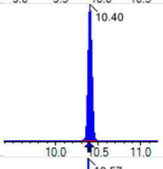
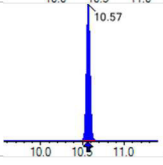
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 473342	(8.19 , N/A) (N/A , 0.01 , N/A)	2123.9	N/A	1.1786 [1.0000]	117.9% { 116.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 626826	(7.19 , N/A) (N/A , 0.01 , N/A)	2251.1	N/A	0.9233 [1.0000]	92.3% { 115.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1035211	(8.40 , N/A) (N/A , 0.00 , N/A)	957.1	N/A	1.2065 [1.0000]	120.6% { 111.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1771935	(3.59 , N/A) (N/A , 0.01 , N/A)	8931.4	N/A	6.9257 [8.0000]	86.6% { 96.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1441208	(4.57 , N/A) (N/A , 0.01 , N/A)	4106.8	N/A	3.8071 [4.0000]	95.2% { 99.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 798570	(5.55 , N/A) (N/A , 0.01 , N/A)	3182.8	N/A	1.7483 [2.0000]	87.4% { 89.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 761634	(6.34 , N/A) (N/A , 0.01 , N/A)	12573.6	N/A	1.7505 [2.0000]	87.5% { 81.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 925818	(7.03 , N/A) (N/A , 0.01 , N/A)	2720.3	N/A	1.8633 [2.0000]	93.2% { 90.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 416984	(7.64 , N/A) (N/A , 0.01 , N/A)	1852.3	N/A	0.8914 [1.0000]	89.1% { 91.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 482904	(8.19 , N/A) (N/A , 0.01 , N/A)	7514.4	N/A	0.8477 [1.0000]	84.8% { 97.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 506834	(8.66 , N/A) (N/A , 0.01 , N/A)	3146.1	N/A	0.7980 [1.0000]	79.8% { 97.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

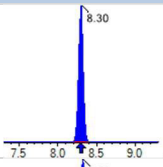
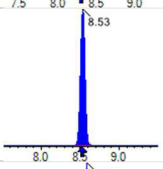
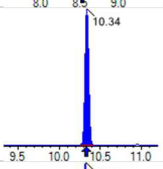
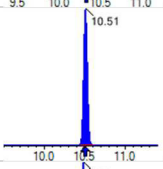
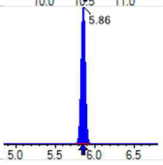
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 407746	(8.93 , N/A) (N/A , 0.00 , N/A)	8093.5	N/A	0.7344 [1.0000]	73.4% { 89.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 363605	(9.30 , N/A) (N/A , 0.01 , N/A)	1894.7	N/A	0.6209 [1.0000]	62.1% { 90.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1964748	(5.54 , N/A) (N/A , 0.01 , N/A)	2882.0	N/A	1.9785 [2.0000]	98.9% { 95.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1182731	(7.18 , N/A) (N/A , 0.01 , N/A)	2765.0	N/A	1.8339 [2.0000]	91.7% { 93.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2441172	(8.40 , N/A) (N/A , 0.01 , N/A)	1902.2	N/A	1.7588 [2.0000]	87.9% { 94.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 498191	(5.29 , N/A) (N/A , 0.01 , N/A)	1888.6	N/A	7.9090 [4.0000]	197.7% { 182.5% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 346726	(6.76 , N/A) (N/A , 0.01 , N/A)	1633.9	N/A	4.1925 [4.0000]	104.8% { 104.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 455491	(7.93 , N/A) (N/A , 0.01 , N/A)	1233.6	N/A	5.0839 [4.0000]	127.1% { 112.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3147821	(9.79 , N/A) (N/A , 0.01 , N/A)	3862.4	N/A	1.3259 [2.0000]	66.3% { 79.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 404962	(10.40 , N/A) (N/A , 0.01 , N/A)	2126.4	N/A	0.6667 [2.0000]	33.3% { 47.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 369383	(10.57 , N/A) (N/A , 0.01 , N/A)	1714.2	N/A	0.6681 [2.0000]	33.4% { 47.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (14)
Acquired: 2023/03/14 - 17:39

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 895014	(8.30 , N/A) (N/A , 0.01 , N/A)	2406.4	N/A	3.7709 [4.0000]	94.3% { 99.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 864659	(8.53 , N/A) (N/A , 0.01 , N/A)	4542.8	N/A	3.2507 [4.0000]	81.3% { 95.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1358978	(10.34 , N/A) (N/A , 0.01 , N/A)	1840.0	N/A	7.1898 [20.0000]	35.9% { 45.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2200100	(10.51 , N/A) (N/A , 0.01 , N/A)	1441.5	N/A	9.8619 [20.0000]	49.3% { 60.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1832997	(5.86 , N/A) (N/A , 0.01 , N/A)	3826.1	N/A	7.2669 [8.0000]	90.8% { 87.2% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW12A-WGFD01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-04	File ID:	S2023-03-14A (15)
Sampled:	03/06/23 10:30	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:52
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	558.73 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.5	1.4	0.72	0.19	
PFPEA	4.7	0.72	0.36	0.058	
PFHXA	1.5	0.36	0.18	0.049	
PFHPA	0.47	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	0.27 U	0.36	0.27	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	0.80 J	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	0.91	
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-RHMW12A-WGFD01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-04	File ID:	S2023-03-14A (15)
Sampled:	03/06/23 10:30	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 17:52
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	558.73 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

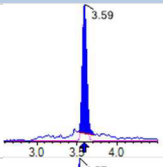
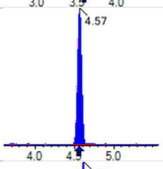
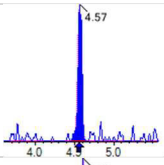
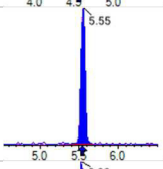
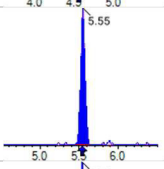
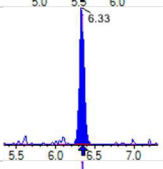
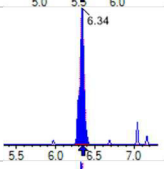
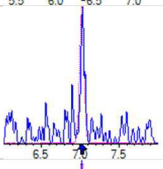
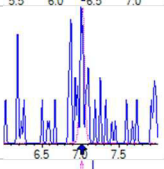
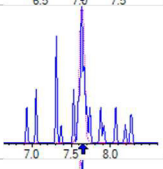
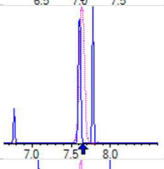
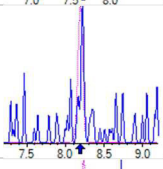
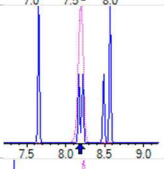
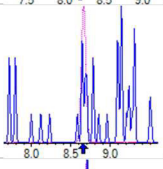
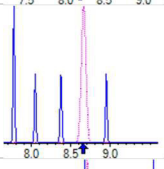
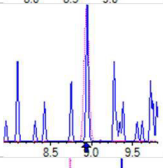
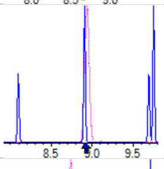
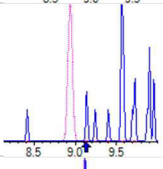
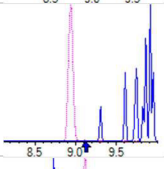
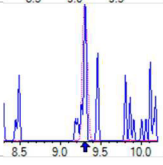
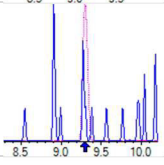
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.048	
PFMBA	0.36 U	0.72	0.36	0.081	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.18	
3:3FTCA	0.72 U	1.4	0.72	0.51	
5:3FTCA	0.72 U	1.4	0.72	0.40	
7:3FTCA	0.72 U	1.4	0.72	0.50	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

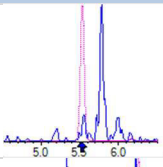
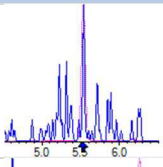
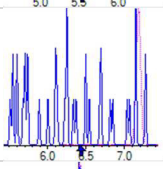
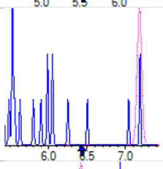
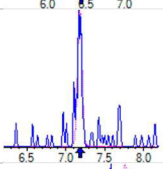
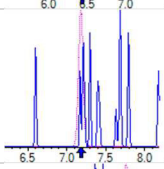
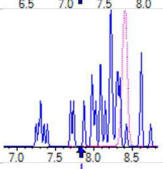
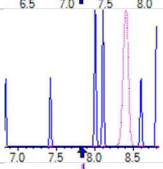
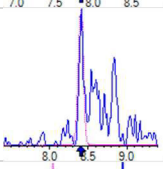
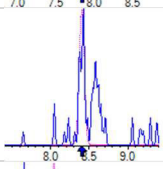
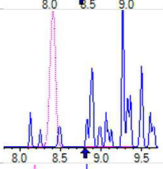
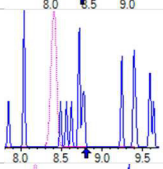
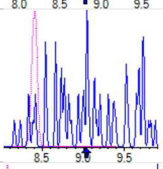
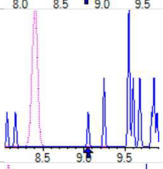
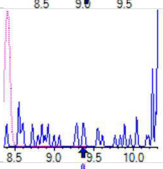
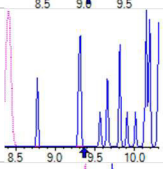
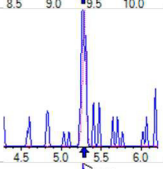
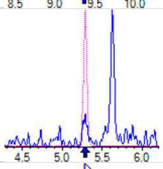
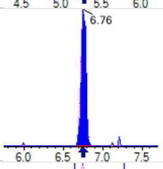
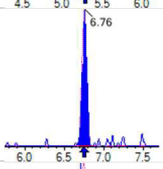
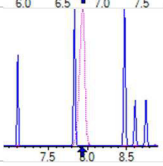
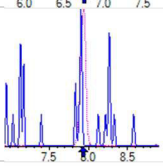
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 78479	(3.59 , 1.00) (0.00 , N/A , 0.0)	125.6	N/A 0.0 0.0	0.4284	N/A			
PFPeA	(263.0 / 219.0) 405542 (263.0 / 69.0) 4210	(4.57 , 1.00) (0.00 , N/A , -0.4)	1244.5 59.0	0.0104 91.7 95.6	1.3033	N/A			
PFHxA	(313.0 / 269.0) 153225 (313.0 / 119.0) 18758	(5.55 , 1.00) (0.00 , N/A , 0.2)	554.5 648.0	0.1224 116.2 128.8	0.4270	N/A			
PFHpA	(363.0 / 319.0) 39776 (363.0 / 169.0) 13207	(6.33 , 1.00) (0.00 , N/A , -0.3)	534.7 6065.8	0.3320 101.9 110.7	0.1311	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

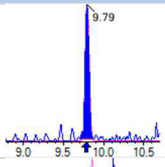
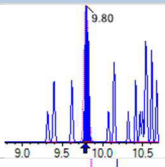
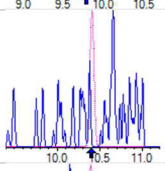
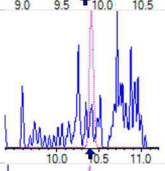
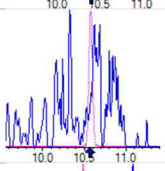
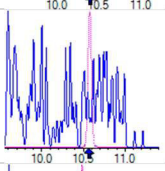
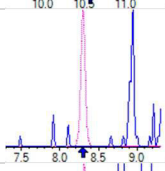
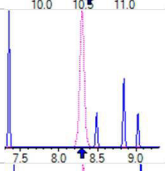
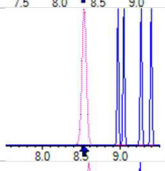
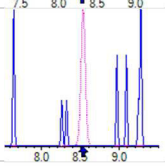
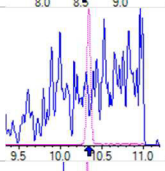
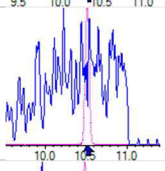
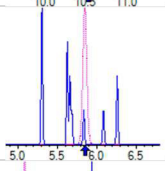
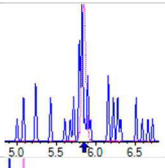
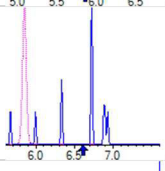
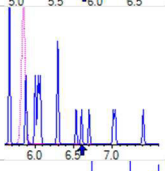
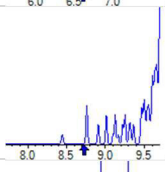
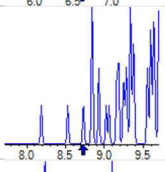
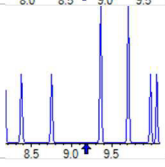
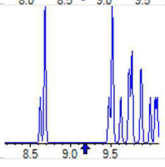
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 25282 (427.0 / 81.0) 18902	(6.76 , 1.00) (0.01 , N/A , 0.0)	1810.3 125.9	0.7476 108.2 101.9	0.2249	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

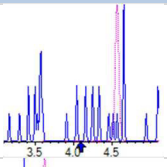
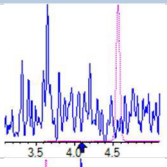
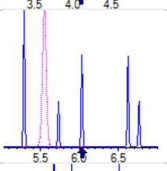
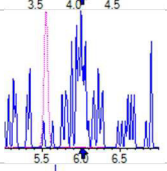
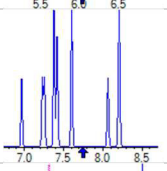
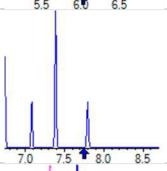
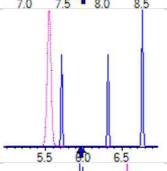
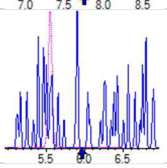
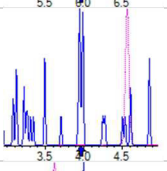
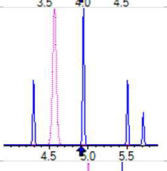
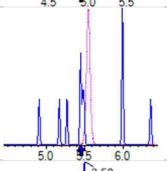
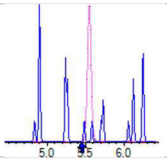
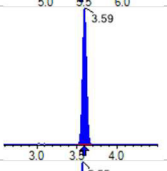
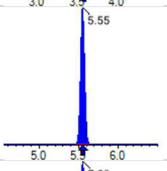
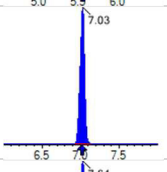
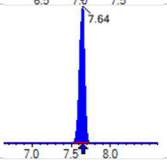
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 13735 (498.0 / 478.0) 864	(9.79 , 1.00) (0.00 , N/A , -0.5)	69.3 16.8	0.0629 283.0 252.1	0.0106	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

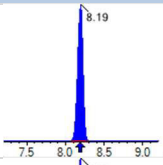
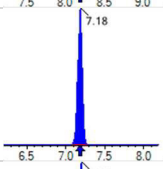
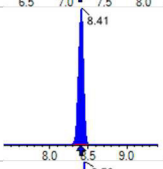
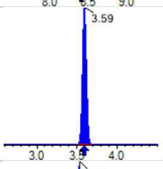
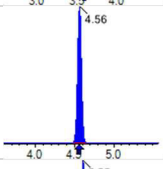
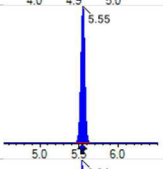
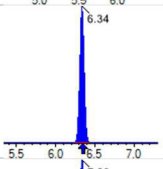
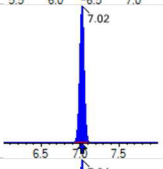
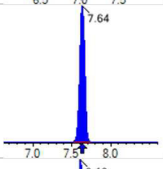
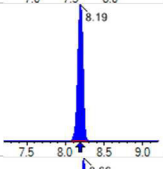
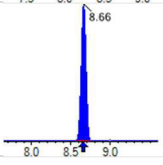
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 215341	(3.59 , N/A) (N/A , 0.01 , N/A)	1684.4	N/A	1.0053 [1.0000]	100.5% { 119.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 322606	(5.55 , N/A) (N/A , 0.00 , N/A)	358554.9	N/A	1.0272 [1.0000]	102.7% { 113.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 445695	(7.03 , N/A) (N/A , 0.00 , N/A)	2692.2	N/A	0.9651 [1.0000]	96.5% { 112.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 456963	(7.64 , N/A) (N/A , 0.01 , N/A)	3223646.4	N/A	1.0950 [1.0000]	109.5% { 116.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

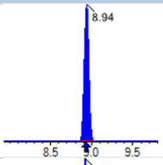
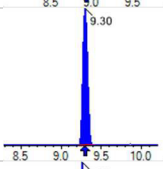
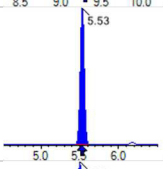
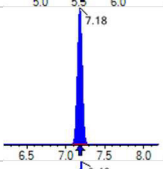
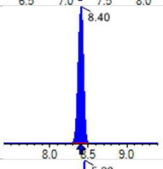
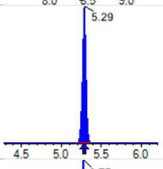
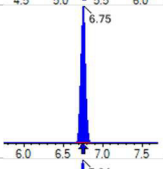
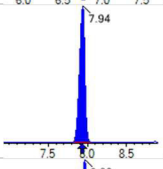
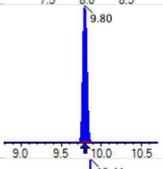
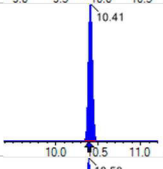
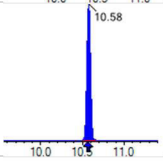
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 492672	(8.19 , N/A) (N/A , 0.00 , N/A)	5845.0	N/A	1.2267 [1.0000]	122.7% { 121.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 635654	(7.18 , N/A) (N/A , 0.01 , N/A)	2019.2	N/A	0.9363 [1.0000]	93.6% { 117.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1114223	(8.41 , N/A) (N/A , 0.01 , N/A)	1166.2	N/A	1.2985 [1.0000]	129.9% { 119.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1774806	(3.59 , N/A) (N/A , 0.01 , N/A)	7269.7	N/A	6.9255 [8.0000]	86.6% { 96.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1415082	(4.56 , N/A) (N/A , 0.00 , N/A)	5091.7	N/A	3.7971 [4.0000]	94.9% { 97.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 807286	(5.55 , N/A) (N/A , 0.00 , N/A)	3872.9	N/A	1.7953 [2.0000]	89.8% { 90.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 719273	(6.34 , N/A) (N/A , 0.00 , N/A)	3156.3	N/A	1.6792 [2.0000]	84.0% { 77.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 908233	(7.02 , N/A) (N/A , 0.01 , N/A)	2361.1	N/A	1.8757 [2.0000]	93.8% { 88.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 413601	(7.64 , N/A) (N/A , 0.01 , N/A)	1615.1	N/A	0.8518 [1.0000]	85.2% { 90.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 494812	(8.19 , N/A) (N/A , 0.01 , N/A)	3035.1	N/A	0.8345 [1.0000]	83.4% { 100.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 522282	(8.66 , N/A) (N/A , 0.01 , N/A)	1805.5	N/A	0.7900 [1.0000]	79.0% { 100.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

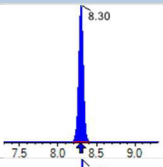
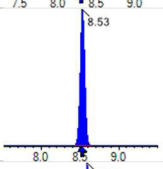
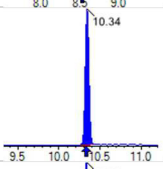
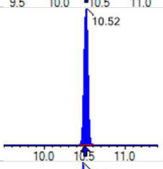
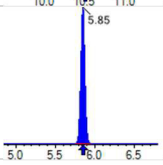
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 422048	(8.94 , N/A) (N/A , 0.01 , N/A)	19544.2	N/A	0.7303 [1.0000]	73.0% { 92.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 337609	(9.30 , N/A) (N/A , 0.01 , N/A)	1640.1	N/A	0.5539 [1.0000]	55.4% { 83.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1911908	(5.53 , N/A) (N/A , 0.00 , N/A)	2051.0	N/A	1.8985 [2.0000]	94.9% { 92.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1200127	(7.18 , N/A) (N/A , 0.01 , N/A)	2513.6	N/A	1.8351 [2.0000]	91.8% { 95.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2514870	(8.40 , N/A) (N/A , 0.01 , N/A)	1555.0	N/A	1.6834 [2.0000]	84.2% { 97.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 505763	(5.29 , N/A) (N/A , 0.01 , N/A)	1894.0	N/A	7.9177 [4.0000]	197.9% { 185.3% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 313104	(6.75 , N/A) (N/A , 0.00 , N/A)	1851.0	N/A	3.7334 [4.0000]	93.3% { 93.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 500435	(7.94 , N/A) (N/A , 0.01 , N/A)	1664.0	N/A	5.5080 [4.0000]	137.7% { 124.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3112989	(9.80 , N/A) (N/A , 0.01 , N/A)	4370.4	N/A	1.2183 [2.0000]	60.9% { 78.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 451535	(10.41 , N/A) (N/A , 0.01 , N/A)	1521.9	N/A	0.6907 [2.0000]	34.5% { 53.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 419417	(10.58 , N/A) (N/A , 0.01 , N/A)	2867.3	N/A	0.7048 [2.0000]	35.2% { 53.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (15)
Acquired: 2023/03/14 - 17:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 894748	(8.30 , N/A) (N/A , 0.01 , N/A)	1016.6	N/A	3.5025 [4.0000]	87.6% { 99.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 858244	(8.53 , N/A) (N/A , 0.01 , N/A)	5585.9	N/A	2.9978 [4.0000]	74.9% { 94.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1634646	(10.34 , N/A) (N/A , 0.01 , N/A)	1544.6	N/A	8.0350 [20.0000]	40.2% { 55.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2134146	(10.52 , N/A) (N/A , 0.01 , N/A)	1891.2	N/A	8.8879 [20.0000]	44.4% { 58.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1888085	(5.85 , N/A) (N/A , 0.00 , N/A)	3813.6	N/A	7.6035 [8.0000]	95.0% { 89.8% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW16-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-05	File ID:	S2023-03-14A (16)
Sampled:	03/06/23 13:15	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 18:05
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	542.99 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.74 U	1.5	0.74	0.19	
PFPEA	0.37 U	0.74	0.37	0.060	
PFHXA	0.18 U	0.37	0.18	0.051	
PFHPA	0.18 U	0.37	0.18	0.038	
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	0.28 U	0.37	0.28	0.15	
PFDOA	0.18 U	0.37	0.18	0.10	
PFTRDA	0.28 U	0.37	0.28	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	0.058	
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	0.059	
PFNS	0.18 U	0.37	0.18	0.11	
PFDS	0.18 U	0.37	0.18	0.14	
PFDOS	0.18 U	0.37	0.18	0.11	
4:2FTS	0.74 U	1.5	0.74	0.27	IR1,
6:2FTS	0.74 U	1.5	0.74	0.29	
8:2FTS	0.74 U	1.5	0.74	0.076	
PFOSA	0.18 U	0.37	0.18	0.096	
NMeFOSA	0.74 U	1.5	0.74	0.44	
NEtFOSA	0.74 U	1.5	0.74	0.38	
NMeFOSAA	0.18 U	0.37	0.18	0.097	
NEtFOSAA	0.18 U	0.37	0.18	0.11	
NMeFOSE	1.1 U	1.5	1.1	0.93	
NEtFOSE	1.1 U	1.5	1.1	0.96	
HFPO-DA	0.37 U	0.74	0.37	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW16-WGN01LF-2303W1

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23C0038-05	File ID:	S2023-03-14A (16)
Sampled:	03/06/23 13:15	Prepared:	03/13/23 12:58	Analyzed:	03/14/23 18:05
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	542.99 mL / 2 mL			Instrument:	Saphira
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010

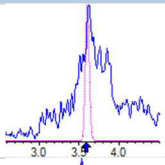
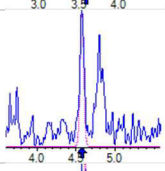
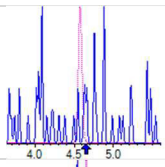
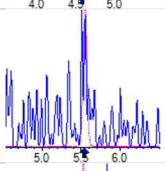
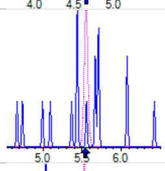
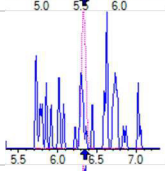
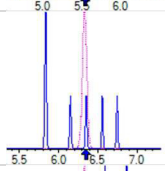
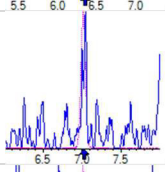
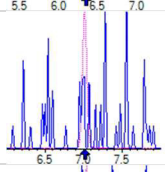
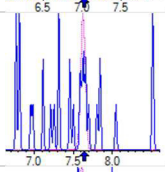
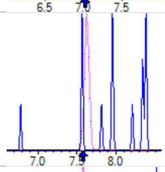
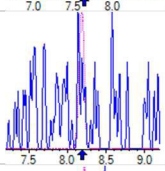
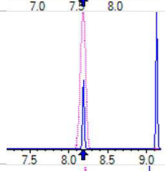
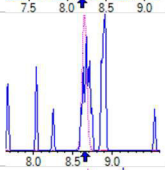
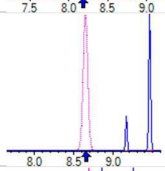
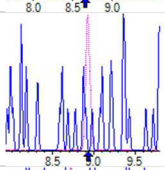
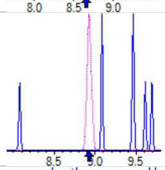
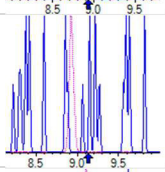
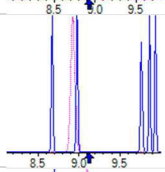
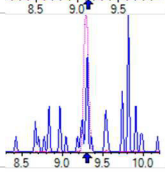
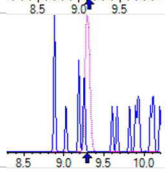
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.37 U	0.74	0.37	0.11	
PFEESA	0.37 U	0.74	0.37	0.10	
PFMPA	0.37 U	0.74	0.37	0.050	
PFMBA	0.37 U	0.74	0.37	0.084	
NFDHA	0.37 U	0.74	0.37	0.28	
9CL-PF3ONS	0.37 U	0.74	0.37	0.19	
11CL-PF3OUDS	0.37 U	0.74	0.37	0.19	
3:3FTCA	0.74 U	1.5	0.74	0.53	
5:3FTCA	0.74 U	1.5	0.74	0.41	
7:3FTCA	0.74 U	1.5	0.74	0.51	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

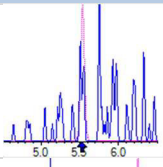
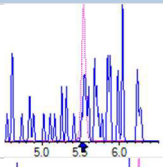
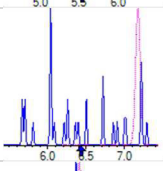
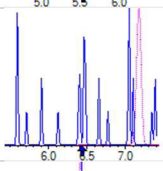
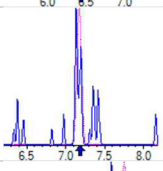
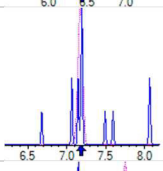
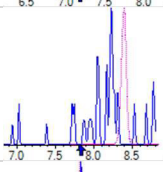
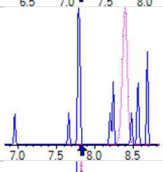
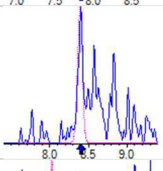
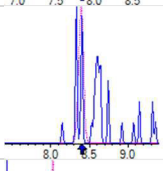
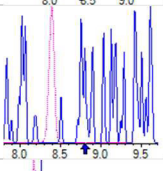
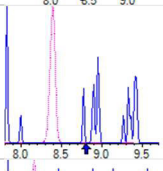
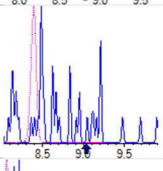
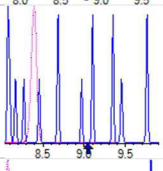
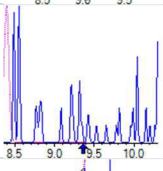
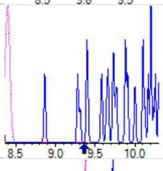
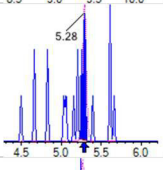
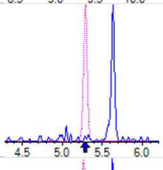
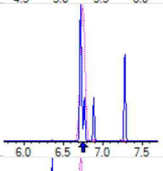
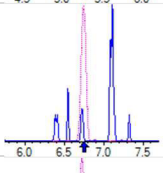
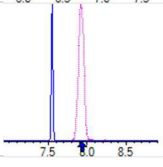
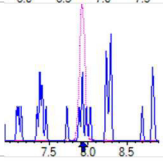
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

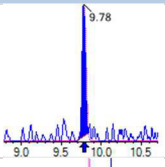
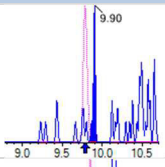
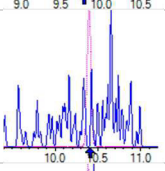
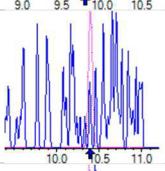
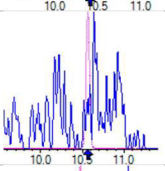
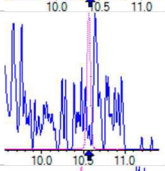
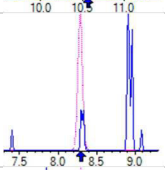
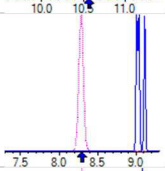
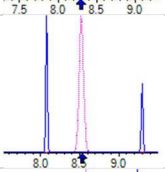
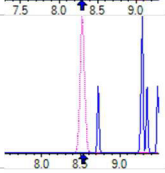
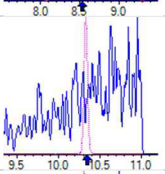
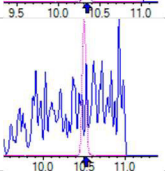
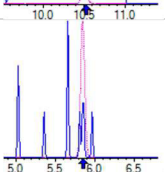
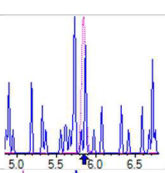
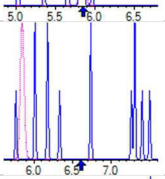
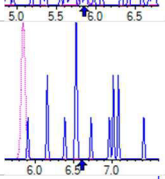
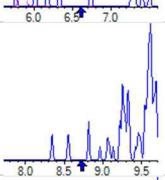
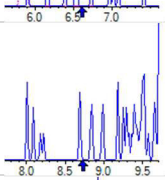
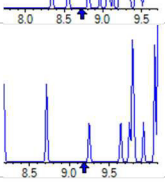
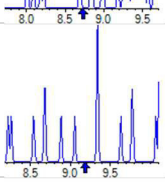
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 473 (327.0 / 81.0) N/A	(5.28 , 1.00) (0.00 , N/A , #Value!)	18.0 N/A	N/A 0.0 0.0	0.0014	N/A			IR1,
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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

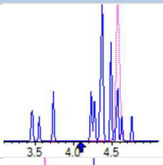
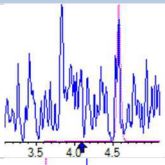
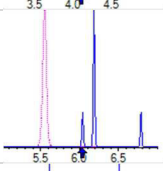
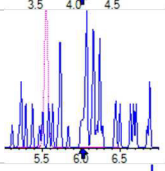
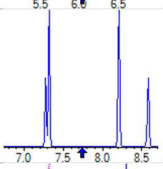
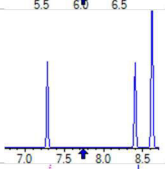
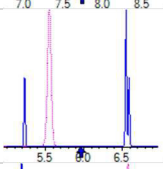
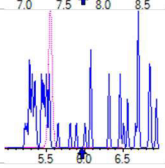
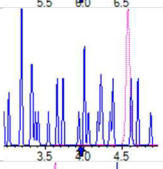
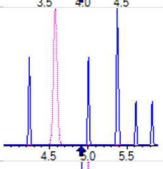
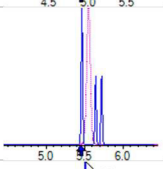
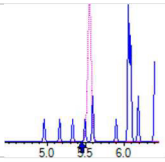
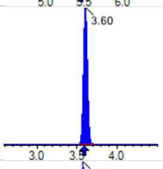
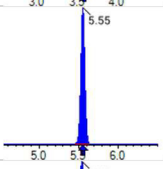
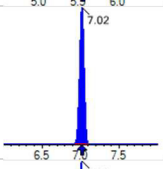
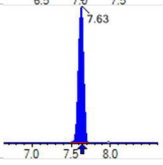
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 5899 (498.0 / 478.0) 740	(9.78 , 1.00) (-0.01 , N/A , -7.3)	33.9 17.2	0.1255 564.7 503.1	0.0041	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

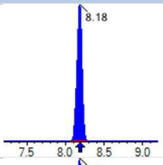
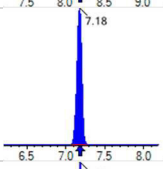
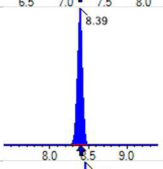
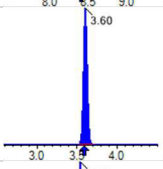
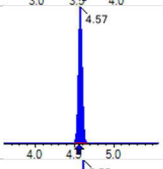
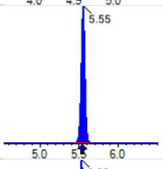
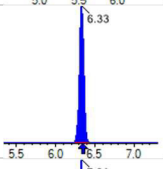
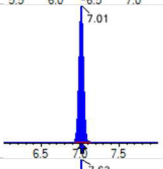
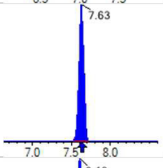
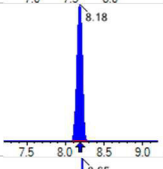
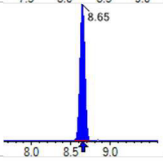
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 233281	(3.60 , N/A) (N/A , 0.02 , N/A)	2258.8	N/A	1.0891 [1.0000]	108.9% { 129.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 365141	(5.55 , N/A) (N/A , 0.01 , N/A)	3080.5	N/A	1.1626 [1.0000]	116.3% { 128.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 509709	(7.02 , N/A) (N/A , 0.00 , N/A)	3391.9	N/A	1.1037 [1.0000]	110.4% { 128.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 476874	(7.63 , N/A) (N/A , -0.01 , N/A)	811.2	N/A	1.1427 [1.0000]	114.3% { 121.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

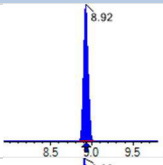
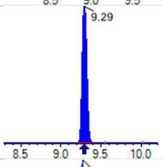
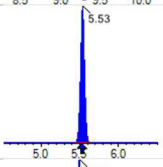
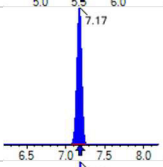
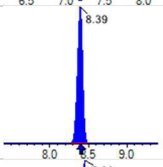
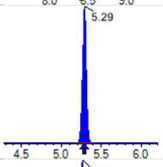
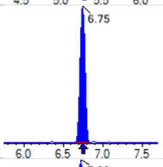
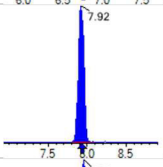
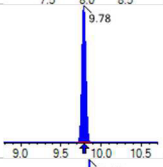
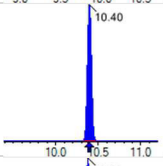
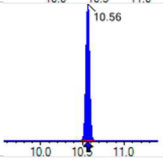
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 467746	(8.18 , N/A) (N/A , 0.00 , N/A)	5035.3	N/A	1.1647 [1.0000]	116.5% { 114.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 643835	(7.18 , N/A) (N/A , 0.00 , N/A)	3243.5	N/A	0.9483 [1.0000]	94.8% { 118.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1055346	(8.39 , N/A) (N/A , -0.01 , N/A)	1279.7	N/A	1.2299 [1.0000]	123.0% { 113.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1877108	(3.60 , N/A) (N/A , 0.02 , N/A)	7242.6	N/A	6.7614 [8.0000]	84.5% { 102.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1502577	(4.57 , N/A) (N/A , 0.01 , N/A)	5406.3	N/A	3.5622 [4.0000]	89.1% { 103.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 900670	(5.55 , N/A) (N/A , 0.01 , N/A)	2180.1	N/A	1.7697 [2.0000]	88.5% { 101.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 827488	(6.33 , N/A) (N/A , 0.00 , N/A)	1933.1	N/A	1.7068 [2.0000]	85.3% { 89.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 978744	(7.01 , N/A) (N/A , 0.00 , N/A)	3517.7	N/A	1.7675 [2.0000]	88.4% { 95.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 460731	(7.63 , N/A) (N/A , 0.00 , N/A)	2488.3	N/A	0.9093 [1.0000]	90.9% { 100.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 541881	(8.18 , N/A) (N/A , 0.00 , N/A)	1266.4	N/A	0.9626 [1.0000]	96.3% { 109.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 516906	(8.65 , N/A) (N/A , -0.01 , N/A)	1230.0	N/A	0.8236 [1.0000]	82.4% { 99.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

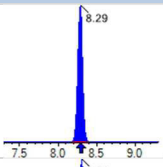
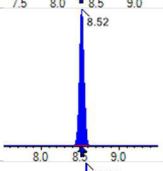
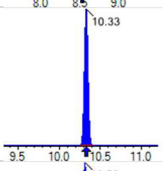
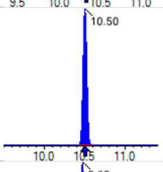
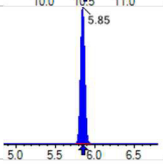
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 441594	(8.92 , N/A) (N/A , -0.01 , N/A)	8782.6	N/A	0.8049 [1.0000]	80.5% { 96.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 383639	(9.29 , N/A) (N/A , 0.00 , N/A)	1390.3	N/A	0.6630 [1.0000]	66.3% { 95.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1909417	(5.53 , N/A) (N/A , 0.01 , N/A)	3867.3	N/A	1.8720 [2.0000]	93.6% { 92.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1153073	(7.17 , N/A) (N/A , 0.00 , N/A)	2506.8	N/A	1.7407 [2.0000]	87.0% { 91.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2459947	(8.39 , N/A) (N/A , 0.00 , N/A)	2339.1	N/A	1.7385 [2.0000]	86.9% { 95.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 473611	(5.29 , N/A) (N/A , 0.01 , N/A)	2677.6	N/A	7.3202 [4.0000]	183.0% { 173.5% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 329432	(6.75 , N/A) (N/A , 0.00 , N/A)	1077.2	N/A	3.8781 [4.0000]	97.0% { 98.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 430475	(7.92 , N/A) (N/A , 0.00 , N/A)	1228.3	N/A	4.6778 [4.0000]	116.9% { 106.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3457324	(9.78 , N/A) (N/A , 0.00 , N/A)	4202.2	N/A	1.4285 [2.0000]	71.4% { 87.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 441317	(10.40 , N/A) (N/A , 0.00 , N/A)	1807.8	N/A	0.7127 [2.0000]	35.6% { 51.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 419787	(10.56 , N/A) (N/A , 0.00 , N/A)	2549.9	N/A	0.7448 [2.0000]	37.2% { 53.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23C0038-05
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (16)
Acquired: 2023/03/14 - 18:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 918155	(8.29 , N/A) (N/A , -0.01 , N/A)	2222.6	N/A	3.7946 [4.0000]	94.9% { 101.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1026126	(8.52 , N/A) (N/A , -0.01 , N/A)	3220.8	N/A	3.7841 [4.0000]	94.6% { 113.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1765450	(10.33 , N/A) (N/A , 0.00 , N/A)	1700.0	N/A	9.1620 [20.0000]	45.8% { 59.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2604063	(10.50 , N/A) (N/A , 0.00 , N/A)	1565.2	N/A	11.4499 [20.0000]	57.2% { 71.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1963130	(5.85 , N/A) (N/A , 0.00 , N/A)	4641.3	N/A	6.9848 [8.0000]	87.3% { 93.4% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW04-WGN01LF-2303W1 (23C0038-01) ng/L	Lab File ID: S2023-03-14A (12)			Analyzed: 03/14/23 17:14
13C4-PFBA	28.5	83.7	10 - 130	
13C5-PFPEA	14.3	92.5	35 - 150	
13C5-PFHXA	7.13	91.0	55 - 150	
13C4-PFHPA	7.13	92.4	55 - 150	
13C8-PFOA	7.13	86.1	60 - 140	
13C9-PFNA	3.56	78.4	55 - 140	
13C6-PFDA	3.56	83.7	50 - 140	
13C7-PFUnA	3.56	75.2	30 - 140	
13C2-PFDOA	3.56	71.6	10 - 150	
13C2-PFTEDA	3.56	64.0	10 - 130	
13C3-PFBS	7.13	105	55 - 150	
13C3-PFHXS	7.13	84.9	55 - 150	
13C8-PFOS	7.13	82.0	45 - 140	
13C2-4:2FTS	14.3	219	60 - 200	*
13C2-6:2FTS	14.3	102	60 - 200	
13C2-8:2FTS	14.3	128	50 - 200	
13C8-PFOSA	7.13	63.0	30 - 130	
D3-NMEFOSA	7.13	34.9	15 - 130	
D5-NETFOSA	7.13	35.0	10 - 130	
D3-NMEFOSAA	14.3	85.6	45 - 200	
D5-NETFOSAA	14.3	74.5	10 - 200	
D7-NMEFOSE	71.3	37.8	10 - 150	
D9-NETFOSE	71.3	47.3	10 - 150	
13C3-HFPO-DA	28.5	91.3	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW06-WGN01LF-2303W1 (23C0038-02) ng/L	Lab File ID: S2023-03-14A (13)			Analyzed: 03/14/23 17:27
13C4-PFBA	28.6	82.9	10 - 130	
13C5-PFPEA	14.3	86.4	35 - 150	
13C5-PFHXA	7.14	87.8	55 - 150	
13C4-PFHPA	7.14	85.7	55 - 150	
13C8-PFOA	7.14	85.1	60 - 140	
13C9-PFNA	3.57	78.4	55 - 140	
13C6-PFDA	3.57	80.1	50 - 140	
13C7-PFUnA	3.57	77.6	30 - 140	
13C2-PFDOA	3.57	80.2	10 - 150	
13C2-PFTEDA	3.57	58.7	10 - 130	
13C3-PFBS	7.14	95.3	55 - 150	
13C3-PFHXS	7.14	86.7	55 - 150	
13C8-PFOS	7.14	81.7	45 - 140	
13C2-4:2FTS	14.3	208	60 - 200	*
13C2-6:2FTS	14.3	88.2	60 - 200	
13C2-8:2FTS	14.3	113	50 - 200	
13C8-PFOSA	7.14	67.4	30 - 130	
D3-NMEFOSA	7.14	32.5	15 - 130	
D5-NETFOSA	7.14	33.0	10 - 130	
D3-NMEFOSAA	14.3	96.7	45 - 200	
D5-NETFOSAA	14.3	74.3	10 - 200	
D7-NMEFOSE	71.4	40.6	10 - 150	
D9-NETFOSE	71.4	51.0	10 - 150	
13C3-HFPO-DA	28.6	87.3	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW12A-WGN01LF-2303W1 (23C0038-03) ng/L	Lab File ID: S2023-03-14A (14)			Analyzed: 03/14/23 17:39
13C4-PFBA	29.1	86.6	10 - 130	
13C5-PFPEA	14.5	95.2	35 - 150	
13C5-PFHXA	7.26	87.4	55 - 150	
13C4-PFHPA	7.26	87.5	55 - 150	
13C8-PFOA	7.26	93.2	60 - 140	
13C9-PFNA	3.63	89.1	55 - 140	
13C6-PFDA	3.63	84.8	50 - 140	
13C7-PFUnA	3.63	79.8	30 - 140	
13C2-PFDOA	3.63	73.4	10 - 150	
13C2-PFTEDA	3.63	62.1	10 - 130	
13C3-PFBS	7.26	98.9	55 - 150	
13C3-PFHXS	7.26	91.7	55 - 150	
13C8-PFOS	7.26	87.9	45 - 140	
13C2-4:2FTS	14.5	198	60 - 200	
13C2-6:2FTS	14.5	105	60 - 200	
13C2-8:2FTS	14.5	127	50 - 200	
13C8-PFOSA	7.26	66.3	30 - 130	
D3-NMEFOSA	7.26	33.3	15 - 130	
D5-NETFOSA	7.26	33.4	10 - 130	
D3-NMEFOSAA	14.5	94.3	45 - 200	
D5-NETFOSAA	14.5	81.3	10 - 200	
D7-NMEFOSE	72.6	35.9	10 - 150	
D9-NETFOSE	72.6	49.3	10 - 150	
13C3-HFPO-DA	29.1	90.8	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW12A-WGFD01LF-2303W1 (23C0038-04) ng/L	Lab File ID: S2023-03-14A (15)			Analyzed: 03/14/23 17:52
13C4-PFBA	28.6	86.6	10 - 130	
13C5-PFPEA	14.3	94.9	35 - 150	
13C5-PFHXA	7.16	89.8	55 - 150	
13C4-PFHPA	7.16	84.0	55 - 150	
13C8-PFOA	7.16	93.8	60 - 140	
13C9-PFNA	3.58	85.2	55 - 140	
13C6-PFDA	3.58	83.4	50 - 140	
13C7-PFUnA	3.58	79.0	30 - 140	
13C2-PFDOA	3.58	73.0	10 - 150	
13C2-PFTEDA	3.58	55.4	10 - 130	
13C3-PFBS	7.16	94.9	55 - 150	
13C3-PFHXS	7.16	91.8	55 - 150	
13C8-PFOS	7.16	84.2	45 - 140	
13C2-4:2FTS	14.3	198	60 - 200	
13C2-6:2FTS	14.3	93.3	60 - 200	
13C2-8:2FTS	14.3	138	50 - 200	
13C8-PFOSA	7.16	60.9	30 - 130	
D3-NMEFOSA	7.16	34.5	15 - 130	
D5-NETFOSA	7.16	35.2	10 - 130	
D3-NMEFOSAA	14.3	87.6	45 - 200	
D5-NETFOSAA	14.3	74.9	10 - 200	
D7-NMEFOSE	71.6	40.2	10 - 150	
D9-NETFOSE	71.6	44.4	10 - 150	
13C3-HFPO-DA	28.6	95.0	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW16-WGN01LF-2303W1 (23C0038-05) ng/L	Lab File ID: S2023-03-14A (16)			Analyzed: 03/14/23 18:05
13C4-PFBA	29.5	84.5	10 - 130	
13C5-PFPEA	14.7	89.1	35 - 150	
13C5-PFHXA	7.37	88.5	55 - 150	
13C4-PFHPA	7.37	85.3	55 - 150	
13C8-PFOA	7.37	88.4	60 - 140	
13C9-PFNA	3.68	90.9	55 - 140	
13C6-PFDA	3.68	96.3	50 - 140	
13C7-PFUnA	3.68	82.4	30 - 140	
13C2-PFDOA	3.68	80.5	10 - 150	
13C2-PFTEDA	3.68	66.3	10 - 130	
13C3-PFBS	7.37	93.6	55 - 150	
13C3-PFHXS	7.37	87.0	55 - 150	
13C8-PFOS	7.37	86.9	45 - 140	
13C2-4:2FTS	14.7	183	60 - 200	
13C2-6:2FTS	14.7	97.0	60 - 200	
13C2-8:2FTS	14.7	117	50 - 200	
13C8-PFOSA	7.37	71.4	30 - 130	
D3-NMEFOSA	7.37	35.6	15 - 130	
D5-NETFOSA	7.37	37.2	10 - 130	
D3-NMEFOSAA	14.7	94.9	45 - 200	
D5-NETFOSAA	14.7	94.6	10 - 200	
D7-NMEFOSE	73.7	45.8	10 - 150	
D9-NETFOSE	73.7	57.2	10 - 150	
13C3-HFPO-DA	29.5	87.3	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCC0223-BLK1) ng/L	Lab File ID: S2023-03-14A (7)			Analyzed: 03/14/23 16:09
13C4-PFBA	32.0	86.9	10 - 130	
13C5-PFPEA	16.0	99.9	35 - 150	
13C5-PFHXA	8.00	95.1	55 - 150	
13C4-PFHPA	8.00	95.8	55 - 150	
13C8-PFOA	8.00	87.1	60 - 140	
13C9-PFNA	4.00	88.5	55 - 140	
13C6-PFDA	4.00	81.3	50 - 140	
13C7-PFUnA	4.00	72.9	30 - 140	
13C2-PFDOA	4.00	81.1	10 - 150	
13C2-PFTEDA	4.00	63.7	10 - 130	
13C3-PFBS	8.00	100	55 - 150	
13C3-PFHXS	8.00	93.1	55 - 150	
13C8-PFOS	8.00	91.4	45 - 140	
13C2-4:2FTS	16.0	212	60 - 200	*
13C2-6:2FTS	16.0	99.8	60 - 200	
13C2-8:2FTS	16.0	106	50 - 200	
13C8-PFOSA	8.00	67.3	30 - 130	
D3-NMEFOSA	8.00	27.5	15 - 130	
D5-NETFOSA	8.00	30.5	10 - 130	
D3-NMEFOSAA	16.0	84.7	45 - 200	
D5-NETFOSAA	16.0	74.1	10 - 200	
D7-NMEFOSE	80.0	38.8	10 - 150	
D9-NETFOSE	80.0	51.6	10 - 150	
13C3-HFPO-DA	32.0	96.1	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCC0223-BS1) ng/L	Lab File ID: S2023-03-14A (8)			Analyzed: 03/14/23 16:22
13C4-PFBA	32.0	86.5	10 - 130	
13C5-PFPEA	16.0	102	35 - 150	
13C5-PFHXA	8.00	93.6	55 - 150	
13C4-PFHPA	8.00	93.8	55 - 150	
13C8-PFOA	8.00	91.2	60 - 140	
13C9-PFNA	4.00	84.3	55 - 140	
13C6-PFDA	4.00	88.4	50 - 140	
13C7-PFUnA	4.00	74.6	30 - 140	
13C2-PFDOA	4.00	78.6	10 - 150	
13C2-PFTEDA	4.00	67.1	10 - 130	
13C3-PFBS	8.00	92.0	55 - 150	
13C3-PFHXS	8.00	85.7	55 - 150	
13C8-PFOS	8.00	82.9	45 - 140	
13C2-4:2FTS	16.0	196	60 - 200	
13C2-6:2FTS	16.0	89.0	60 - 200	
13C2-8:2FTS	16.0	111	50 - 200	
13C8-PFOSA	8.00	63.1	30 - 130	
D3-NMEFOSA	8.00	34.2	15 - 130	
D5-NETFOSA	8.00	35.8	10 - 130	
D3-NMEFOSAA	16.0	88.3	45 - 200	
D5-NETFOSAA	16.0	75.2	10 - 200	
D7-NMEFOSE	80.0	42.1	10 - 150	
D9-NETFOSE	80.0	57.9	10 - 150	
13C3-HFPO-DA	32.0	98.2	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23C0038
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCC0223-MRL1) ng/L	Lab File ID: S2023-03-14A (9)			Analyzed: 03/14/23 16:35
13C4-PFBA	32.0	87.1	10 - 130	
13C5-PFPEA	16.0	93.3	35 - 150	
13C5-PFHXA	8.00	86.9	55 - 150	
13C4-PFHPA	8.00	92.1	55 - 150	
13C8-PFOA	8.00	91.8	60 - 140	
13C9-PFNA	4.00	81.1	55 - 140	
13C6-PFDA	4.00	90.5	50 - 140	
13C7-PFUnA	4.00	80.3	30 - 140	
13C2-PFDOA	4.00	78.6	10 - 150	
13C2-PFTEDA	4.00	69.6	10 - 130	
13C3-PFBS	8.00	96.4	55 - 150	
13C3-PFHXS	8.00	87.7	55 - 150	
13C8-PFOS	8.00	82.3	45 - 140	
13C2-4:2FTS	16.0	205	60 - 200	*
13C2-6:2FTS	16.0	92.0	60 - 200	
13C2-8:2FTS	16.0	106	50 - 200	
13C8-PFOSA	8.00	63.4	30 - 130	
D3-NMEFOSA	8.00	28.1	15 - 130	
D5-NETFOSA	8.00	29.4	10 - 130	
D3-NMEFOSAA	16.0	81.2	45 - 200	
D5-NETFOSAA	16.0	71.1	10 - 200	
D7-NMEFOSE	80.0	35.6	10 - 150	
D9-NETFOSE	80.0	48.2	10 - 150	
13C3-HFPO-DA	32.0	89.4	25 - 160	

METHOD BLANK SUMMARY

EPA 1633

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Blank ID:	BCC0223-BLK1	Batch:	BCC0223	Prepared:	03/13/2023 12:58

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCC0223-BS1	S2023-03-14A (8)	16:22
MRL Check	BCC0223-MRL1	S2023-03-14A (9)	16:35
AF-RHMW04-WGN01LF-2303W1	23C0038-01	S2023-03-14A (12)	17:14
AF-RHMW06-WGN01LF-2303W1	23C0038-02	S2023-03-14A (13)	17:27
AF-RHMW12A-WGN01LF-2303W1	23C0038-03	S2023-03-14A (14)	17:39
AF-RHMW12A-WGFD01LF-2303W1	23C0038-04	S2023-03-14A (15)	17:52
AF-RHMW16-WGN01LF-2303W1	23C0038-05	S2023-03-14A (16)	18:05

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BLK1	File ID:	S2023-03-14A (7)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.20 U	0.40	0.20	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.20 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	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				

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BLK1	File ID:	S2023-03-14A (7)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	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:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCC0223	Laboratory ID:	BCC0223-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	17.8	111	58 - 148
PFPEA	8.00	9.03	113	54 - 152
PFHXA	4.00	4.49	112	55 - 152
PFHPA	4.00	4.59	115	54 - 154
PFOA	4.00	4.51	113	52 - 161
PFNA	4.00	4.27	107	59 - 149
PFDA	4.00	4.49	112	52 - 147
PFUnA	4.00	5.21	130	48 - 159
PFDOA	4.00	5.21	130	64 - 142
PFTRDA	4.00	4.39	110	49 - 148
PFTEDA	4.00	4.47	112	47 - 161
PFBS	3.54	4.22	119	62 - 144
PFPES	3.76	5.16	137	59 - 151
PFHXS	3.66	4.35	119	57 - 146
PFHPS	3.82	3.85	101	55 - 152
PFOS	3.72	4.10	110	58 - 149
PFNS	3.84	4.57	119	52 - 148
PFDS	3.86	4.18	108	51 - 147
PFDOS	3.88	3.45	88.8	36 - 145
4:2FTS	15.0	18.2	121	67 - 146
6:2FTS	15.2	18.5	122	61 - 151
8:2FTS	15.4	16.5	107	63 - 152
PFOSA	4.00	4.77	119	61 - 148
NMeFOSA	16.0	18.6	116	63 - 145
NEtFOSA	16.0	18.3	114	65 - 139
NMeFOSAA	4.00	3.84	96.1	58 - 144
NEtFOSAA	4.00	4.46	111	59 - 146
NMeFOSE	16.0	18.6	116	71 - 136
NEtFOSE	16.0	17.0	106	69 - 137
HFPO-DA	8.00	10.3	129	63 - 144
ADONA	7.56	8.26	109	68 - 146
PFEESA	7.12	8.57	120	56 - 151
PFMPA	8.00	8.17	102	51 - 145
PFMBA	8.00	7.96	99.5	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCC0223	Laboratory ID:	BCC0223-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	8.75	109	48 - 161
9CL-PF3ONS	7.48	9.47	127	56 - 156
11CL-PF3OUDS	7.56	8.64	114	46 - 156
3:3FTCA	16.0	16.7	104	62 - 129
5:3FTCA	16.0	16.5	103	63 - 134
7:3FTCA	16.0	14.4	90.1	50 - 138

CALIBRATION SUMMARY

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Quant Method: 1633 - S2023-03-07A

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.41290 x (std. dev. = 0.03312) (weighting: None)	%RSE=8.0
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.43980 x (std. dev. = 0.03113) (weighting: None)	%RSE=7.1
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.44449 x (std. dev. = 0.04009) (weighting: None)	%RSE=9.0
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.42187 x (std. dev. = 0.02711) (weighting: None)	%RSE=6.4
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.45383 x (std. dev. = 0.03832) (weighting: None)	%RSE=8.4
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.86535 x (std. dev. = 0.07412) (weighting: None)	%RSE=8.6
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.94333 x (std. dev. = 0.07988) (weighting: None)	%RSE=8.5
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.79869 x (std. dev. = 0.05781) (weighting: None)	%RSE=7.2
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.84124 x (std. dev. = 0.10124) (weighting: None)	%RSE=12.0
PFTrDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.80675 x (std. dev. = 0.11790) (weighting: None)	%RSE=14.6
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.85378 x (std. dev. = 0.07141) (weighting: None)	%RSE=8.4
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.28556 x (std. dev. = 0.02284) (weighting: None)	%RSE=8.0
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.77376 x (std. dev. = 0.07201) (weighting: None)	%RSE=9.3
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.68334 x (std. dev. = 0.05740) (weighting: None)	%RSE=8.4
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.43179 x (std. dev. = 0.04361) (weighting: None)	%RSE=10.1
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.52318 x (std. dev. = 0.04717) (weighting: None)	%RSE=9.0
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.51347 x (std. dev. = 0.06280) (weighting: None)	%RSE=12.2
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.59519 x (std. dev. = 0.06386) (weighting: None)	%RSE=10.7
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.47895 x (std. dev. = 0.05511) (weighting: None)	%RSE=11.5
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.72578 x (std. dev. = 0.19026) (weighting: None)	%RSE=7.0
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.36327 x (std. dev. = 0.10794) (weighting: None)	%RSE=7.9
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.28278 x (std. dev. = 0.12090) (weighting: None)	%RSE=9.4
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.41497 x (std. dev. = 0.05066) (weighting: None)	%RSE=12.2
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.64452 x (std. dev. = 0.23713) (weighting: None)	%RSE=14.4
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.90390 x (std. dev. = 0.15461) (weighting: None)	%RSE=8.1
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.25748 x (std. dev. = 0.01412) (weighting: None)	%RSE=5.5
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.20946 x (std. dev. = 0.01764) (weighting: None)	%RSE=8.4
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.19808 x (std. dev. = 0.01304) (weighting: None)	%RSE=6.6
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.19331 x (std. dev. = 0.01460) (weighting: None)	%RSE=7.6
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.19874 x (std. dev. = 0.01010) (weighting: None)	%RSE=5.1
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.73656 x (std. dev. = 0.09823) (weighting: None)	%RSE=13.3
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = 1.96553 x (std. dev. = 0.22111) (weighting: None)	%RSE=11.2
11Cl-PF3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = -0.01035 x^2 + 1.24228 x + -0.02804 (r = 0.99901) (weighting: 1 / x)	%RSE=14.5
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.02648 x (std. dev. = 0.00205) (weighting: None)	%RSE=7.7
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.30351 x (std. dev. = 0.02590) (weighting: None)	%RSE=8.5
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.50940 x (std. dev. = 0.06257) (weighting: None)	%RSE=12.3
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.98953 x (std. dev. = 0.10665) (weighting: None)	%RSE=10.8
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.11321 x (std. dev. = 0.00840) (weighting: None)	%RSE=7.4
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.36159 x (std. dev. = 0.02800) (weighting: None)	%RSE=7.7
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.50402 x (std. dev. = 0.05770) (weighting: None)	%RSE=11.4
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 214202.8301 x	%RSD=16.9
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 314071.0945 x	%RSD=4.3
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 461817.5022 x	%RSD=8.1
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 417317.5271 x	%RSD=6.9

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Quant Method: 1633 - S2023-03-07A

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 401616.3949 x	%RSD=5.4
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 678923.6439 x	%RSD=8.1
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 858061.4123 x	%RSD=10.8
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 9.5205 x	%RSD=6.8
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 4.6208 x	%RSD=8.8
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.7877 x	%RSD=9.4
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.6555 x	%RSD=7.7
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.1728 x	%RSD=9.4
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0625 x	%RSD=10.5
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2035 x	%RSD=8.4
13C7_PFUnA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.3419 x	%RSD=10.9
13C2_PFDoA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1730 x	%RSD=9.7
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2371 x	%RSD=7.4
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 3.1685 x	%RSD=13.5
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.0577 x	%RSD=8.9
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.6815 x	%RSD=8.0
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4020 x	%RSD=7.8
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5277 x	%RSD=10.3
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5717 x	%RSD=11.5
13C8_PFOSA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 4.5866 x	%RSD=11.2
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.1735 x	%RSD=16.0
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.0682 x	%RSD=14.3
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.9171 x	%RSD=10.1
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.0278 x	%RSD=14.4
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 3.6517 x	%RSD=11.2
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 4.3101 x	%RSD=16.2
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 6.1578 x	%RSD=7.7

x=Concentration Analyte

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

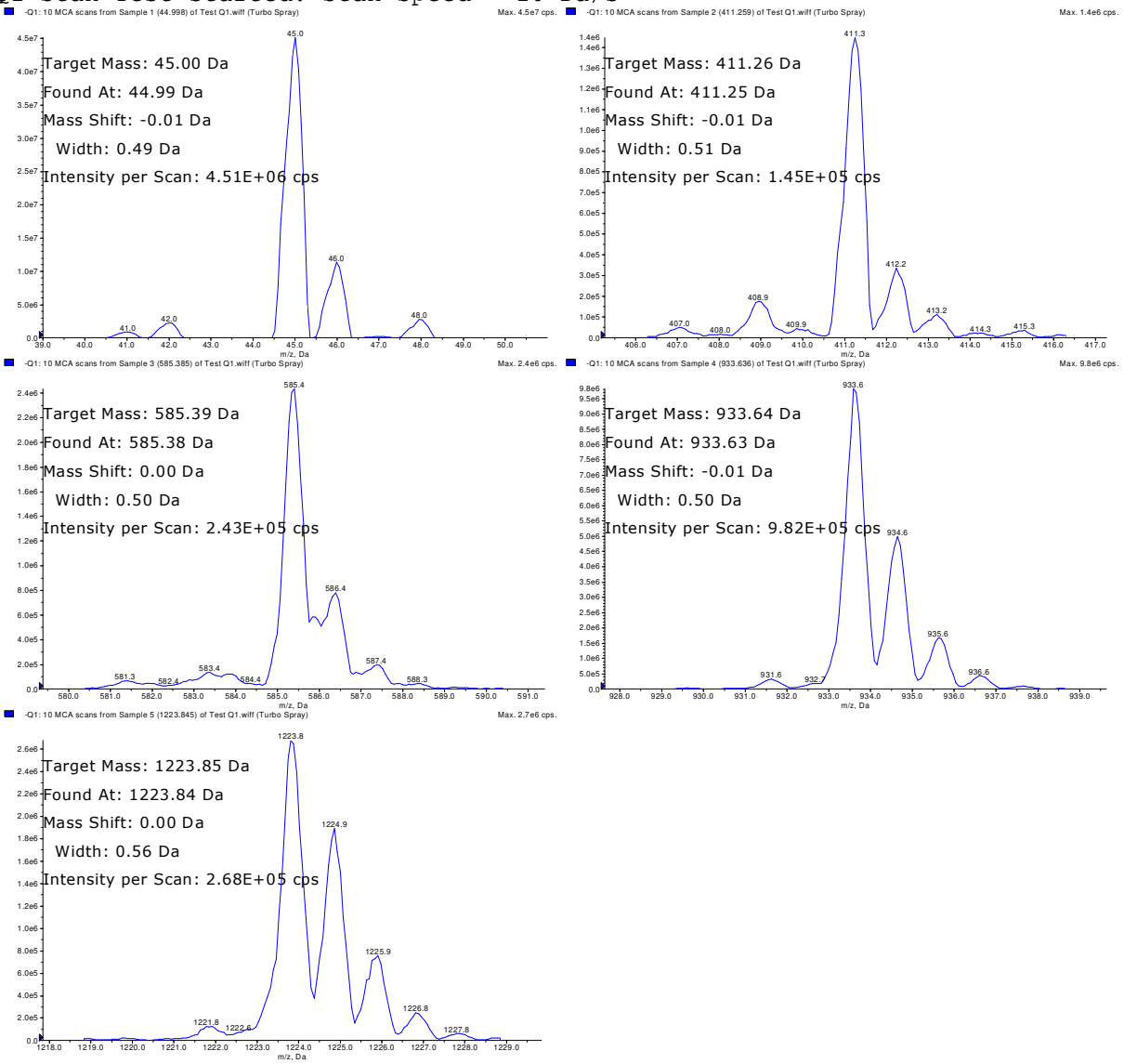
$$\text{Acid Factor} = \frac{\text{Moleculat weight Acid}}{\text{Molecular weight Salt}}$$

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

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

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

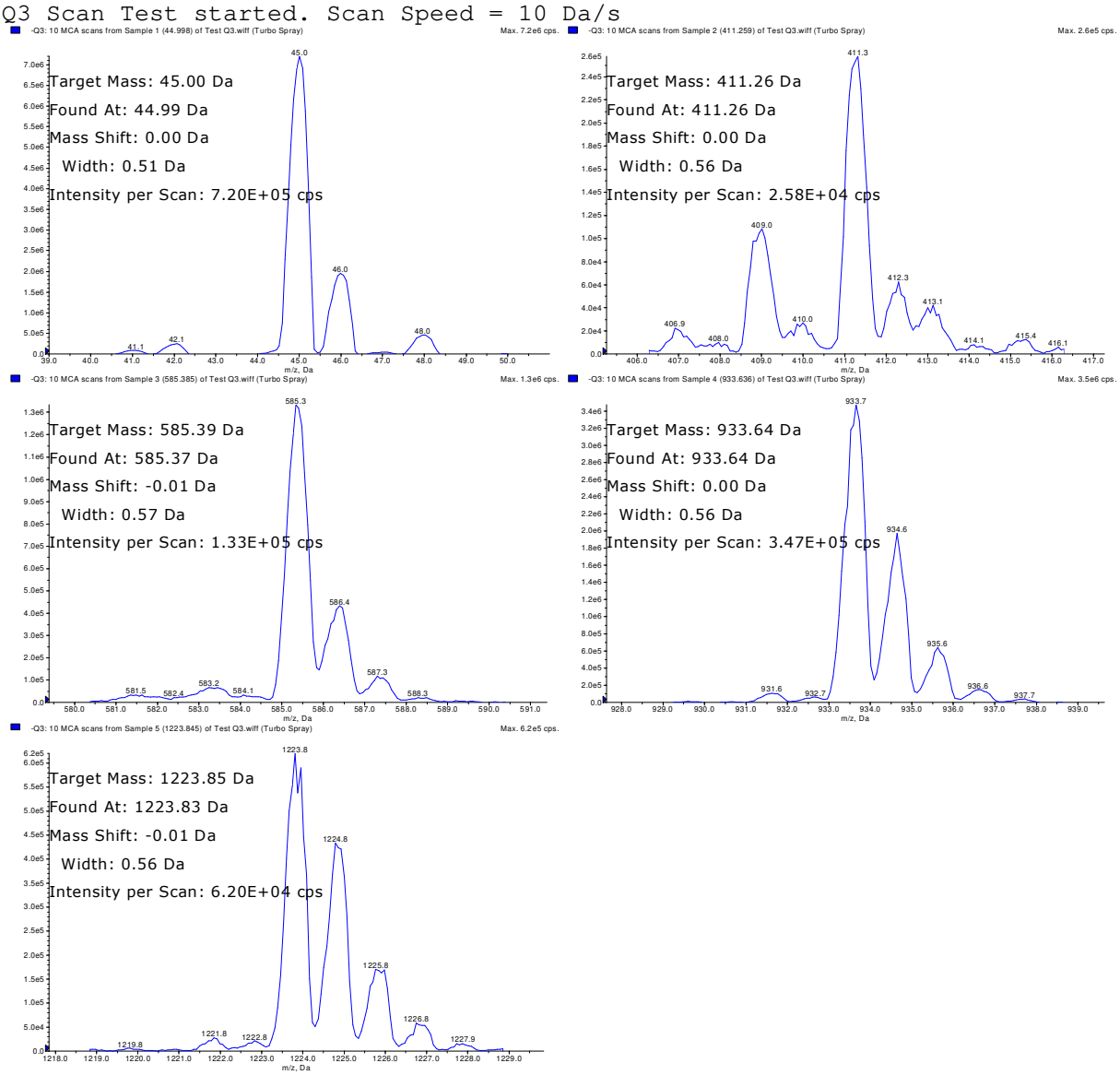
Q1 Scan Test started. Scan Speed = 10 Da/s



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

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

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



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

EPA 1633

Initial Calibration: SC00916

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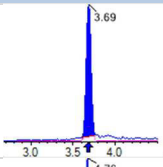
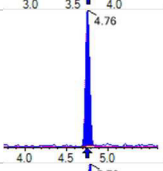
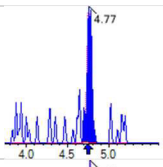
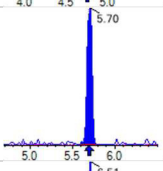
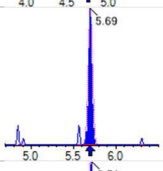
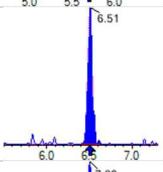
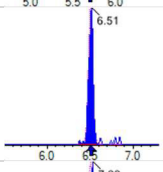
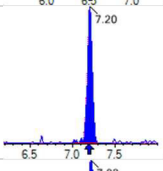
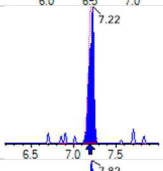
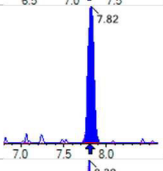
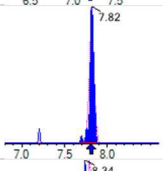
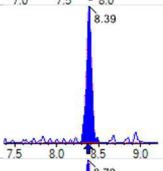
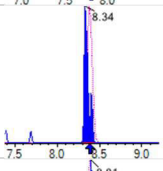
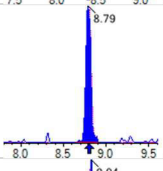
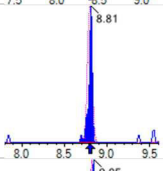
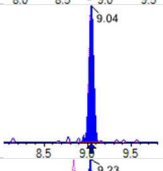
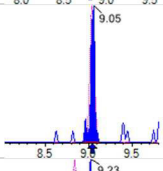
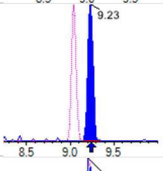
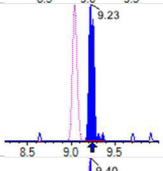
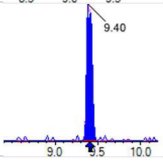
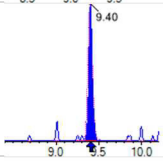
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

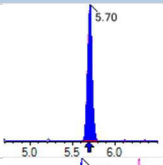
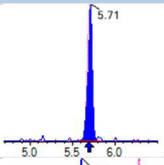
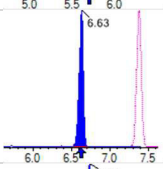
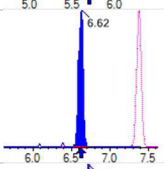
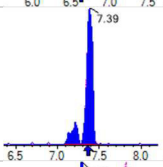
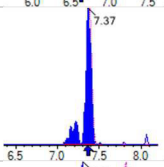
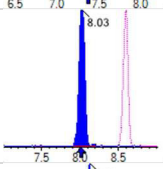
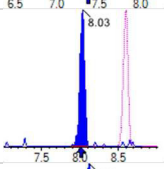
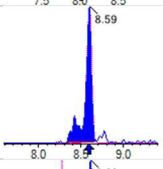
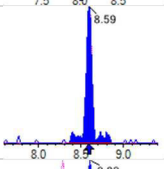
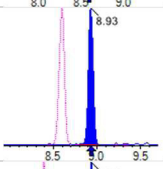
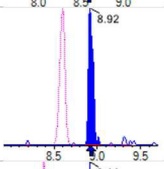
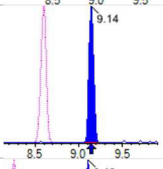
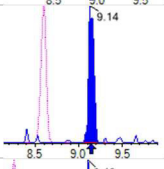
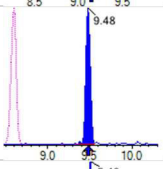
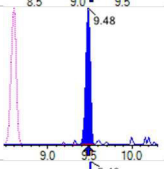
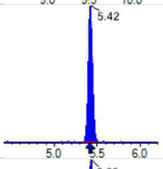
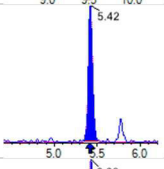
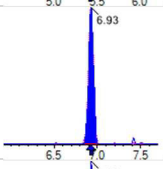
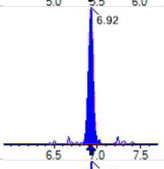
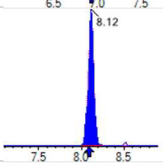
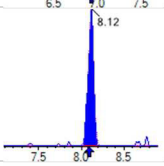
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 100623	(3.69 , 1.00) (0.00 , N/A , 0.0)	143.3	N/A 0.0 0.0	0.4338 [0.4000]	108.4%			
PFPeA	(263.0 / 219.0) 72126 (263.0 / 69.0) 1407	(4.76 , 1.00) (0.00 , N/A , -0.5)	407.2 23.0	0.0195 172.3 172.3	0.2163 [0.2000]	108.2%			
PFHxA	(313.0 / 269.0) 45876 (313.0 / 119.0) 4088	(5.70 , 1.00) (0.00 , N/A , 0.3)	460.5 4146.1	0.0891 84.6 84.6	0.1133 [0.1000]	113.3%			
PFHpA	(363.0 / 319.0) 37757 (363.0 / 169.0) 15046	(6.51 , 1.00) (0.00 , N/A , -0.3)	723.6 612.4	0.3985 122.3 122.3	0.1066 [0.1000]	106.6%			
PFOA	(413.0 / 369.0) 51733 (413.0 / 169.0) 18740	(7.20 , 1.00) (0.00 , N/A , -0.8)	1290.4 539.6	0.3622 103.9 103.9	0.1122 [0.1000]	112.2%			
PFNA	(463.0 / 419.0) 45098 (463.0 / 169.0) 7902	(7.82 , 1.00) (0.00 , N/A , 0.0)	5810.4 465.2	0.1752 74.8 74.8	0.1074 [0.1000]	107.4%			
PFDA	(513.0 / 469.0) 51659 (513.0 / 169.0) 5188	(8.39 , 1.00) (0.00 , N/A , 2.9)	113.3 28330.7	0.1004 94.4 94.4	0.1170 [0.1000]	117.0%			
PFUnA	(563.0 / 519.0) 49608 (563.0 / 169.0) 6200	(8.79 , 1.00) (0.00 , N/A , -1.1)	195.1 715.1	0.1250 104.2 104.2	0.1069 [0.1000]	106.9%			
PFDoA	(613.0 / 569.0) 48455 (613.0 / 169.0) 4914	(9.04 , 1.00) (0.00 , N/A , -0.4)	233.5 92.5	0.1014 62.3 62.3	0.1182 [0.1000]	118.2%			
PFTrDA	(663.0 / 619.0) 47162 (663.0 / 169.0) 9170	(9.23 , 1.02) (N/A , 0.00 , -0.1)	427.7 871.5	0.1944 79.7 79.7	0.1199 [0.1000]	119.9%			
PFTeDA	(713.0 / 669.0) 47580 (713.0 / 169.0) 9130	(9.40 , 1.00) (0.00 , N/A , -0.2)	148.8 153.6	0.1919 100.4 100.4	0.1125 [0.1000]	112.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

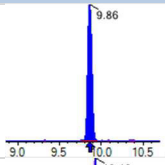
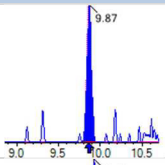
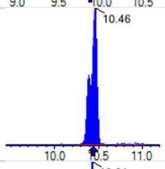
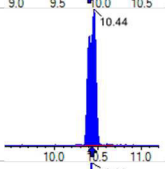
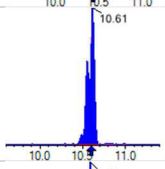
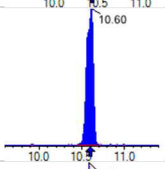
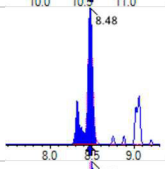
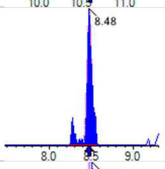
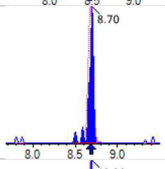
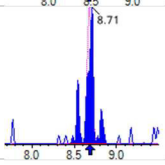
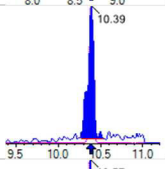
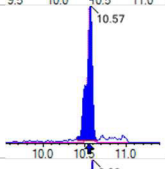
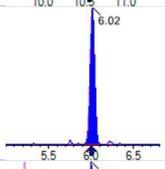
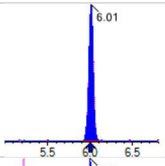
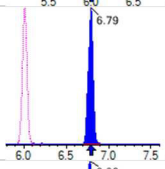
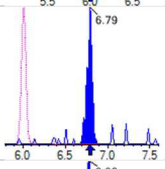
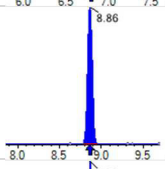
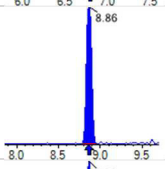
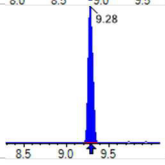
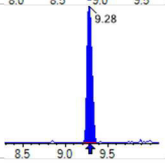
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 66587 (299.0 / 99.0) 45749	(5.70 , 1.00) (0.00 , N/A , -0.4)	1202.9 307.4	0.6871 117.1 117.1	0.0961 [0.0885]	108.6%			
PFPeS	(349.0 / 80.0) 123010 (349.0 / 99.0) 48389	(6.63 , 0.90) (N/A , 0.01 , 0.4)	4042072.8 129363.9	0.3934 115.1 115.1	0.1053 [0.0938]	112.2%			
PFHxS	(399.0 / 80.0) 107562 (399.0 / 99.0) 37781	(7.39 , 1.00) (0.01 , N/A , 0.9)	771.5 33763.9	0.3512 102.5 102.5	0.1012 [0.0911]	111.1%			
PFHpS	(449.0 / 80.0) 118700 (449.0 / 99.0) 37679	(8.03 , 0.93) (N/A , 0.01 , -0.2)	1297.5 1296.4	0.3174 111.7 111.7	0.1100 [0.0951]	115.6%			
PFOS	(499.0 / 80.0) 145672 (499.0 / 99.0) 27572	(8.59 , 1.00) (0.00 , N/A , 0.0)	121.1 176.6	0.1893 87.4 87.4	0.1086 [0.0927]	117.1%			
PFNS	(549.0 / 80.0) 124807 (549.0 / 99.0) 31839	(8.93 , 1.04) (N/A , 0.00 , 0.4)	541.8 18340351.9	0.2551 111.3 111.3	0.0981 [0.0960]	102.2%			
PFDS	(599.0 / 80.0) 147059 (599.0 / 99.0) 32368	(9.14 , 1.06) (N/A , -0.01 , 0.0)	740.9 158.6	0.2201 97.2 97.2	0.1001 [0.0963]	103.9%			
PFDoS	(699.0 / 80.0) 115626 (699.0 / 99.0) 28024	(9.48 , 1.10) (N/A , 0.00 , -0.1)	380.4 168.0	0.2424 111.2 111.2	0.0984 [0.0970]	101.5%			
4:2FTS	(327.0 / 307.0) 79358 (327.0 / 81.0) 54222	(5.42 , 1.00) (0.00 , N/A , 0.0)	675.4 136.1	0.6833 110.3 110.3	0.3952 [0.3738]	105.7%			
6:2FTS	(427.0 / 407.0) 48648 (427.0 / 81.0) 39181	(6.93 , 1.00) (0.00 , N/A , 0.1)	11426.5 246.1	0.8054 116.6 116.6	0.3672 [0.3796]	96.7%			
8:2FTS	(527.0 / 507.0) 52744 (527.0 / 81.0) 38298	(8.12 , 1.00) (0.00 , N/A , 0.0)	2578.9 264.9	0.7261 107.5 107.5	0.4219 [0.3833]	110.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

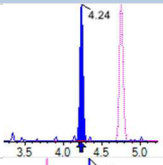
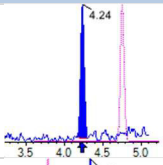
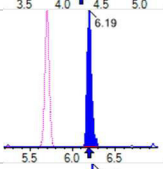
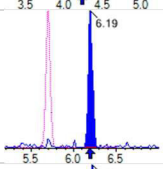
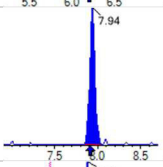
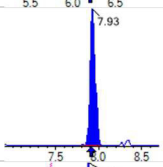
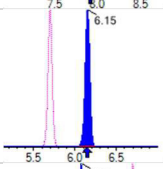
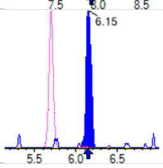
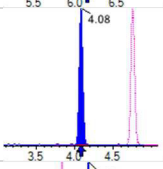
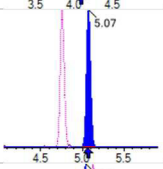
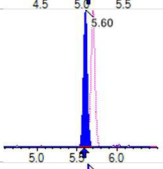
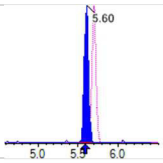
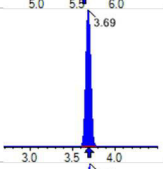
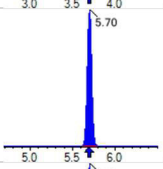
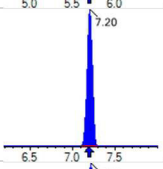
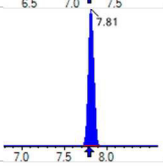
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 186438 (498.0 / 478.0) 4400	(9.86 , 1.00) (0.00 , N/A , -0.4)	803.2 59.9	0.0236 106.2 106.2	0.1171 [0.1000]	117.1%			
NMeFOSA	(512.0 / 219.0) 166391 (512.0 / 169.0) 138357	(10.46 , 1.00) (0.00 , N/A , 1.4)	1014.7 766.3	0.8315 99.4 99.4	0.4635 [0.4000]	115.9%			
NEtFOSA	(526.0 / 219.0) 175832 (526.0 / 169.0) 226419	(10.61 , 1.00) (-0.01 , N/A , 0.6)	1093.2 1122.5	1.2877 100.9 100.9	0.4428 [0.4000]	110.7%			
NMeFOSAA	(570.0 / 419.0) 19700 (570.0 / 483.0) 13248	(8.48 , 1.00) (0.00 , N/A , -0.1)	35175.9 205.2	0.6725 143.2 143.2	0.0960 [0.1000]	96.0%			
NEtFOSAA	(584.0 / 419.0) 19298 (584.0 / 526.0) 12274	(8.70 , 1.00) (0.02 , N/A , -0.4)	44019.0 129.1	0.6360 99.6 99.6	0.1095 [0.1000]	109.5%			
NMeFOSE	(616.0 / 59.0) 61888	(10.39 , 1.00) (0.01 , N/A , 0.0)	135.0	N/A 0.0 0.0	0.4137 [0.4000]	103.4%			
NEtFOSE	(630.0 / 59.0) 64257	(10.57 , 1.00) (0.01 , N/A , 0.0)	193.3	N/A 0.0 0.0	0.4297 [0.4000]	107.4%			
HFPO-DA	(285.0 / 169.0) 41967 (285.0 / 185.0) 120558	(6.02 , 1.00) (0.00 , N/A , 0.3)	857.1 665.9	2.8727 106.7 106.7	0.2191 [0.2000]	109.6%			
ADONA	(377.0 / 85.0) 165344 (377.0 / 251.0) 14256	(6.79 , 1.13) (N/A , 0.01 , -0.2)	1463.0 107.6	0.0862 89.3 89.3	0.2196 [0.1885]	116.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 430006 (533.0 / 353.0) 127403	(8.86 , 1.47) (N/A , 0.00 , -0.1)	1022.9 405.0	0.2963 92.9 92.9	0.2119 [0.1867]	113.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 244672 (633.0 / 453.0) 79947	(9.28 , 1.54) (N/A , -0.01 , 0.0)	895.0 502.4	0.3268 98.1 98.1	0.2356 [0.1886]	124.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

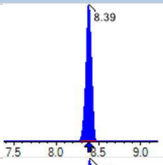
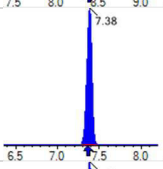
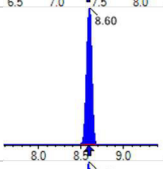
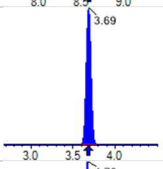
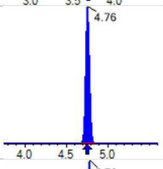
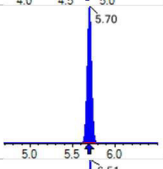
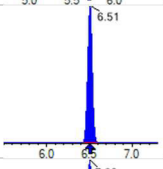
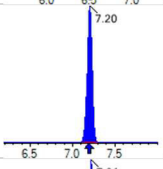
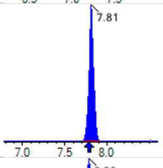
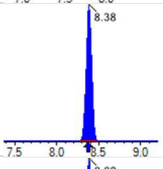
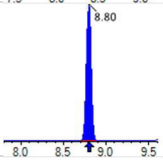
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 4185 (241.0 / 117.0) 9296	(4.24 , 0.89) (N/A , 0.01 , 0.1)	272.8 71.8	2.2214 109.0 109.0	0.4170 [0.4000]	104.2%			
5:3FTCA	(341.0 / 236.7) 29657 (341.0 / 217.0) 47909	(6.19 , 1.09) (N/A , 0.01 , -0.1)	9934.4 153.8	1.6154 98.1 98.1	0.4290 [0.4000]	107.3%			
7:3FTCA	(441.0 / 317.0) 41397 (441.0 / 337.0) 48336	(7.94 , 1.39) (N/A , 0.03 , 0.7)	645.7 640.2	1.1676 136.3 136.3	0.3568 [0.4000]	89.2%			
PFEESA	(315.0 / 135.0) 102111 (315.0 / 83.0) 27179	(6.15 , 1.08) (N/A , 0.01 , 0.0)	1773.5 139.8	0.2662 102.7 102.7	0.2022 [0.1785]	113.3%			
PFMPA	(229.0 / 85.0) 18646	(4.08 , 0.86) (N/A , 0.01 , 0.0)	617.6	N/A 0.0 0.0	0.2173 [0.2000]	108.6%			
PFMBA	(279.0 / 85.0) 61437	(5.07 , 1.07) (N/A , 0.01 , 0.0)	1900.8	N/A 0.0 0.0	0.2241 [0.2000]	112.1%			
NFDHA	(295.0 / 201.0) 54791 (295.0 / 85.0) 46854	(5.60 , 0.98) (N/A , 0.01 , 0.0)	893.4 1184.5	0.8551 85.1 85.1	0.2386 [0.2000]	119.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 257918	(3.69 , N/A) (N/A , 0.00 , N/A)	2018.6	N/A	1.2041 [1.0000]	120.4% { 127.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 323197	(5.70 , N/A) (N/A , 0.01 , N/A)	4417.7	N/A	1.0291 [1.0000]	102.9% { 113.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 524921	(7.20 , N/A) (N/A , 0.01 , N/A)	39679.1	N/A	1.1366 [1.0000]	113.7% { 125.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 435769	(7.81 , N/A) (N/A , 0.02 , N/A)	423027.3	N/A	1.0442 [1.0000]	104.4% { 112.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

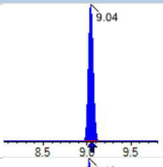
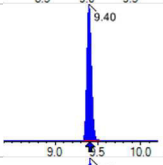
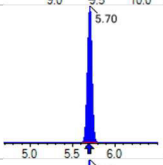
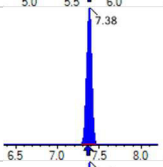
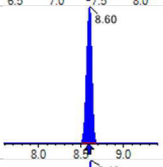
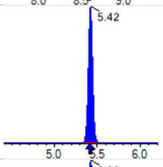
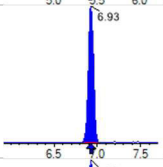
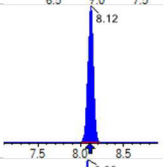
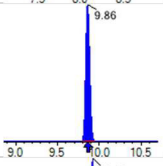
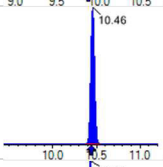
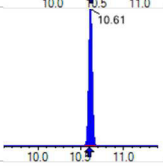
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 439207	(8.39 , N/A) (N/A , 0.01 , N/A)	5379088.4	N/A	1.0936 [1.0000]	109.4% { 114.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 781493	(7.38 , N/A) (N/A , 0.02 , N/A)	4693.2	N/A	1.1511 [1.0000]	115.1% { 130.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 974029	(8.60 , N/A) (N/A , 0.01 , N/A)	2253.4	N/A	1.1352 [1.0000]	113.5% { 117.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2247239	(3.69 , N/A) (N/A , 0.01 , N/A)	6928.3	N/A	7.3214 [8.0000]	91.5% { 106.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1516060	(4.76 , N/A) (N/A , 0.01 , N/A)	4147.9	N/A	4.0606 [4.0000]	101.5% { 100.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 911034	(5.70 , N/A) (N/A , 0.01 , N/A)	6134.1	N/A	2.0223 [2.0000]	101.1% { 104.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 839521	(6.51 , N/A) (N/A , 0.00 , N/A)	3235.7	N/A	1.9564 [2.0000]	97.8% { 99.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1016021	(7.20 , N/A) (N/A , 0.01 , N/A)	2188.5	N/A	1.7816 [2.0000]	89.1% { 100.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 485073	(7.81 , N/A) (N/A , 0.02 , N/A)	33068.8	N/A	1.0476 [1.0000]	104.8% { 104.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 468071	(8.38 , N/A) (N/A , 0.01 , N/A)	3151.7	N/A	0.8855 [1.0000]	88.5% { 93.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 581278	(8.80 , N/A) (N/A , 0.00 , N/A)	291828.8	N/A	0.9863 [1.0000]	98.6% { 110.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

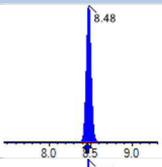
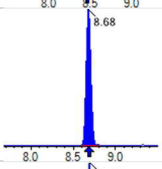
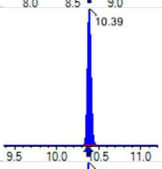
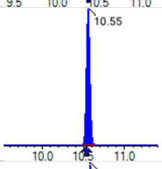
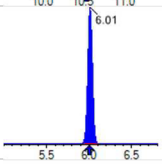
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 487430	(9.04 , N/A) (N/A , 0.00 , N/A)	1548.9	N/A	0.9461 [1.0000]	94.6% { 106.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 495435	(9.40 , N/A) (N/A , 0.00 , N/A)	2629.5	N/A	0.9118 [1.0000]	91.2% { 99.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2146215	(5.70 , N/A) (N/A , 0.01 , N/A)	4252.9	N/A	1.7335 [2.0000]	86.7% { 94.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1416425	(7.38 , N/A) (N/A , 0.02 , N/A)	2389.4	N/A	1.7616 [2.0000]	88.1% { 99.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2377734	(8.60 , N/A) (N/A , 0.01 , N/A)	3434.3	N/A	1.8207 [2.0000]	91.0% { 101.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 275365	(5.42 , N/A) (N/A , 0.01 , N/A)	1245.3	N/A	3.5064 [4.0000]	87.7% { 101.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 368883	(6.93 , N/A) (N/A , 0.00 , N/A)	1148.9	N/A	3.5776 [4.0000]	89.4% { 99.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 373555	(8.12 , N/A) (N/A , 0.02 , N/A)	1527.7	N/A	3.3442 [4.0000]	83.6% { 97.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3837415	(9.86 , N/A) (N/A , 0.00 , N/A)	3337.3	N/A	1.7179 [2.0000]	85.9% { 91.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 873116	(10.46 , N/A) (N/A , 0.02 , N/A)	3031.4	N/A	1.5277 [2.0000]	76.4% { 80.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 834358	(10.61 , N/A) (N/A , 0.02 , N/A)	3102.4	N/A	1.6039 [2.0000]	80.2% { 80.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (1)
Acquired: 2023/03/07 - 15:26

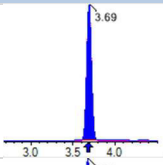
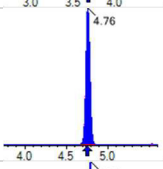
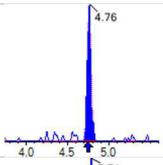
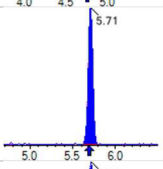
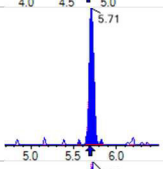
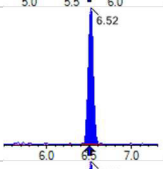
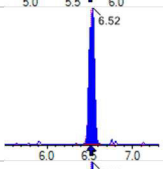
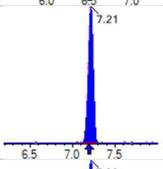
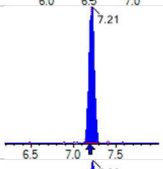
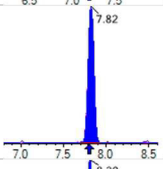
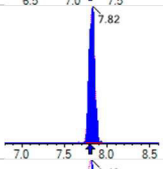
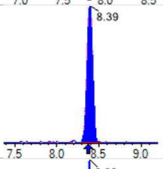
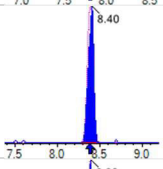
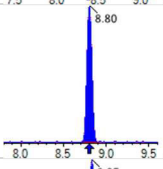
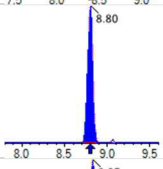
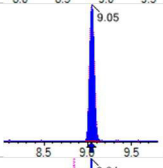
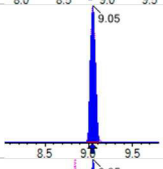
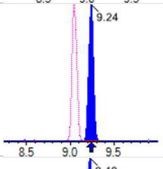
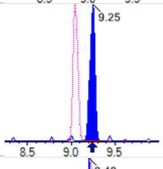
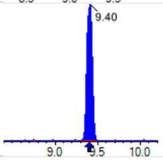
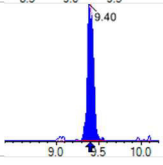
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 796982	(8.48 , N/A) (N/A , 0.01 , N/A)	3152.7	N/A	3.5688 [4.0000]	89.2% { 99.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 841623	(8.68 , N/A) (N/A , 0.01 , N/A)	9213.0	N/A	3.3628 [4.0000]	84.1% { 98.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3021000	(10.39 , N/A) (N/A , 0.02 , N/A)	1780.0	N/A	16.9868 [20.0000]	84.9% { 89.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3094582	(10.55 , N/A) (N/A , 0.02 , N/A)	1545.9	N/A	14.7426 [20.0000]	73.7% { 74.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1927474	(6.01 , N/A) (N/A , 0.01 , N/A)	4848.5	N/A	7.7480 [8.0000]	96.8% { 95.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

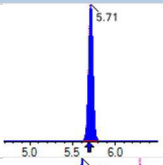
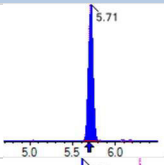
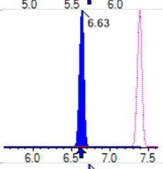
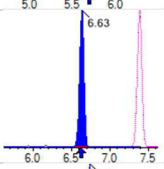
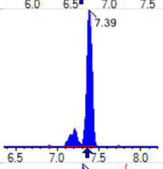
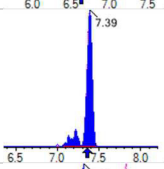
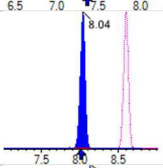
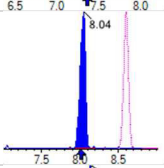
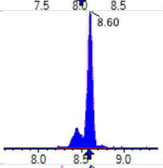
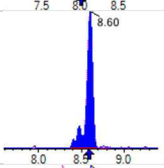
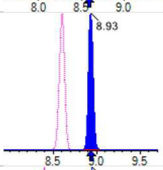
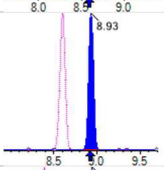
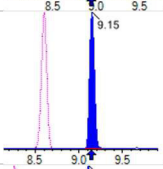
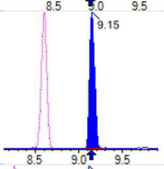
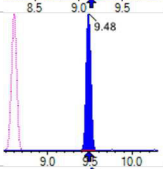
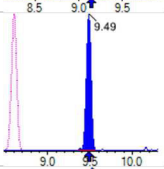
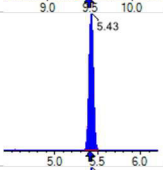
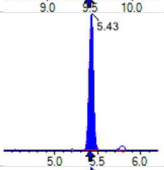
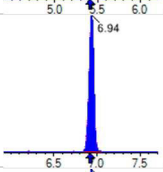
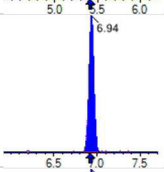
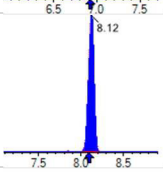
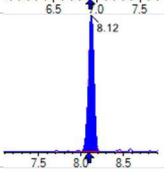
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 455227	(3.69 , 1.00) (0.00 , N/A , 0.0)	224.7	N/A 0.0 0.0	1.7898 [2.0000]	89.5%			
PFPeA	(263.0 / 219.0) 328099 (263.0 / 69.0) 4345	(4.76 , 1.00) (0.00 , N/A , 0.2)	1471.1 119.8	0.0132 117.0 117.0	0.9226 [1.0000]	92.3%			
PFHxA	(313.0 / 269.0) 190755 (313.0 / 119.0) 17900	(5.71 , 1.00) (0.00 , N/A , 0.1)	1071.9 996930.8	0.0938 89.1 89.1	0.4379 [0.5000]	87.6%			
PFHpA	(363.0 / 319.0) 183325 (363.0 / 169.0) 54605	(6.52 , 1.00) (0.00 , N/A , -0.3)	6717.1 1612616.1	0.2979 91.4 91.4	0.4744 [0.5000]	94.9%			
PFOA	(413.0 / 369.0) 257420 (413.0 / 169.0) 66595	(7.21 , 1.00) (0.00 , N/A , 0.2)	5929.9 2988.3	0.2587 74.2 74.2	0.5237 [0.5000]	104.7%			
PFNA	(463.0 / 419.0) 193249 (463.0 / 169.0) 36131	(7.82 , 1.00) (0.00 , N/A , 0.2)	220427.4 65363.8	0.1870 79.9 79.9	0.4440 [0.5000]	88.8%			
PFDA	(513.0 / 469.0) 230567 (513.0 / 169.0) 28620	(8.39 , 1.00) (0.00 , N/A , -0.6)	513.3 1960.6	0.1241 116.7 116.7	0.4778 [0.5000]	95.6%			
PFUnA	(563.0 / 519.0) 221078 (563.0 / 169.0) 22013	(8.80 , 1.00) (0.00 , N/A , 0.1)	538.4 280.6	0.0996 83.0 83.0	0.4615 [0.5000]	92.3%			
PFDoA	(613.0 / 569.0) 204043 (613.0 / 169.0) 38178	(9.05 , 1.00) (0.00 , N/A , 0.1)	898.5 504.6	0.1871 115.0 115.0	0.4596 [0.5000]	91.9%			
PFTrDA	(663.0 / 619.0) 208748 (663.0 / 169.0) 39960	(9.24 , 1.02) (N/A , 0.00 , -0.4)	1078.3 449.6	0.1914 78.4 78.4	0.4903 [0.5000]	98.1%			
PFTeDA	(713.0 / 669.0) 226933 (713.0 / 169.0) 49334	(9.40 , 1.00) (0.00 , N/A , 0.1)	703.5 229.2	0.2174 113.7 113.7	0.5221 [0.5000]	104.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

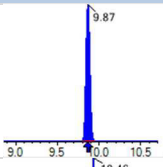
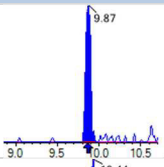
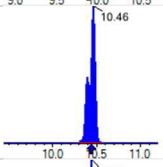
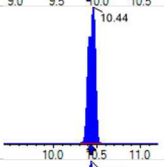
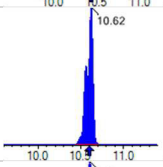
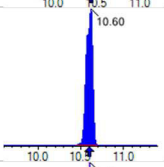
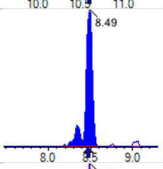
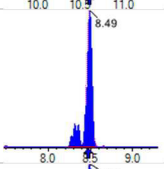
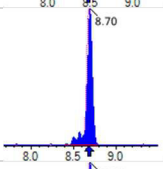
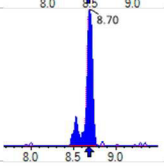
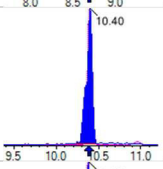
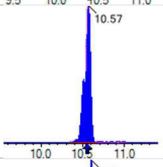
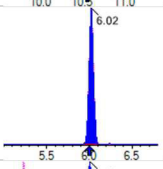
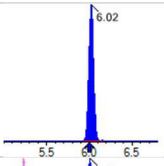
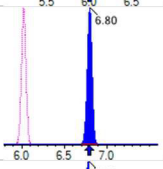
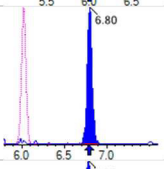
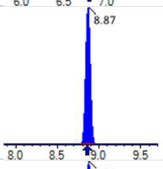
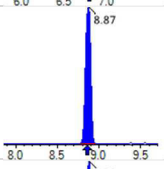
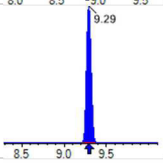
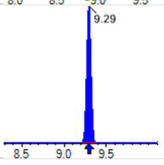
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 316246 (299.0 / 99.0) 196788	(5.71 , 1.00) (0.00 , N/A , 0.0)	1678.2 776.6	0.6223 106.1 106.1	0.4087 [0.4424]	92.4%			
PFPeS	(349.0 / 80.0) 527204 (349.0 / 99.0) 189586	(6.63 , 0.90) (N/A , 0.02 , 0.0)	13141.5 8074.6	0.3596 105.3 105.3	0.4257 [0.4692]	90.7%			
PFHxS	(399.0 / 80.0) 465434 (399.0 / 99.0) 154312	(7.39 , 1.00) (0.00 , N/A , -0.2)	964.4 4798.4	0.3315 96.7 96.7	0.4132 [0.4555]	90.7%			
PFHpS	(449.0 / 80.0) 521809 (449.0 / 99.0) 143392	(8.04 , 0.93) (N/A , 0.02 , -0.2)	2749.5 16469.5	0.2748 96.7 96.7	0.4605 [0.4757]	96.8%			
PFOS	(499.0 / 80.0) 676229 (499.0 / 99.0) 139692	(8.60 , 1.00) (0.00 , N/A , 0.0)	956.0 326.0	0.2066 95.4 95.4	0.4801 [0.4637]	103.5%			
PFNS	(549.0 / 80.0) 596385 (549.0 / 99.0) 150729	(8.93 , 1.04) (N/A , 0.01 , 0.0)	592856.6 3474961.5	0.2527 110.2 110.2	0.4465 [0.4799]	93.0%			
PFDS	(599.0 / 80.0) 735875 (599.0 / 99.0) 156051	(9.15 , 1.06) (N/A , 0.00 , 0.0)	1967.8 877.2	0.2121 93.7 93.7	0.4769 [0.4816]	99.0%			
PFDoS	(699.0 / 80.0) 504938 (699.0 / 99.0) 130712	(9.48 , 1.10) (N/A , 0.00 , -0.2)	1018.8 724.9	0.2589 118.7 118.7	0.4094 [0.4848]	84.4%			
4:2FTS	(327.0 / 307.0) 386759 (327.0 / 81.0) 237345	(5.43 , 1.00) (0.00 , N/A , -0.2)	2126.8 802.1	0.6137 99.1 99.1	1.8002 [1.8691]	96.3%			
6:2FTS	(427.0 / 407.0) 257827 (427.0 / 81.0) 196330	(6.94 , 1.00) (0.00 , N/A , 0.1)	2075563.3 820.3	0.7615 110.2 110.2	1.9585 [1.8981]	103.2%			
8:2FTS	(527.0 / 507.0) 235758 (527.0 / 81.0) 158061	(8.12 , 1.00) (0.00 , N/A , 0.1)	3748859.8 423.3	0.6704 99.3 99.3	1.8998 [1.9166]	99.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

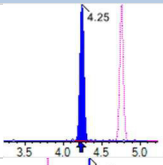
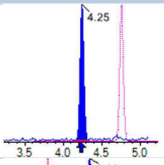
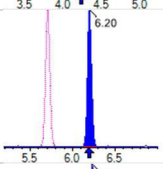
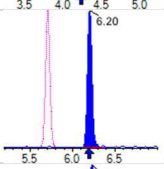
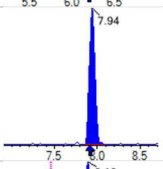
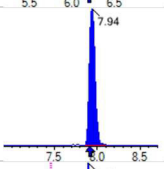
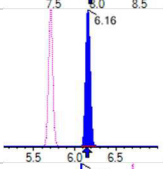
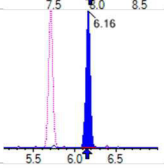
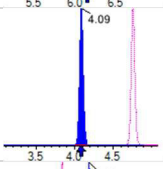
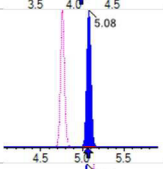
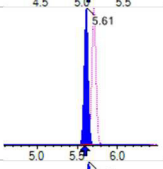
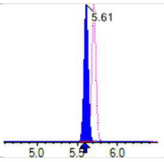
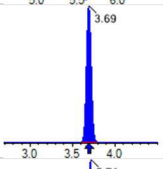
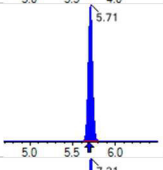
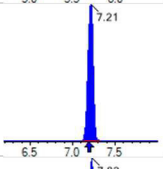
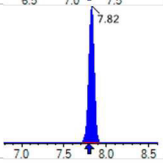
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 854679 (498.0 / 478.0) 18444	(9.87 , 1.00) (0.00 , N/A , -0.3)	2169.4 108.1	0.0216 97.1 97.1	0.4736 [0.5000]	94.7%			
NMeFOSA	(512.0 / 219.0) 832092 (512.0 / 169.0) 691913	(10.46 , 1.00) (0.00 , N/A , 1.1)	2834.8 2529.2	0.8315 99.4 99.4	1.9987 [2.0000]	99.9%			
NEtFOSA	(526.0 / 219.0) 890901 (526.0 / 169.0) 1086997	(10.62 , 1.00) (0.00 , N/A , 0.7)	4115.2 3001.3	1.2201 95.6 95.6	1.8946 [2.0000]	94.7%			
NMeFOSAA	(570.0 / 419.0) 98636 (570.0 / 483.0) 50529	(8.49 , 1.00) (0.00 , N/A , -0.4)	95407.0 519.8	0.5123 109.1 109.1	0.4775 [0.5000]	95.5%			
NEtFOSAA	(584.0 / 419.0) 92111 (584.0 / 526.0) 61102	(8.70 , 1.00) (0.01 , N/A , 0.0)	2470949.5 1556.1	0.6634 103.9 103.9	0.4852 [0.5000]	97.0%			
NMeFOSE	(616.0 / 59.0) 310153	(10.40 , 1.00) (0.01 , N/A , 0.0)	663.2	N/A 0.0 0.0	1.8434 [2.0000]	92.2%			
NEtFOSE	(630.0 / 59.0) 367566	(10.57 , 1.00) (0.01 , N/A , 0.0)	600.8	N/A 0.0 0.0	1.8862 [2.0000]	94.3%			
HFPO-DA	(285.0 / 169.0) 208541 (285.0 / 185.0) 532496	(6.02 , 1.00) (0.00 , N/A , 0.0)	3299.1 1641.0	2.5534 94.9 94.9	0.9922 [1.0000]	99.2%			
ADONA	(377.0 / 85.0) 795288 (377.0 / 251.0) 78107	(6.80 , 1.13) (N/A , 0.01 , 0.1)	2279.0 401.4	0.0982 101.7 101.7	0.9625 [0.9427]	102.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 1961185 (533.0 / 353.0) 565812	(8.87 , 1.47) (N/A , 0.01 , -0.1)	2236.9 840.7	0.2885 90.4 90.4	0.8805 [0.9333]	94.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 1040449 (633.0 / 453.0) 385409	(9.29 , 1.54) (N/A , 0.00 , -0.1)	1895.1 1508.9	0.3704 111.2 111.2	0.7923 [0.9432]	84.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

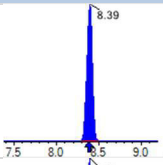
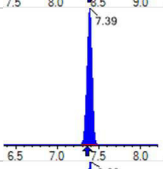
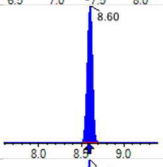
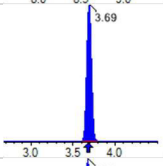
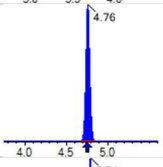
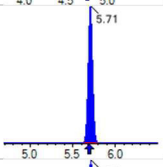
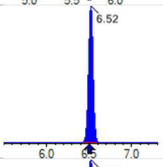
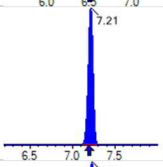
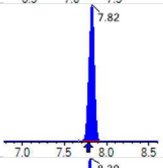
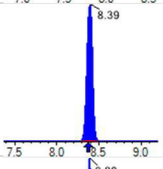
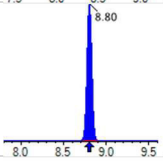
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 19845 (241.0 / 117.0) 37411	(4.25 , 0.89) (N/A , 0.02 , 0.0)	508.6 234.6	1.8852 92.5 92.5	1.8536 [2.0000]	92.7%			
5:3FTCA	(341.0 / 236.7) 128484 (341.0 / 217.0) 203042	(6.20 , 1.09) (N/A , 0.01 , -0.2)	4279.2 524.6	1.5803 95.9 95.9	1.7280 [2.0000]	86.4%			
7:3FTCA	(441.0 / 317.0) 224708 (441.0 / 337.0) 196165	(7.94 , 1.39) (N/A , 0.03 , 0.0)	590.1 2280.8	0.8730 101.9 101.9	1.8006 [2.0000]	90.0%			
PFEESA	(315.0 / 135.0) 443375 (315.0 / 83.0) 122369	(6.16 , 1.08) (N/A , 0.02 , -0.2)	2525.7 798.5	0.2760 106.5 106.5	0.8161 [0.8925]	91.4%			
PFMPA	(229.0 / 85.0) 89548	(4.09 , 0.86) (N/A , 0.01 , 0.0)	2484.0	N/A 0.0 0.0	0.9782 [1.0000]	97.8%			
PFMBA	(279.0 / 85.0) 277376	(5.08 , 1.07) (N/A , 0.02 , 0.0)	2509.0	N/A 0.0 0.0	0.9487 [1.0000]	94.9%			
NFDHA	(295.0 / 201.0) 220153 (295.0 / 85.0) 222534	(5.61 , 0.98) (N/A , 0.02 , 0.0)	15813.8 2532.8	1.0108 100.6 100.6	0.8915 [1.0000]	89.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 242927	(3.69 , N/A) (N/A , 0.01 , N/A)	1826.8	N/A	1.1341 [1.0000]	113.4% { 120.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 329316	(5.71 , N/A) (N/A , 0.02 , N/A)	8544.9	N/A	1.0485 [1.0000]	104.9% { 115.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 449439	(7.21 , N/A) (N/A , 0.02 , N/A)	2275.9	N/A	0.9732 [1.0000]	97.3% { 107.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 428731	(7.82 , N/A) (N/A , 0.03 , N/A)	8569.8	N/A	1.0273 [1.0000]	102.7% { 111.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

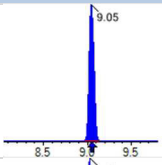
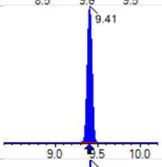
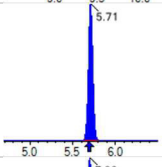
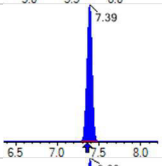
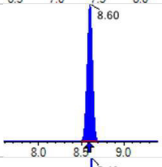
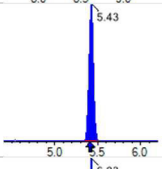
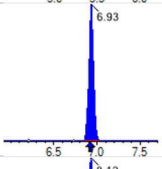
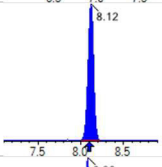
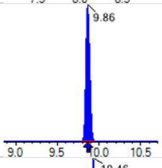
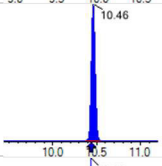
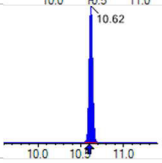
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 405427	(8.39 , N/A) (N/A , 0.02 , N/A)	5092452.6	N/A	1.0095 [1.0000]	100.9% { 105.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 697940	(7.39 , N/A) (N/A , 0.03 , N/A)	2770.9	N/A	1.0280 [1.0000]	102.8% { 116.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 897280	(8.60 , N/A) (N/A , 0.02 , N/A)	1604.6	N/A	1.0457 [1.0000]	104.6% { 107.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2463970	(3.69 , N/A) (N/A , 0.01 , N/A)	9039.7	N/A	8.5229 [8.0000]	106.5% { 116.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1617212	(4.76 , N/A) (N/A , 0.02 , N/A)	4929.1	N/A	4.2511 [4.0000]	106.3% { 107.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 979923	(5.71 , N/A) (N/A , 0.02 , N/A)	5857.5	N/A	2.1349 [2.0000]	106.7% { 112.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 916054	(6.52 , N/A) (N/A , 0.01 , N/A)	11435.7	N/A	2.0950 [2.0000]	104.8% { 108.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1083163	(7.21 , N/A) (N/A , 0.02 , N/A)	3719.5	N/A	2.2183 [2.0000]	110.9% { 107.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 502984	(7.82 , N/A) (N/A , 0.03 , N/A)	2106.0	N/A	1.1041 [1.0000]	110.4% { 108.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 511574	(8.39 , N/A) (N/A , 0.02 , N/A)	6049.7	N/A	1.0484 [1.0000]	104.8% { 101.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 599841	(8.80 , N/A) (N/A , 0.01 , N/A)	3793.6	N/A	1.1026 [1.0000]	110.3% { 114.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

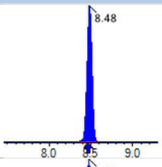
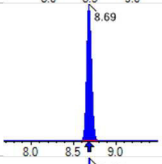
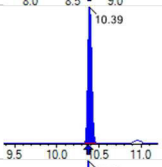
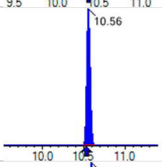
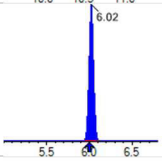
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 527697	(9.05 , N/A) (N/A , 0.00 , N/A)	3454.7	N/A	1.1096 [1.0000]	111.0% { 115.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 509082	(9.41 , N/A) (N/A , 0.01 , N/A)	1868.5	N/A	1.0150 [1.0000]	101.5% { 102.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2397478	(5.71 , N/A) (N/A , 0.02 , N/A)	7429.2	N/A	2.1683 [2.0000]	108.4% { 105.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1501777	(7.39 , N/A) (N/A , 0.03 , N/A)	2781.4	N/A	2.0914 [2.0000]	104.6% { 105.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2496896	(8.60 , N/A) (N/A , 0.01 , N/A)	2408.5	N/A	2.0755 [2.0000]	103.8% { 106.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 294629	(5.43 , N/A) (N/A , 0.02 , N/A)	1737.0	N/A	4.2008 [4.0000]	105.0% { 109.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 366584	(6.93 , N/A) (N/A , 0.01 , N/A)	1231.9	N/A	3.9810 [4.0000]	99.5% { 99.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 370815	(8.12 , N/A) (N/A , 0.02 , N/A)	1405.7	N/A	3.7171 [4.0000]	92.9% { 96.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4348406	(9.86 , N/A) (N/A , 0.01 , N/A)	4293.1	N/A	2.1132 [2.0000]	105.7% { 103.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1012642	(10.46 , N/A) (N/A , 0.02 , N/A)	2873.7	N/A	1.9234 [2.0000]	96.2% { 92.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 987911	(10.62 , N/A) (N/A , 0.02 , N/A)	4580.8	N/A	2.0615 [2.0000]	103.1% { 95.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (2)
Acquired: 2023/03/07 - 15:38

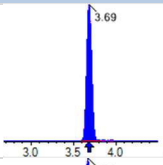
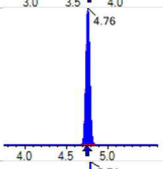
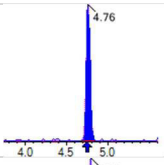
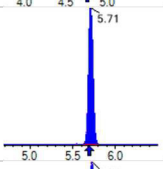
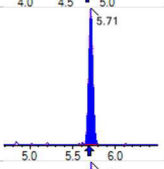
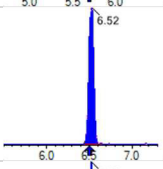
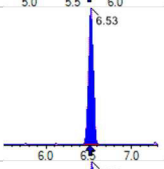
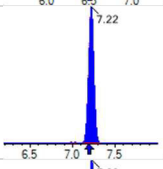
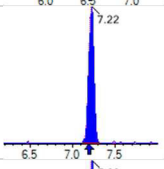
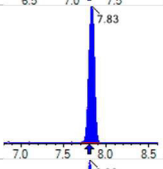
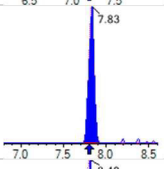
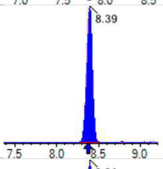
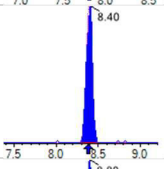
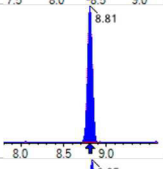
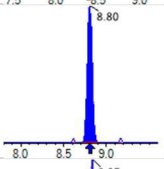
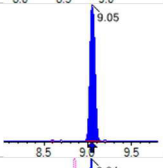
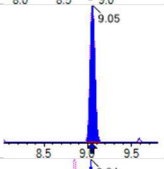
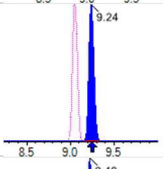
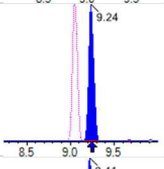
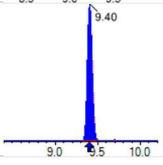
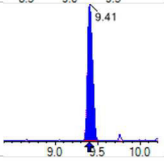
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 802280	(8.48 , N/A) (N/A , 0.02 , N/A)	1842.4	N/A	3.8998 [4.0000]	97.5% { 100.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 906390	(8.69 , N/A) (N/A , 0.01 , N/A)	11760.9	N/A	3.9314 [4.0000]	98.3% { 105.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3397576	(10.39 , N/A) (N/A , 0.02 , N/A)	1623.3	N/A	20.7383 [20.0000]	103.7% { 100.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4032210	(10.56 , N/A) (N/A , 0.02 , N/A)	1930.3	N/A	20.8526 [20.0000]	104.3% { 97.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2115142	(6.02 , N/A) (N/A , 0.02 , N/A)	3997.1	N/A	8.3443 [8.0000]	104.3% { 104.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

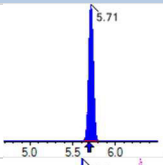
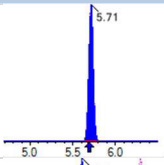
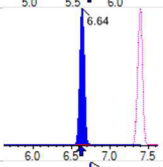
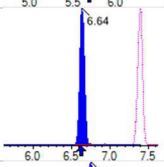
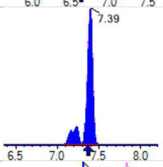
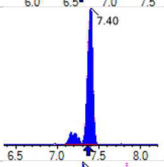
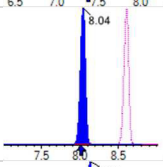
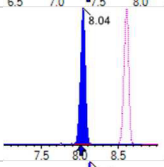
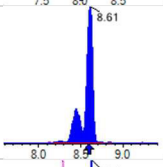
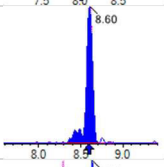
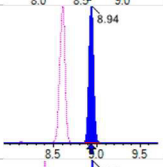
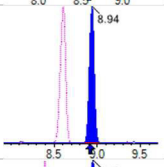
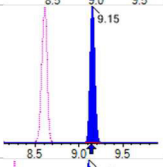
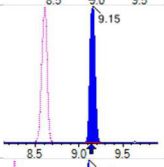
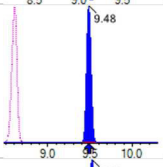
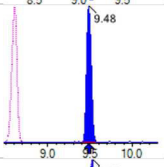
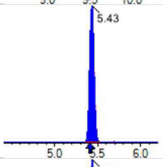
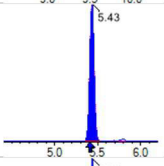
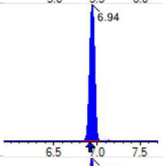
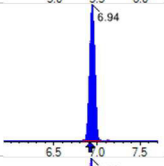
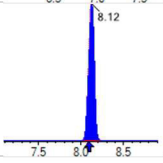
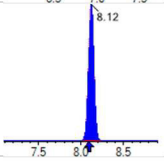
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 899583	(3.69 , 1.00) (0.00 , N/A , 0.0)	233.3	N/A 0.0 0.0	3.8750 [4.0000]	96.9%			
PFPeA	(263.0 / 219.0) 675582 (263.0 / 69.0) 8867	(4.76 , 1.00) (0.00 , N/A , 0.1)	2191.6 300.6	0.0131 115.9 115.9	1.9529 [2.0000]	97.6%			
PFHxA	(313.0 / 269.0) 424895 (313.0 / 119.0) 37252	(5.71 , 1.00) (0.00 , N/A , 0.0)	2976.9 3851.0	0.0877 83.2 83.2	1.0040 [1.0000]	100.4%			
PFHpA	(363.0 / 319.0) 405820 (363.0 / 169.0) 117751	(6.52 , 1.00) (0.00 , N/A , -0.1)	7261.0 1907.9	0.2902 89.0 89.0	1.0637 [1.0000]	106.4%			
PFOA	(413.0 / 369.0) 440285 (413.0 / 169.0) 145747	(7.22 , 1.00) (0.00 , N/A , -0.1)	7768.8 2921.5	0.3310 95.0 95.0	0.9220 [1.0000]	92.2%			
PFNA	(463.0 / 419.0) 390987 (463.0 / 169.0) 87664	(7.83 , 1.00) (0.00 , N/A , 0.0)	72875.1 8318.5	0.2242 95.8 95.8	1.0853 [1.0000]	108.5%			
PFDA	(513.0 / 469.0) 465069 (513.0 / 169.0) 46675	(8.39 , 1.00) (0.00 , N/A , -0.1)	820.5 2094.2	0.1004 94.4 94.4	0.9801 [1.0000]	98.0%			
PFUnA	(563.0 / 519.0) 432933 (563.0 / 169.0) 50105	(8.81 , 1.00) (0.00 , N/A , 0.1)	1014.0 62932.3	0.1157 96.5 96.5	0.9185 [1.0000]	91.9%			
PFDoA	(613.0 / 569.0) 398515 (613.0 / 169.0) 50836	(9.05 , 1.00) (0.00 , N/A , -0.1)	1045.6 12833.9	0.1276 78.4 78.4	0.9757 [1.0000]	97.6%			
PFTrDA	(663.0 / 619.0) 418211 (663.0 / 169.0) 95943	(9.24 , 1.02) (N/A , 0.00 , 0.1)	1247.2 9863.0	0.2294 94.0 94.0	1.0678 [1.0000]	106.8%			
PFTeDA	(713.0 / 669.0) 458171 (713.0 / 169.0) 80613	(9.40 , 1.00) (0.00 , N/A , -0.2)	1401.2 1107.6	0.1759 92.1 92.1	1.0311 [1.0000]	103.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

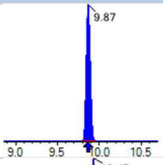
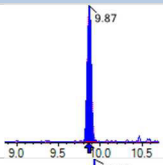
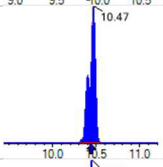
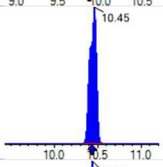
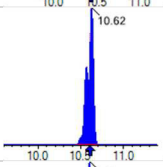
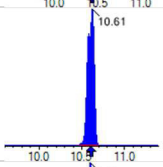
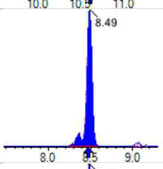
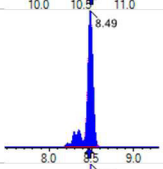
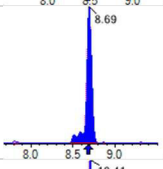
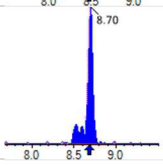
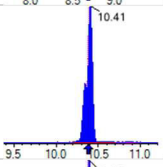
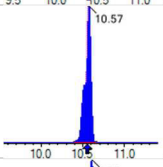
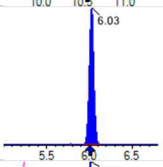
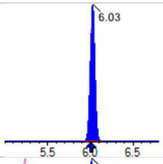
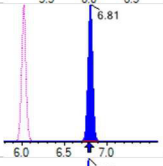
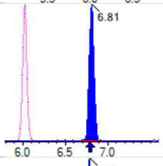
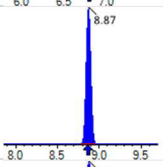
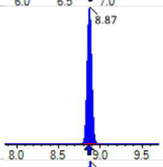
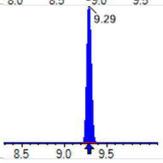
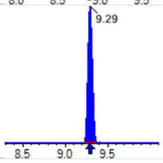
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 615389 (299.0 / 99.0) 398293	(5.71 , 1.00) (0.00 , N/A , 0.0)	3478.3 1787.2	0.6472 110.3 110.3	0.8019 [0.8847]	90.6%			
PFPeS	(349.0 / 80.0) 1058429 (349.0 / 99.0) 345280	(6.64 , 0.90) (N/A , 0.02 , 0.0)	149574.9 33207.6	0.3262 95.5 95.5	0.8809 [0.9384]	93.9%			
PFHxS	(399.0 / 80.0) 1001120 (399.0 / 99.0) 324544	(7.39 , 1.00) (0.00 , N/A , -0.1)	958926.2 4445.9	0.3242 94.6 94.6	0.9159 [0.9110]	100.5%			
PFHpS	(449.0 / 80.0) 1006957 (449.0 / 99.0) 307697	(8.04 , 0.93) (N/A , 0.03 , -0.1)	1171086.0 6762.9	0.3056 107.5 107.5	0.8910 [0.9514]	93.7%			
PFOS	(499.0 / 80.0) 1192555 (499.0 / 99.0) 271910	(8.61 , 1.00) (0.00 , N/A , 0.3)	925.9 283.0	0.2280 105.3 105.3	0.8490 [0.9275]	91.5%			
PFNS	(549.0 / 80.0) 1227937 (549.0 / 99.0) 306323	(8.94 , 1.04) (N/A , 0.01 , -0.2)	7413.5 6281866.2	0.2495 108.8 108.8	0.9219 [0.9599]	96.0%			
PFDS	(599.0 / 80.0) 1438750 (599.0 / 99.0) 323735	(9.15 , 1.06) (N/A , 0.01 , 0.0)	2168.1 1345.4	0.2250 99.4 99.4	0.9349 [0.9631]	97.1%			
PFDoS	(699.0 / 80.0) 1135032 (699.0 / 99.0) 239155	(9.48 , 1.10) (N/A , 0.01 , -0.1)	2208.1 871.3	0.2107 96.6 96.6	0.9227 [0.9696]	95.2%			
4:2FTS	(327.0 / 307.0) 797684 (327.0 / 81.0) 463911	(5.43 , 1.00) (0.00 , N/A , -0.1)	2630.2 1010.4	0.5816 93.9 93.9	4.0135 [3.7381]	107.4%			
6:2FTS	(427.0 / 407.0) 496112 (427.0 / 81.0) 365759	(6.94 , 1.00) (0.00 , N/A , -0.1)	10732.5 2049.8	0.7373 106.7 106.7	3.7567 [3.7962]	99.0%			
8:2FTS	(527.0 / 507.0) 506485 (527.0 / 81.0) 360588	(8.12 , 1.00) (0.01 , N/A , 0.2)	2971154.2 1405.3	0.7119 105.4 105.4	4.0025 [3.8332]	104.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

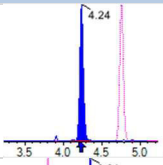
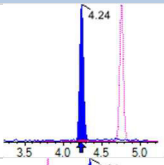
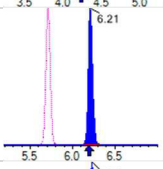
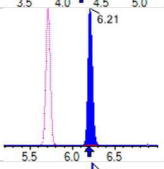
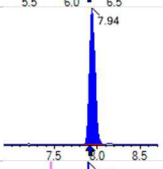
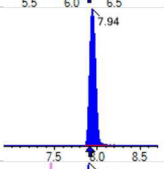
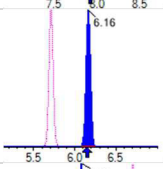
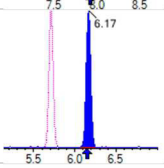
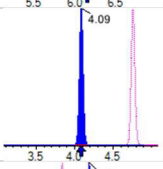
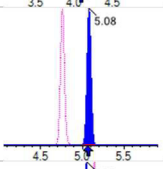
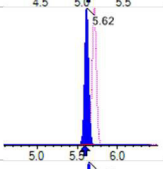
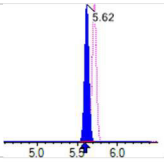
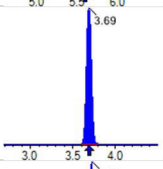
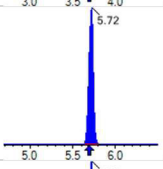
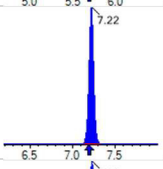
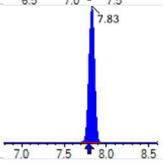
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1733815 (498.0 / 478.0) 41303	(9.87 , 1.00) (0.00 , N/A , -0.1)	3820.9 317.0	0.0238 107.2 107.2	0.9965 [1.0000]	99.7%			
NMeFOSA	(512.0 / 219.0) 1804160 (512.0 / 169.0) 1466966	(10.47 , 1.00) (0.00 , N/A , 1.0)	5320.7 3512.8	0.8131 97.2 97.2	4.2050 [4.0000]	105.1%			
NEtFOSA	(526.0 / 219.0) 1924663 (526.0 / 169.0) 2364022	(10.62 , 1.00) (0.00 , N/A , 0.9)	5871.8 5658.9	1.2283 96.2 96.2	3.9752 [4.0000]	99.4%			
NMeFOSAA	(570.0 / 419.0) 209471 (570.0 / 483.0) 97761	(8.49 , 1.00) (0.00 , N/A , 0.1)	5055.4 1376.0	0.4667 99.4 99.4	0.9998 [1.0000]	100.0%			
NEtFOSAA	(584.0 / 419.0) 182265 (584.0 / 526.0) 95982	(8.69 , 1.00) (0.00 , N/A , -0.3)	190588.3 992.3	0.5266 82.5 82.5	0.9131 [1.0000]	91.3%			
NMeFOSE	(616.0 / 59.0) 641996	(10.41 , 1.00) (0.01 , N/A , 0.0)	912.7	N/A 0.0 0.0	3.9310 [4.0000]	98.3%			
NEtFOSE	(630.0 / 59.0) 785939	(10.57 , 1.00) (0.01 , N/A , 0.0)	979.4	N/A 0.0 0.0	3.8482 [4.0000]	96.2%			
HFPO-DA	(285.0 / 169.0) 379118 (285.0 / 185.0) 1021866	(6.03 , 1.00) (0.00 , N/A , -0.1)	1971.1 3001.7	2.6954 100.1 100.1	2.0057 [2.0000]	100.3%			
ADONA	(377.0 / 85.0) 1508398 (377.0 / 251.0) 178454	(6.81 , 1.13) (N/A , 0.02 , -0.1)	3205.3 782.7	0.1183 122.5 122.5	2.0299 [1.8854]	107.7%			
9Cl-Pf3ONS	(531.0 / 351.0) 4092531 (533.0 / 353.0) 1268614	(8.87 , 1.47) (N/A , 0.01 , 0.1)	3430.5 1626.8	0.3100 97.2 97.2	2.0432 [1.8665]	109.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 2243763 (633.0 / 453.0) 757471	(9.29 , 1.54) (N/A , 0.00 , 0.0)	4136.5 11423.2	0.3376 101.4 101.4	1.8489 [1.8864]	98.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

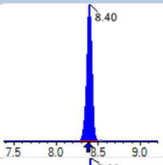
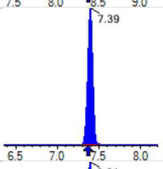
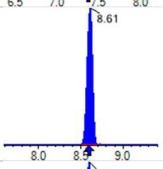
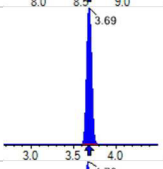
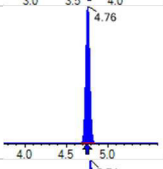
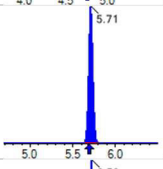
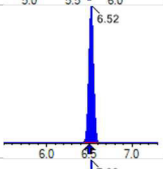
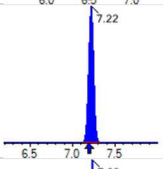
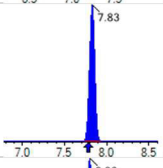
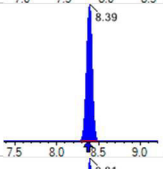
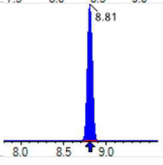
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 39190 (241.0 / 117.0) 69278	(4.24 , 0.89) (N/A , 0.01 , 0.0)	853.0 384.6	1.7678 86.7 86.7	3.7631 [4.0000]	94.1%			
5:3FTCA	(341.0 / 236.7) 282646 (341.0 / 217.0) 452482	(6.21 , 1.09) (N/A , 0.03 , 0.1)	1702.4 1217.0	1.6009 97.2 97.2	3.9123 [4.0000]	97.8%			
7:3FTCA	(441.0 / 317.0) 421980 (441.0 / 337.0) 371193	(7.94 , 1.39) (N/A , 0.03 , -0.3)	1090.9 1049.1	0.8796 102.7 102.7	3.4801 [4.0000]	87.0%			
PFEESA	(315.0 / 135.0) 892808 (315.0 / 83.0) 256798	(6.16 , 1.08) (N/A , 0.02 , -0.1)	3617.4 756.5	0.2876 111.0 111.0	1.6914 [1.7849]	94.8%			
PFMPA	(229.0 / 85.0) 166754	(4.09 , 0.86) (N/A , 0.01 , 0.0)	4633.2	N/A 0.0 0.0	1.8726 [2.0000]	93.6%			
PFMBA	(279.0 / 85.0) 556248	(5.08 , 1.07) (N/A , 0.02 , 0.0)	3540.3	N/A 0.0 0.0	1.9558 [2.0000]	97.8%			
NFDHA	(295.0 / 201.0) 441885 (295.0 / 85.0) 434993	(5.62 , 0.98) (N/A , 0.02 , -0.1)	2916.2 2312.3	0.9844 98.0 98.0	1.8416 [2.0000]	92.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 229958	(3.69 , N/A) (N/A , 0.01 , N/A)	2206.8	N/A	1.0736 [1.0000]	107.4% { 113.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 323301	(5.72 , N/A) (N/A , 0.03 , N/A)	2814.3	N/A	1.0294 [1.0000]	102.9% { 113.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 473706	(7.22 , N/A) (N/A , 0.03 , N/A)	353.5	N/A	1.0257 [1.0000]	102.6% { 113.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 415237	(7.83 , N/A) (N/A , 0.03 , N/A)	7018.9	N/A	0.9950 [1.0000]	99.5% { 107.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

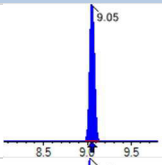
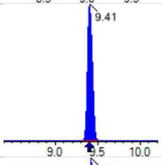
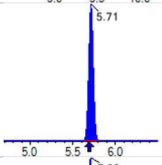
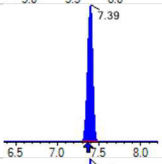
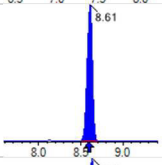
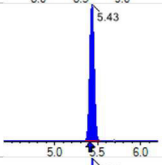
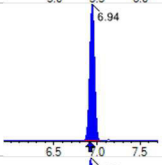
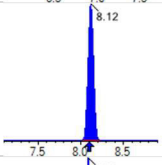
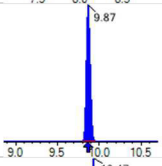
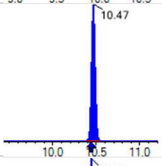
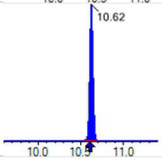
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 373543	(8.40 , N/A) (N/A , 0.02 , N/A)	297.7	N/A	0.9301 [1.0000]	93.0% { 97.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 670924	(7.39 , N/A) (N/A , 0.04 , N/A)	3693.4	N/A	0.9882 [1.0000]	98.8% { 112.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 872005	(8.61 , N/A) (N/A , 0.02 , N/A)	1193.8	N/A	1.0162 [1.0000]	101.6% { 104.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2248973	(3.69 , N/A) (N/A , 0.01 , N/A)	6273.9	N/A	8.2180 [8.0000]	102.7% { 106.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1573121	(4.76 , N/A) (N/A , 0.02 , N/A)	4085.3	N/A	4.2121 [4.0000]	105.3% { 104.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 952129	(5.71 , N/A) (N/A , 0.02 , N/A)	2897.9	N/A	2.1129 [2.0000]	105.6% { 109.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 904375	(6.52 , N/A) (N/A , 0.02 , N/A)	3801.6	N/A	2.1068 [2.0000]	105.3% { 107.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1052237	(7.22 , N/A) (N/A , 0.03 , N/A)	8472.9	N/A	2.0446 [2.0000]	102.2% { 104.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 416332	(7.83 , N/A) (N/A , 0.04 , N/A)	50832.2	N/A	0.9436 [1.0000]	94.4% { 89.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 503009	(8.39 , N/A) (N/A , 0.02 , N/A)	6142.5	N/A	1.1189 [1.0000]	111.9% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 590145	(8.81 , N/A) (N/A , 0.01 , N/A)	9698.8	N/A	1.1774 [1.0000]	117.7% { 112.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

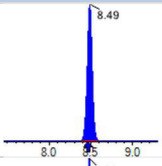
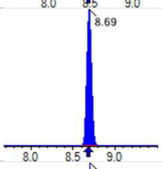
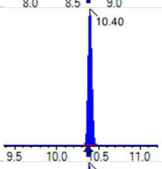
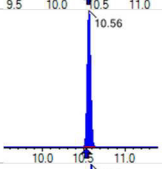
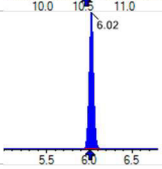
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 485494	(9.05 , N/A) (N/A , 0.01 , N/A)	50290.7	N/A	1.1080 [1.0000]	110.8% { 106.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 520469	(9.41 , N/A) (N/A , 0.01 , N/A)	2897.3	N/A	1.1263 [1.0000]	112.6% { 104.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2377635	(5.71 , N/A) (N/A , 0.03 , N/A)	4276.3	N/A	2.2369 [2.0000]	111.8% { 104.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1457103	(7.39 , N/A) (N/A , 0.03 , N/A)	1949.9	N/A	2.1109 [2.0000]	105.5% { 102.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2490101	(8.61 , N/A) (N/A , 0.02 , N/A)	2350.5	N/A	2.1299 [2.0000]	106.5% { 106.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 272564	(5.43 , N/A) (N/A , 0.02 , N/A)	1232.8	N/A	4.0427 [4.0000]	101.1% { 100.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 367740	(6.94 , N/A) (N/A , 0.02 , N/A)	1880.2	N/A	4.1543 [4.0000]	103.9% { 99.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 378126	(8.12 , N/A) (N/A , 0.02 , N/A)	1848.9	N/A	3.9430 [4.0000]	98.6% { 98.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4192639	(9.87 , N/A) (N/A , 0.01 , N/A)	3885.8	N/A	2.0965 [2.0000]	104.8% { 99.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1043595	(10.47 , N/A) (N/A , 0.03 , N/A)	2728.0	N/A	2.0397 [2.0000]	102.0% { 95.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1017207	(10.62 , N/A) (N/A , 0.03 , N/A)	4606.7	N/A	2.1842 [2.0000]	109.2% { 98.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (3)
Acquired: 2023/03/07 - 15:51

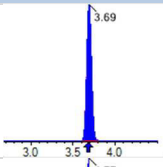
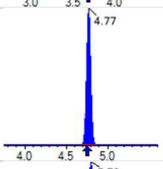
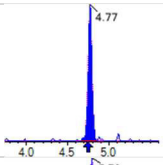
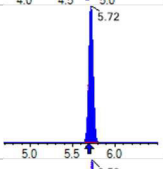
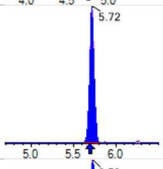
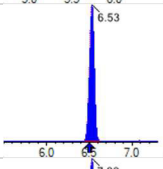
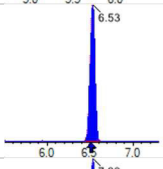
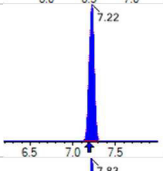
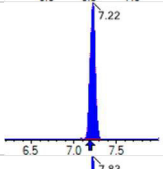
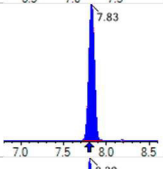
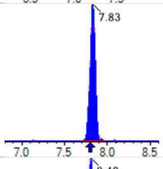
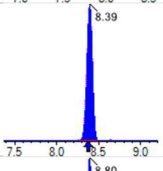
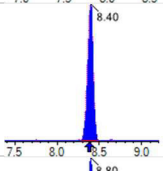
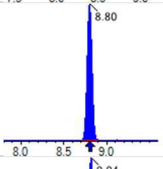
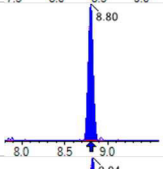
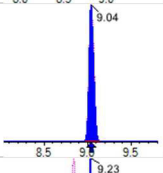
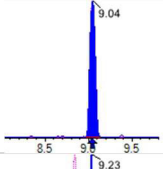
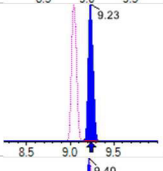
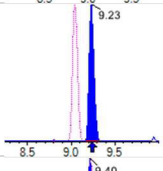
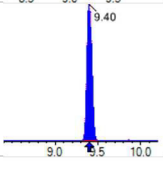
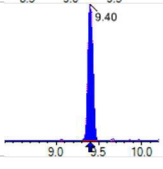
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 813696	(8.49 , N/A) (N/A , 0.02 , N/A)	4157.5	N/A	4.0700 [4.0000]	101.7% { 101.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 952968	(8.69 , N/A) (N/A , 0.02 , N/A)	694005.0	N/A	4.2532 [4.0000]	106.3% { 111.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3298043	(10.40 , N/A) (N/A , 0.03 , N/A)	1524.5	N/A	20.7142 [20.0000]	103.6% { 97.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4225952	(10.56 , N/A) (N/A , 0.03 , N/A)	1928.0	N/A	22.4880 [20.0000]	112.4% { 101.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1902126	(6.02 , N/A) (N/A , 0.02 , N/A)	3072.4	N/A	7.6436 [8.0000]	95.5% { 94.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

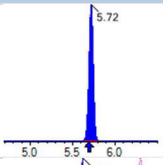
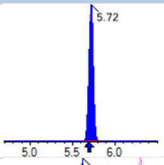
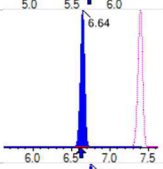
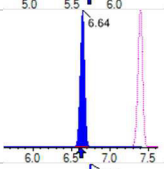
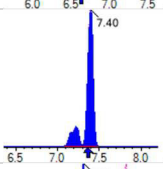
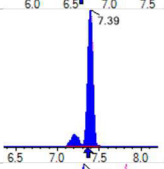
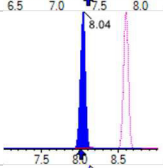
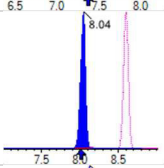
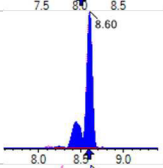
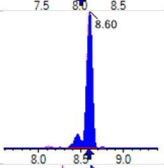
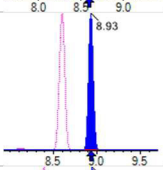
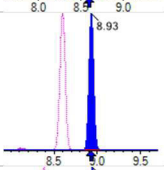
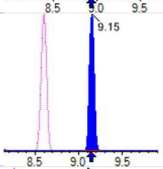
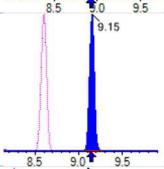
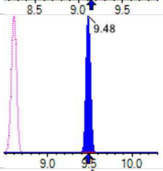
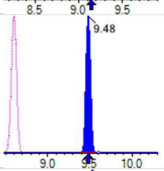
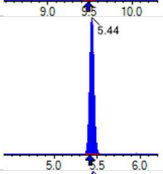
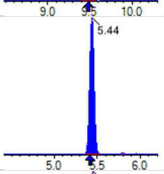
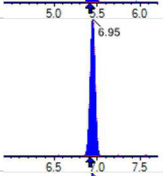
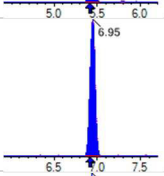
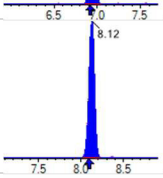
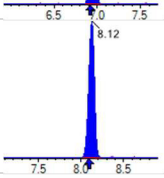
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1849907	(3.69 , 1.00) (0.00 , N/A , 0.0)	323.3	N/A 0.0 0.0	8.1022 [8.0000]	101.3%			
PFPeA	(263.0 / 219.0) 1294642 (263.0 / 69.0) 15077	(4.77 , 1.00) (0.00 , N/A , 0.0)	3404.4 299.0	0.0116 102.8 102.8	4.0826 [4.0000]	102.1%			
PFHxA	(313.0 / 269.0) 820543 (313.0 / 119.0) 85586	(5.72 , 1.00) (0.00 , N/A , 0.0)	7201.6 17397.8	0.1043 99.0 99.0	1.9672 [2.0000]	98.4%			
PFHpA	(363.0 / 319.0) 663043 (363.0 / 169.0) 199777	(6.53 , 1.00) (0.00 , N/A , 0.0)	144596.8 9449.4	0.3013 92.4 92.4	1.8653 [2.0000]	93.3%			
PFOA	(413.0 / 369.0) 908175 (413.0 / 169.0) 302595	(7.22 , 1.00) (0.00 , N/A , 0.0)	26262.5 7678.6	0.3332 95.6 95.6	1.9752 [2.0000]	98.8%			
PFNA	(463.0 / 419.0) 751547 (463.0 / 169.0) 160378	(7.83 , 1.00) (0.00 , N/A , -0.2)	14925.3 6102.5	0.2134 91.2 91.2	1.9216 [2.0000]	96.1%			
PFDA	(513.0 / 469.0) 893653 (513.0 / 169.0) 111167	(8.39 , 1.00) (0.00 , N/A , -0.2)	1373.3 25309.0	0.1244 116.9 116.9	1.9297 [2.0000]	96.5%			
PFUnA	(563.0 / 519.0) 888048 (563.0 / 169.0) 105722	(8.80 , 1.00) (0.00 , N/A , -0.1)	2145.5 992.5	0.1191 99.3 99.3	1.9211 [2.0000]	96.1%			
PFDoA	(613.0 / 569.0) 822634 (613.0 / 169.0) 118861	(9.04 , 1.00) (0.00 , N/A , -0.2)	1854.1 961.5	0.1445 88.8 88.8	1.9432 [2.0000]	97.2%			
PFTrDA	(663.0 / 619.0) 773173 (663.0 / 169.0) 182237	(9.23 , 1.02) (N/A , 0.00 , 0.1)	1462.0 1650.8	0.2357 96.6 96.6	1.9044 [2.0000]	95.2%			
PFTeDA	(713.0 / 669.0) 833839 (713.0 / 169.0) 181859	(9.40 , 1.00) (0.00 , N/A , -0.1)	2446.2 974.2	0.2181 114.1 114.1	2.0479 [2.0000]	102.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

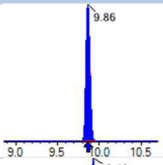
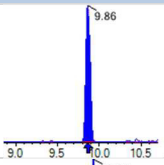
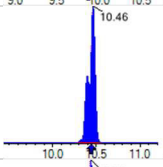
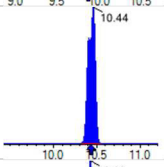
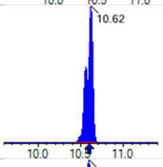
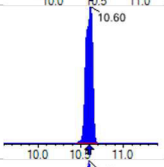
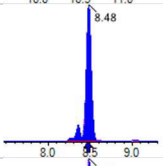
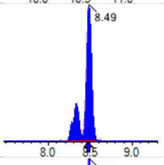
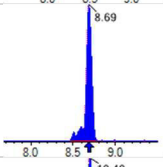
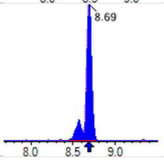
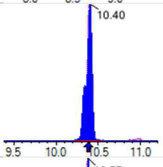
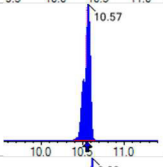
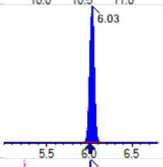
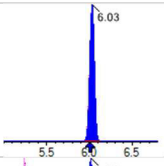
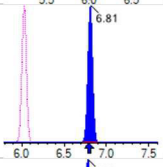
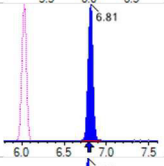
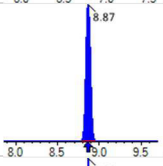
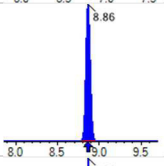
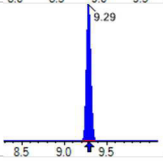
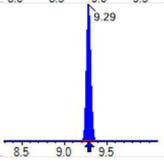
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1329915 (299.0 / 99.0) 818514	(5.72 , 1.00) (0.00 , N/A , 0.0)	2864.0 2405.9	0.6155 104.9 104.9	1.7696 [1.7695]	100.0%			
PFPeS	(349.0 / 80.0) 2279446 (349.0 / 99.0) 813391	(6.64 , 0.90) (N/A , 0.03 , 0.1)	5177.9 2382.8	0.3568 104.4 104.4	1.9167 [1.8768]	102.1%			
PFHxS	(399.0 / 80.0) 1895693 (399.0 / 99.0) 645001	(7.40 , 1.00) (0.00 , N/A , 0.2)	1134585.9 1960.8	0.3402 99.3 99.3	1.7523 [1.8220]	96.2%			
PFHpS	(449.0 / 80.0) 2026857 (449.0 / 99.0) 590814	(8.04 , 0.93) (N/A , 0.03 , -0.2)	1595077.5 3310.8	0.2915 102.6 102.6	1.8706 [1.9028]	98.3%			
PFOS	(499.0 / 80.0) 2470448 (499.0 / 99.0) 550553	(8.60 , 1.00) (0.00 , N/A , -0.1)	1721.0 821.1	0.2229 103.0 103.0	1.8345 [1.8550]	98.9%			
PFNS	(549.0 / 80.0) 2609531 (549.0 / 99.0) 645319	(8.93 , 1.04) (N/A , 0.00 , -0.1)	1186513.1 16939.5	0.2473 107.8 107.8	2.0433 [1.9198]	106.4%			
PFDS	(599.0 / 80.0) 2700710 (599.0 / 99.0) 603288	(9.15 , 1.06) (N/A , 0.00 , -0.1)	3278.4 1934.6	0.2234 98.7 98.7	1.8305 [1.9262]	95.0%			
PFDoS	(699.0 / 80.0) 2384829 (699.0 / 99.0) 542518	(9.48 , 1.10) (N/A , 0.00 , 0.0)	2589.2 920.5	0.2275 104.3 104.3	2.0222 [1.9391]	104.3%			
4:2FTS	(327.0 / 307.0) 1477302 (327.0 / 81.0) 951283	(5.44 , 1.00) (0.00 , N/A , 0.0)	4573.2 2203.8	0.6439 104.0 104.0	7.6654 [7.4762]	102.5%			
6:2FTS	(427.0 / 407.0) 982816 (427.0 / 81.0) 708608	(6.95 , 1.00) (0.00 , N/A , 0.0)	2028.0 1710.9	0.7210 104.4 104.4	8.2282 [7.5923]	108.4%			
8:2FTS	(527.0 / 507.0) 1014731 (527.0 / 81.0) 673071	(8.12 , 1.00) (0.00 , N/A , 0.1)	2795.6 1482.0	0.6633 98.2 98.2	8.1499 [7.6663]	106.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

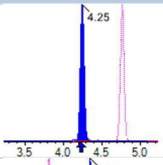
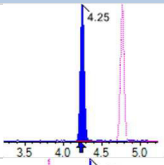
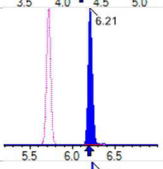
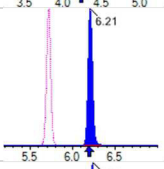
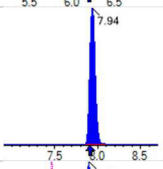
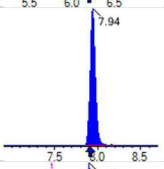
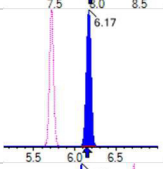
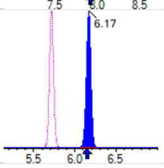
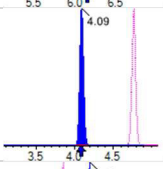
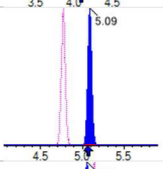
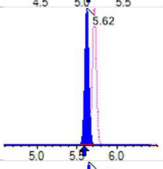
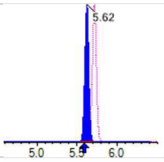
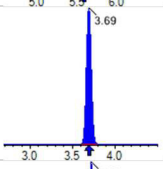
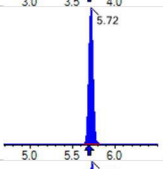
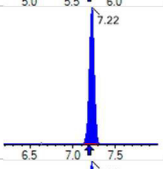
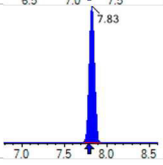
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3574964 (498.0 / 478.0) 72595	(9.86 , 1.00) (0.00 , N/A , -0.1)	3964.0 400.7	0.0203 91.4 91.4	2.0098 [2.0000]	100.5%			
NMeFOSA	(512.0 / 219.0) 3568843 (512.0 / 169.0) 2972036	(10.46 , 1.00) (0.00 , N/A , 1.1)	5747.5 5583.2	0.8328 99.6 99.6	8.7504 [8.0000]	109.4%			
NEtFOSA	(526.0 / 219.0) 3758190 (526.0 / 169.0) 4606849	(10.62 , 1.00) (0.00 , N/A , 1.0)	7512.8 9488.3	1.2258 96.0 96.0	8.2450 [8.0000]	103.1%			
NMeFOSAA	(570.0 / 419.0) 428380 (570.0 / 483.0) 207064	(8.48 , 1.00) (0.00 , N/A , -0.3)	135213.9 629.3	0.4834 102.9 102.9	2.1091 [2.0000]	105.5%			
NEtFOSAA	(584.0 / 419.0) 384457 (584.0 / 526.0) 191644	(8.69 , 1.00) (0.00 , N/A , -0.1)	9554.8 793.5	0.4985 78.1 78.1	1.9895 [2.0000]	99.5%			
NMeFOSE	(616.0 / 59.0) 1320905	(10.40 , 1.00) (0.01 , N/A , 0.0)	1699.7	N/A 0.0 0.0	7.9859 [8.0000]	99.8%			
NEtFOSE	(630.0 / 59.0) 1562452	(10.57 , 1.00) (0.01 , N/A , 0.0)	1827.5	N/A 0.0 0.0	7.8671 [8.0000]	98.3%			
HFPO-DA	(285.0 / 169.0) 771348 (285.0 / 185.0) 2190901	(6.03 , 1.00) (0.00 , N/A , -0.1)	2300.3 2990.1	2.8404 105.5 105.5	3.8303 [4.0000]	95.8%			
ADONA	(377.0 / 85.0) 2940301 (377.0 / 251.0) 309332	(6.81 , 1.13) (N/A , 0.02 , -0.2)	3936.8 1080.2	0.1052 108.9 108.9	3.7139 [3.7708]	98.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 8449291 (533.0 / 353.0) 2630210	(8.87 , 1.47) (N/A , 0.01 , 0.1)	3811.2 2678.5	0.3113 97.6 97.6	3.9592 [3.7330]	106.1%			
11Cl-PF3OUDS	(631.0 / 451.0) 4441626 (633.0 / 453.0) 1563440	(9.29 , 1.54) (N/A , 0.00 , 0.0)	4320.3 2560.0	0.3520 105.7 105.7	3.4225 [3.7728]	90.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

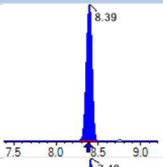
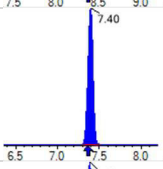
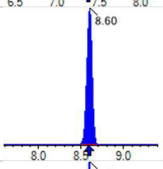
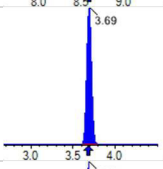
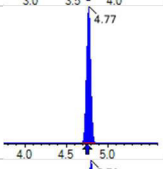
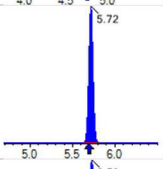
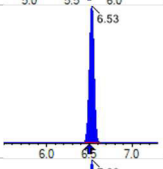
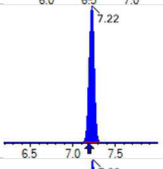
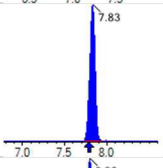
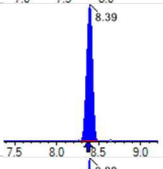
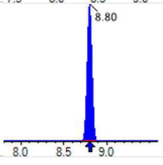
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 75885 (241.0 / 117.0) 153703	(4.25 , 0.89) (N/A , 0.02 , 0.0)	1274.3 776.6	2.0255 99.4 99.4	7.9490 [8.0000]	99.4%			
5:3FTCA	(341.0 / 236.7) 536060 (341.0 / 217.0) 812702	(6.21 , 1.09) (N/A , 0.02 , -0.1)	1781.7 1510.3	1.5161 92.0 92.0	7.5284 [8.0000]	94.1%			
7:3FTCA	(441.0 / 317.0) 933185 (441.0 / 337.0) 730861	(7.94 , 1.39) (N/A , 0.03 , -0.2)	1190.1 1352.0	0.7832 91.4 91.4	7.8087 [8.0000]	97.6%			
PFEESA	(315.0 / 135.0) 1789549 (315.0 / 83.0) 503296	(6.17 , 1.08) (N/A , 0.03 , 0.1)	4493.1 2090.7	0.2812 108.5 108.5	3.4399 [3.5698]	96.4%			
PFMPA	(229.0 / 85.0) 357853	(4.09 , 0.86) (N/A , 0.02 , 0.0)	3097.0	N/A 0.0 0.0	4.3839 [4.0000]	109.6%			
PFMBA	(279.0 / 85.0) 1086933	(5.09 , 1.07) (N/A , 0.03 , 0.0)	4311.6	N/A 0.0 0.0	4.1690 [4.0000]	104.2%			
NFDHA	(295.0 / 201.0) 891682 (295.0 / 85.0) 925802	(5.62 , 0.98) (N/A , 0.03 , 0.0)	3535.6 3290.3	1.0383 103.4 103.4	3.7705 [4.0000]	94.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 247750	(3.69 , N/A) (N/A , 0.01 , N/A)	2370.3	N/A	1.1566 [1.0000]	115.7% { 122.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 310993	(5.72 , N/A) (N/A , 0.03 , N/A)	3117.6	N/A	0.9902 [1.0000]	99.0% { 109.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 506851	(7.22 , N/A) (N/A , 0.03 , N/A)	3984.4	N/A	1.0975 [1.0000]	109.8% { 120.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 464822	(7.83 , N/A) (N/A , 0.03 , N/A)	2448.2	N/A	1.1138 [1.0000]	111.4% { 120.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

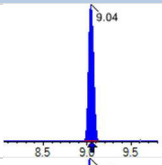
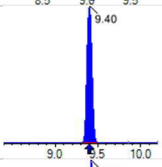
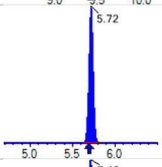
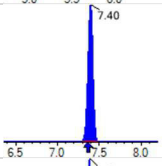
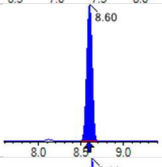
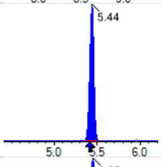
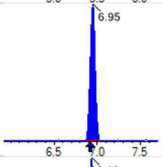
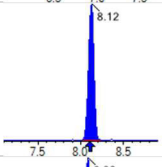
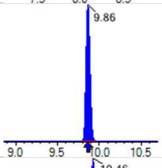
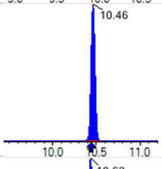
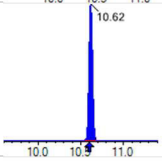
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 421840	(8.39 , N/A) (N/A , 0.02 , N/A)	3055.2	N/A	1.0504 [1.0000]	105.0% { 109.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 709350	(7.40 , N/A) (N/A , 0.04 , N/A)	2597.5	N/A	1.0448 [1.0000]	104.5% { 118.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 964234	(8.60 , N/A) (N/A , 0.01 , N/A)	1382.7	N/A	1.1237 [1.0000]	112.4% { 115.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2211871	(3.69 , N/A) (N/A , 0.01 , N/A)	5892.5	N/A	7.5019 [8.0000]	93.8% { 104.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1442056	(4.77 , N/A) (N/A , 0.03 , N/A)	4413.1	N/A	4.0140 [4.0000]	100.3% { 95.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 938406	(5.72 , N/A) (N/A , 0.03 , N/A)	2648.8	N/A	2.1649 [2.0000]	108.2% { 107.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 842582	(6.53 , N/A) (N/A , 0.02 , N/A)	3209.3	N/A	2.0405 [2.0000]	102.0% { 99.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1013121	(7.22 , N/A) (N/A , 0.03 , N/A)	726435.9	N/A	1.8399 [2.0000]	92.0% { 100.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 451962	(7.83 , N/A) (N/A , 0.04 , N/A)	3637.9	N/A	0.9151 [1.0000]	91.5% { 97.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 490912	(8.39 , N/A) (N/A , 0.02 , N/A)	2368.7	N/A	0.9669 [1.0000]	96.7% { 97.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 578778	(8.80 , N/A) (N/A , 0.01 , N/A)	2409.2	N/A	1.0225 [1.0000]	102.2% { 110.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

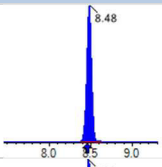
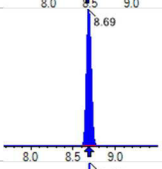
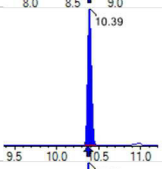
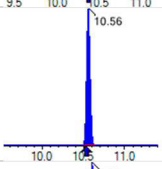
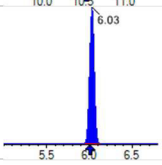
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 503234	(9.04 , N/A) (N/A , 0.00 , N/A)	2868.6	N/A	1.0170 [1.0000]	101.7% { 109.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 476906	(9.40 , N/A) (N/A , 0.00 , N/A)	1606.4	N/A	0.9138 [1.0000]	91.4% { 95.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2328464	(5.72 , N/A) (N/A , 0.03 , N/A)	4566.4	N/A	2.0720 [2.0000]	103.6% { 102.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1442268	(7.40 , N/A) (N/A , 0.04 , N/A)	2492.3	N/A	1.9762 [2.0000]	98.8% { 101.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2387405	(8.60 , N/A) (N/A , 0.01 , N/A)	2982.9	N/A	1.8467 [2.0000]	92.3% { 102.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 264301	(5.44 , N/A) (N/A , 0.03 , N/A)	1554.1	N/A	3.7077 [4.0000]	92.7% { 97.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 332609	(6.95 , N/A) (N/A , 0.02 , N/A)	1586.3	N/A	3.5539 [4.0000]	88.8% { 90.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 372054	(8.12 , N/A) (N/A , 0.03 , N/A)	1357.8	N/A	3.6695 [4.0000]	91.7% { 97.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4286473	(9.86 , N/A) (N/A , 0.01 , N/A)	3982.4	N/A	1.9384 [2.0000]	96.9% { 102.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 992019	(10.46 , N/A) (N/A , 0.02 , N/A)	3169.9	N/A	1.7534 [2.0000]	87.7% { 91.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 957642	(10.62 , N/A) (N/A , 0.02 , N/A)	3344.9	N/A	1.8596 [2.0000]	93.0% { 92.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (4)
Acquired: 2023/03/07 - 16:04

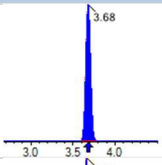
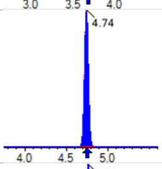
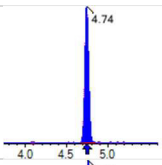
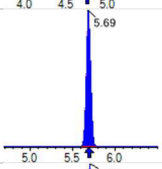
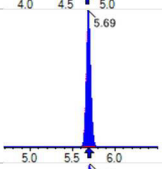
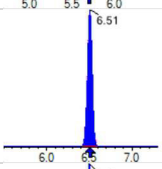
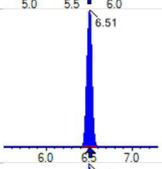
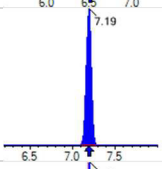
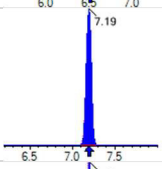
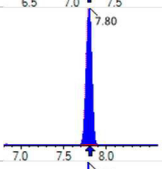
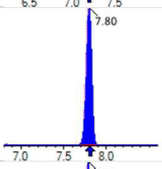
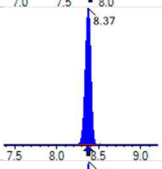
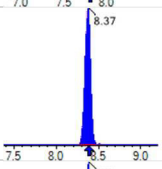
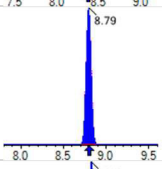
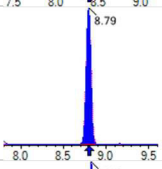
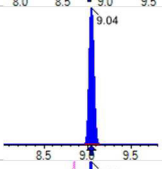
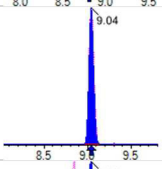
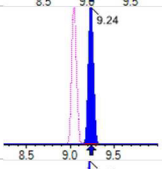
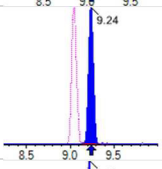
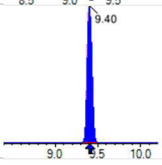
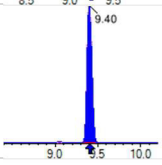
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 788848	(8.48 , N/A) (N/A , 0.02 , N/A)	1642.6	N/A	3.5683 [4.0000]	89.2% { 98.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 922571	(8.69 , N/A) (N/A , 0.01 , N/A)	74159.3	N/A	3.7237 [4.0000]	93.1% { 107.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3340167	(10.39 , N/A) (N/A , 0.02 , N/A)	1498.5	N/A	18.9722 [20.0000]	94.9% { 99.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4109527	(10.56 , N/A) (N/A , 0.02 , N/A)	2343.5	N/A	19.7767 [20.0000]	98.9% { 98.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2026565	(6.03 , N/A) (N/A , 0.03 , N/A)	5527.8	N/A	8.4660 [8.0000]	105.8% { 100.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

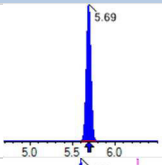
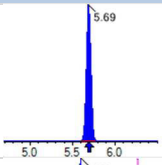
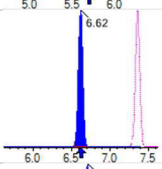
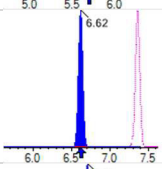
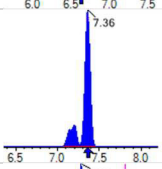
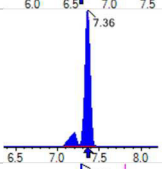
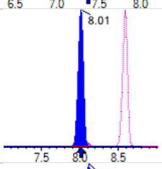
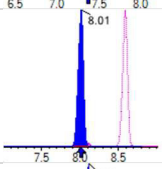
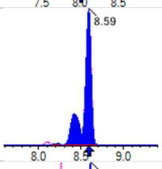
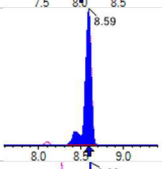
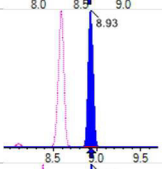
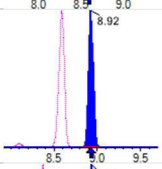
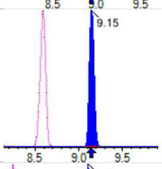
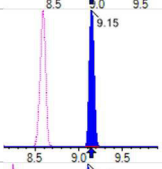
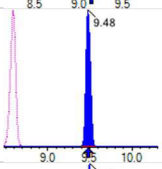
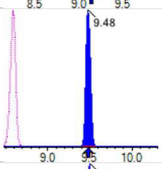
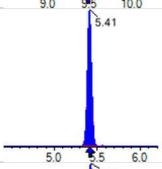
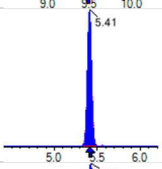
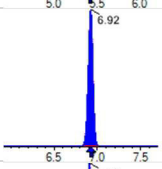
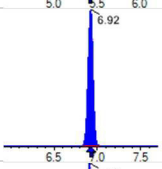
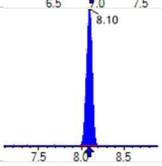
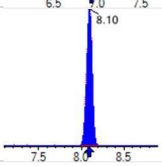
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4314770	(3.68 , 1.00) (0.00 , N/A , 0.0)	303.4	N/A 0.0 0.0	19.7494 [20.0000]	98.7%			
PFPeA	(263.0 / 219.0) 3292599 (263.0 / 69.0) 37284	(4.74 , 1.00) (0.00 , N/A , 0.1)	5807.1 752.6	0.0113 100.0 100.0	9.9316 [10.0000]	99.3%			
PFHxA	(313.0 / 269.0) 1819361 (313.0 / 119.0) 191644	(5.69 , 1.00) (0.00 , N/A , 0.0)	7617.2 10259.4	0.1053 100.0 100.0	4.6839 [5.0000]	93.7%			
PFHpA	(363.0 / 319.0) 1631903 (363.0 / 169.0) 531953	(6.51 , 1.00) (0.00 , N/A , 0.0)	7658.1 16704.3	0.3260 100.0 100.0	4.5759 [5.0000]	91.5%			
PFOA	(413.0 / 369.0) 2141962 (413.0 / 169.0) 746553	(7.19 , 1.00) (0.00 , N/A , 0.0)	6728.6 16398481.8	0.3485 100.0 100.0	4.6678 [5.0000]	93.4%			
PFNA	(463.0 / 419.0) 1841847 (463.0 / 169.0) 431173	(7.80 , 1.00) (0.01 , N/A , -0.1)	10486.5 1047.6	0.2341 100.0 100.0	4.5888 [5.0000]	91.8%			
PFDA	(513.0 / 469.0) 2188019 (513.0 / 169.0) 232738	(8.37 , 1.00) (0.00 , N/A , 0.0)	2376.8 4348.3	0.1064 100.0 100.0	4.6111 [5.0000]	92.2%			
PFUnA	(563.0 / 519.0) 2071082 (563.0 / 169.0) 248377	(8.79 , 1.00) (0.00 , N/A , 0.0)	2261.0 1032.9	0.1199 100.0 100.0	4.9366 [5.0000]	98.7%			
PFDoA	(613.0 / 569.0) 1910401 (613.0 / 169.0) 310938	(9.04 , 1.00) (0.00 , N/A , 0.2)	2426.1 19684.3	0.1628 100.0 100.0	4.9616 [5.0000]	99.2%			
PFTrDA	(663.0 / 619.0) 1773794 (663.0 / 169.0) 432832	(9.24 , 1.02) (N/A , 0.00 , -0.1)	2432.2 1362.9	0.2440 100.0 100.0	4.8038 [5.0000]	96.1%			
PFTeDA	(713.0 / 669.0) 2119862 (713.0 / 169.0) 405166	(9.40 , 1.00) (0.00 , N/A , 0.2)	3506.1 2650.0	0.1911 100.0 100.0	4.9835 [5.0000]	99.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

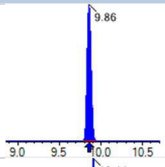
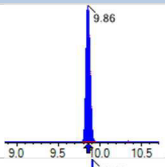
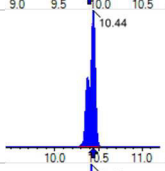
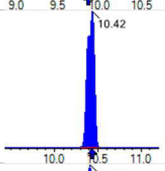
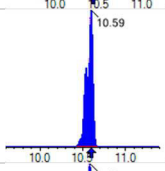
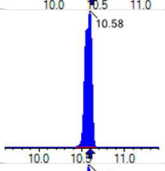
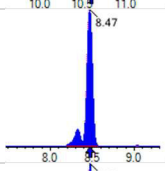
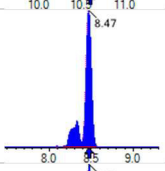
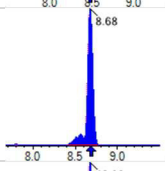
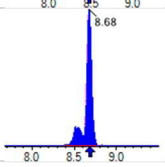
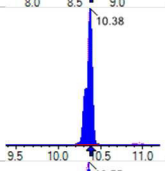
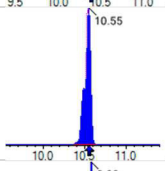
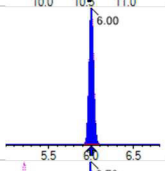
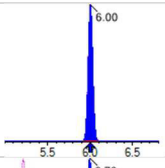
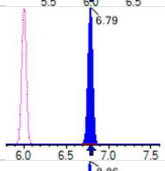
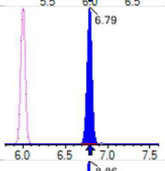
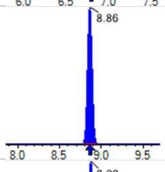
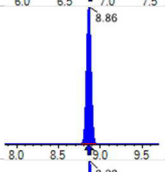
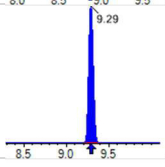
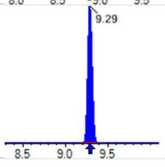
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 3184247 (299.0 / 99.0) 1868082	(5.69 , 1.00) (0.00 , N/A , 0.0)	3732.0 2826.3	0.5867 100.0 100.0	4.3464 [4.4237]	98.3%			
PFPeS	(349.0 / 80.0) 5511119 (349.0 / 99.0) 1882930	(6.62 , 0.90) (N/A , 0.00 , 0.0)	14463.2 10577.6	0.3417 100.0 100.0	4.7071 [4.6919]	100.3%			
PFHxS	(399.0 / 80.0) 4400564 (399.0 / 99.0) 1508515	(7.36 , 1.00) (0.00 , N/A , 0.0)	37748.7 2987.5	0.3428 100.0 100.0	4.1317 [4.5549]	90.7%			
PFHpS	(449.0 / 80.0) 4723479 (449.0 / 99.0) 1342163	(8.01 , 0.93) (N/A , 0.00 , -0.1)	237984.5 13682802.3	0.2841 100.0 100.0	4.4509 [4.7570]	93.6%			
PFOS	(499.0 / 80.0) 5818311 (499.0 / 99.0) 1259333	(8.59 , 1.00) (0.00 , N/A , 0.1)	2453.4 1137.4	0.2164 100.0 100.0	4.4111 [4.6375]	95.1%			
PFNS	(549.0 / 80.0) 6021740 (549.0 / 99.0) 1380746	(8.93 , 1.04) (N/A , 0.00 , 0.1)	14814.0 4250.0	0.2293 100.0 100.0	4.8142 [4.7994]	100.3%			
PFDS	(599.0 / 80.0) 7029909 (599.0 / 99.0) 1591235	(9.15 , 1.06) (N/A , 0.00 , 0.0)	5650.2 4928.8	0.2264 100.0 100.0	4.8648 [4.8155]	101.0%			
PFDoS	(699.0 / 80.0) 5889342 (699.0 / 99.0) 1284050	(9.48 , 1.10) (N/A , 0.00 , 0.0)	3296.4 3117.0	0.2180 100.0 100.0	5.0985 [4.8478]	105.2%			
4:2FTS	(327.0 / 307.0) 3660829 (327.0 / 81.0) 2266912	(5.41 , 1.00) (0.00 , N/A , 0.0)	6003.4 3400.5	0.6192 100.0 100.0	18.5752 [18.6906]	99.4%			
6:2FTS	(427.0 / 407.0) 2380284 (427.0 / 81.0) 1644539	(6.92 , 1.00) (0.00 , N/A , 0.0)	2766.3 4141.8	0.6909 100.0 100.0	17.9343 [18.9808]	94.5%			
8:2FTS	(527.0 / 507.0) 2381201 (527.0 / 81.0) 1608176	(8.10 , 1.00) (0.00 , N/A , 0.0)	2282.2 2104.3	0.6754 100.0 100.0	18.5604 [19.1658]	96.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

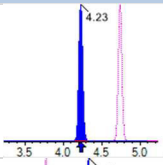
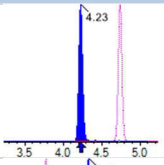
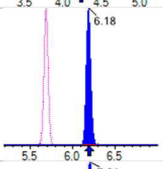
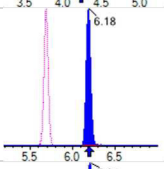
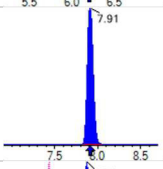
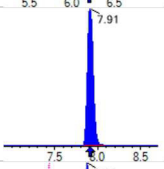
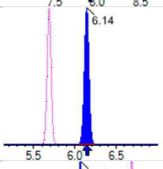
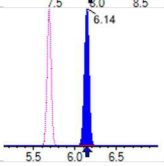
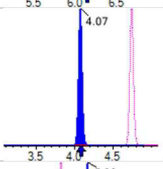
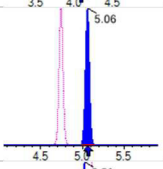
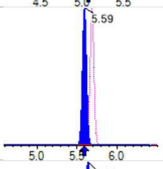
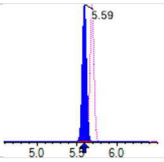
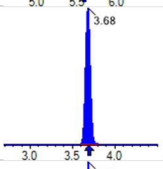
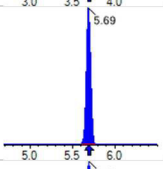
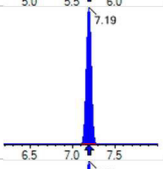
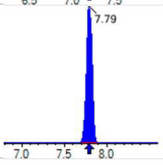
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 8764904 (498.0 / 478.0) 194763	(9.86 , 1.00) (0.00 , N/A , 0.1)	3924.6 1446.7	0.0222 100.0 100.0	5.0267 [5.0000]	100.5%			
NMeFOSA	(512.0 / 219.0) 8429901 (512.0 / 169.0) 7048831	(10.44 , 1.00) (0.00 , N/A , 1.2)	6121.6 6632.6	0.8362 100.0 100.0	18.8117 [20.0000]	94.1%			
NEtFOSA	(526.0 / 219.0) 9106900 (526.0 / 169.0) 11624129	(10.59 , 1.00) (0.00 , N/A , 0.9)	10421.3 10232.9	1.2764 100.0 100.0	18.4676 [20.0000]	92.3%			
NMeFOSAA	(570.0 / 419.0) 967880 (570.0 / 483.0) 454645	(8.47 , 1.00) (0.00 , N/A , 0.0)	2406.0 497.0	0.4697 100.0 100.0	4.6931 [5.0000]	93.9%			
NEtFOSAA	(584.0 / 419.0) 827259 (584.0 / 526.0) 528100	(8.68 , 1.00) (0.00 , N/A , 0.0)	2557.1 1843.5	0.6384 100.0 100.0	4.6023 [5.0000]	92.0%			
NMeFOSE	(616.0 / 59.0) 3065855	(10.38 , 1.00) (0.01 , N/A , 0.0)	2493.0	N/A 0.0 0.0	18.3688 [20.0000]	91.8%			
NEtFOSE	(630.0 / 59.0) 3713982	(10.55 , 1.00) (0.01 , N/A , 0.0)	1743.1	N/A 0.0 0.0	18.4930 [20.0000]	92.5%			
HFPO-DA	(285.0 / 169.0) 1950795 (285.0 / 185.0) 5250896	(6.00 , 1.00) (0.00 , N/A , -0.1)	6057.9 4047.8	2.6917 100.0 100.0	9.7242 [10.0000]	97.2%			
ADONA	(377.0 / 85.0) 7516722 (377.0 / 251.0) 726011	(6.79 , 1.13) (N/A , 0.00 , -0.1)	4655.2 1887.4	0.0966 100.0 100.0	9.5307 [9.4270]	101.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 18998957 (533.0 / 353.0) 6061965	(8.86 , 1.48) (N/A , 0.00 , 0.0)	4237.4 3111.4	0.3191 100.0 100.0	8.9368 [9.3325]	95.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 11517834 (633.0 / 453.0) 3835435	(9.29 , 1.55) (N/A , 0.00 , 0.0)	5594.5 3741.0	0.3330 100.0 100.0	9.0695 [9.4321]	96.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

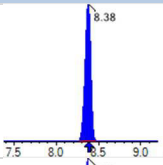
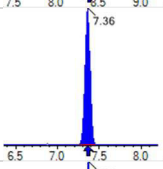
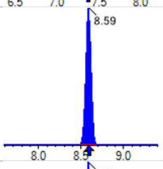
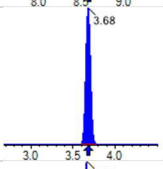
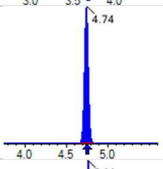
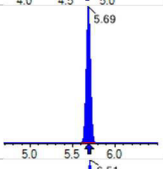
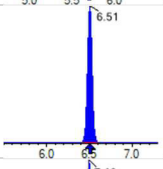
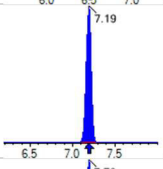
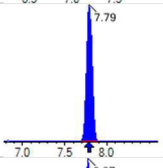
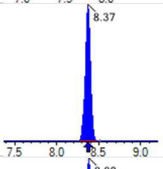
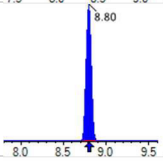
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 177222 (241.0 / 117.0) 361209	(4.23 , 0.89) (N/A , 0.00 , 0.0)	2445.5 1356.9	2.0382 100.0 100.0	17.7566 [20.0000]	88.8%			
5:3FTCA	(341.0 / 236.7) 1237103 (341.0 / 217.0) 2037578	(6.18 , 1.09) (N/A , 0.00 , 0.0)	3647.4 2401.9	1.6471 100.0 100.0	18.6569 [20.0000]	93.3%			
7:3FTCA	(441.0 / 317.0) 2102004 (441.0 / 337.0) 1801002	(7.91 , 1.39) (N/A , 0.00 , -0.1)	1816.4 1778.4	0.8568 100.0 100.0	18.8880 [20.0000]	94.4%			
PFEESA	(315.0 / 135.0) 4461630 (315.0 / 83.0) 1156024	(6.14 , 1.08) (N/A , 0.00 , -0.1)	3865.9 2283.8	0.2591 100.0 100.0	9.2094 [8.9246]	103.2%			
PFMPA	(229.0 / 85.0) 812908	(4.07 , 0.86) (N/A , 0.00 , 0.0)	4981.9	N/A 0.0 0.0	9.5254 [10.0000]	95.3%			
PFMBA	(279.0 / 85.0) 2687457	(5.06 , 1.07) (N/A , 0.00 , 0.0)	6165.9	N/A 0.0 0.0	9.8597 [10.0000]	98.6%			
NFDHA	(295.0 / 201.0) 2076210 (295.0 / 85.0) 2085359	(5.59 , 0.98) (N/A , 0.00 , 0.1)	4862.4 4695.6	1.0044 100.0 100.0	9.4277 [10.0000]	94.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 202451	(3.68 , N/A) (N/A , 0.00 , N/A)	1732.9	N/A	0.9451 [1.0000]	94.5% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 285310	(5.69 , N/A) (N/A , 0.00 , N/A)	423221.1	N/A	0.9084 [1.0000]	90.8% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 419320	(7.19 , N/A) (N/A , 0.00 , N/A)	567286.9	N/A	0.9080 [1.0000]	90.8% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 385992	(7.79 , N/A) (N/A , 0.00 , N/A)	5201.5	N/A	0.9249 [1.0000]	92.5% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

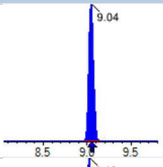
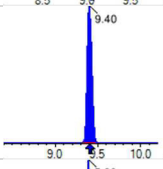
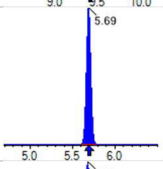
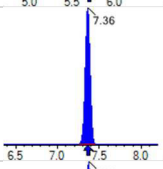
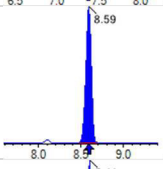
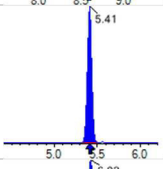
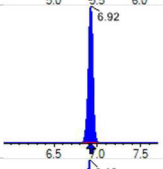
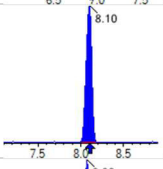
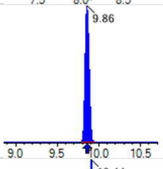
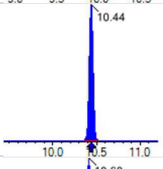
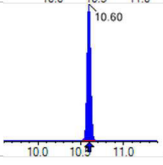
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 384541	(8.38 , N/A) (N/A , 0.00 , N/A)	4558685.7	N/A	0.9575 [1.0000]	95.7% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 598431	(7.36 , N/A) (N/A , 0.00 , N/A)	4079.2	N/A	0.8814 [1.0000]	88.1% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 831690	(8.59 , N/A) (N/A , 0.00 , N/A)	1562.3	N/A	0.9693 [1.0000]	96.9% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2116502	(3.68 , N/A) (N/A , 0.00 , N/A)	5745.2	N/A	8.7847 [8.0000]	109.8% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1507625	(4.74 , N/A) (N/A , 0.00 , N/A)	3806.4	N/A	4.5742 [4.0000]	114.4% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 873873	(5.69 , N/A) (N/A , 0.00 , N/A)	4000.5	N/A	2.1975 [2.0000]	109.9% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 845360	(6.51 , N/A) (N/A , 0.00 , N/A)	2681.8	N/A	2.2316 [2.0000]	111.6% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1011129	(7.19 , N/A) (N/A , 0.00 , N/A)	3836.8	N/A	2.2196 [2.0000]	111.0% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 463835	(7.79 , N/A) (N/A , 0.00 , N/A)	468207.4	N/A	1.1309 [1.0000]	113.1% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 503015	(8.37 , N/A) (N/A , 0.00 , N/A)	333.3	N/A	1.0869 [1.0000]	108.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 525279	(8.80 , N/A) (N/A , 0.00 , N/A)	1875.5	N/A	1.0180 [1.0000]	101.8% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

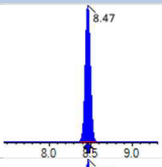
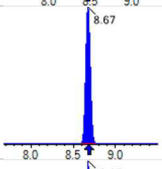
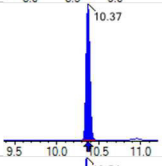
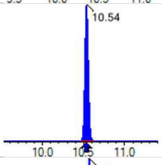
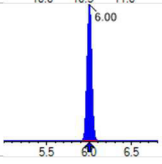
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 457695	(9.04 , N/A) (N/A , 0.00 , N/A)	2608.7	N/A	1.0147 [1.0000]	101.5% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 498225	(9.40 , N/A) (N/A , 0.00 , N/A)	6470.5	N/A	1.0473 [1.0000]	104.7% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2269851	(5.69 , N/A) (N/A , 0.00 , N/A)	3665.4	N/A	2.3942 [2.0000]	119.7% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1419902	(7.36 , N/A) (N/A , 0.00 , N/A)	3443.3	N/A	2.3062 [2.0000]	115.3% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2338329	(8.59 , N/A) (N/A , 0.00 , N/A)	1608.7	N/A	2.0970 [2.0000]	104.8% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 270276	(5.41 , N/A) (N/A , 0.00 , N/A)	1239.4	N/A	4.4943 [4.0000]	112.4% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 369581	(6.92 , N/A) (N/A , 0.00 , N/A)	1785.9	N/A	4.6809 [4.0000]	117.0% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 383366	(8.10 , N/A) (N/A , 0.00 , N/A)	1245.4	N/A	4.4819 [4.0000]	112.0% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4201922	(9.86 , N/A) (N/A , 0.00 , N/A)	4072.4	N/A	2.2030 [2.0000]	110.2% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1089973	(10.44 , N/A) (N/A , 0.00 , N/A)	2751.6	N/A	2.2336 [2.0000]	111.7% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1036040	(10.60 , N/A) (N/A , 0.00 , N/A)	4635.3	N/A	2.3324 [2.0000]	116.6% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (5)
Acquired: 2023/03/07 - 16:17

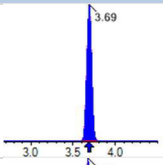
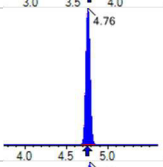
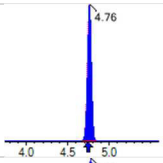
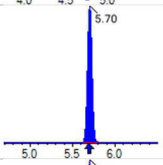
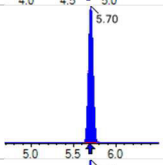
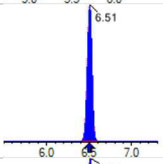
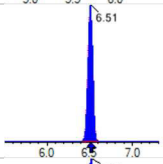
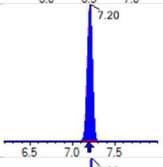
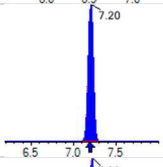
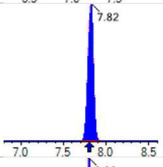
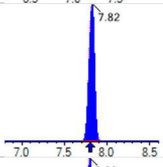
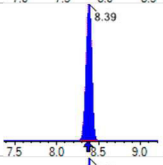
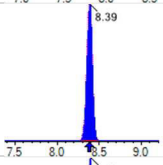
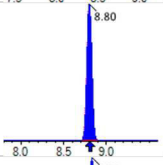
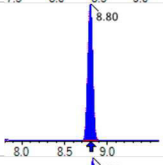
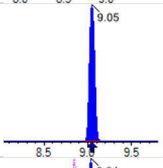
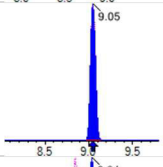
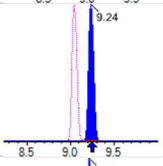
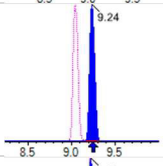
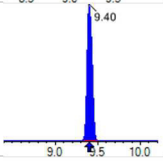
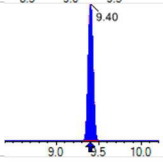
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 800976	(8.47 , N/A) (N/A , 0.00 , N/A)	1718.7	N/A	4.2006 [4.0000]	105.0% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 858151	(8.67 , N/A) (N/A , 0.00 , N/A)	18086.3	N/A	4.0157 [4.0000]	100.4% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3370502	(10.37 , N/A) (N/A , 0.00 , N/A)	1674.2	N/A	22.1955 [20.0000]	111.0% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4155590	(10.54 , N/A) (N/A , 0.00 , N/A)	1840.0	N/A	23.1855 [20.0000]	115.9% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2018818	(6.00 , N/A) (N/A , 0.00 , N/A)	3856.1	N/A	9.1927 [8.0000]	114.9% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

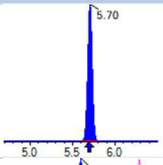
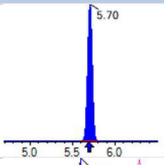
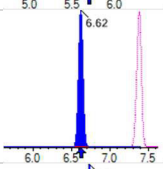
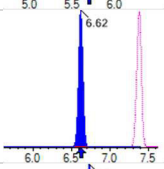
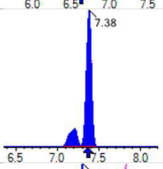
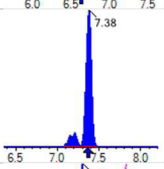
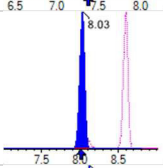
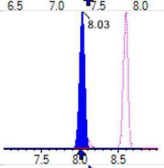
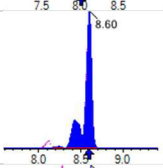
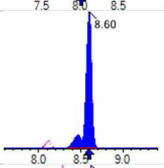
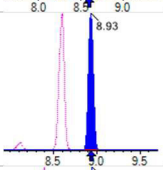
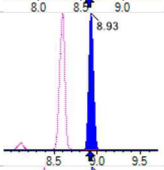
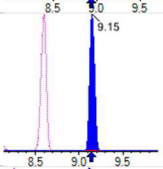
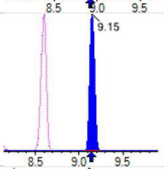
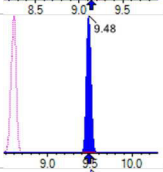
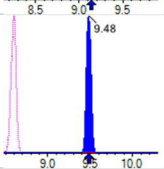
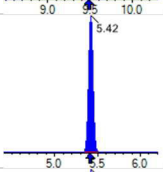
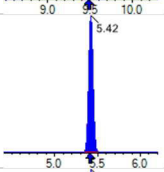
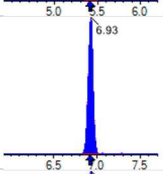
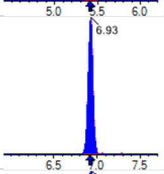
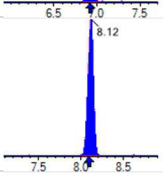
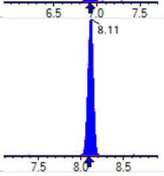
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 7996170	(3.69 , 1.00) (0.00 , N/A , 0.0)	332.4	N/A 0.0 0.0	45.4712 [40.0000]	113.7%			
PFPeA	(263.0 / 219.0) 6303654 (263.0 / 69.0) 68860	(4.76 , 1.00) (0.00 , N/A , -0.1)	11103.8 1621.0	0.0109 96.5 96.5	22.2289 [20.0000]	111.1%			
PFHxA	(313.0 / 269.0) 3695051 (313.0 / 119.0) 381396	(5.70 , 1.00) (0.00 , N/A , 0.0)	10462.7 7988.4	0.1032 98.0 98.0	11.2694 [10.0000]	112.7%			
PFHpA	(363.0 / 319.0) 3306989 (363.0 / 169.0) 1033501	(6.51 , 1.00) (0.00 , N/A , -0.1)	12732.1 13003.2	0.3125 95.9 95.9	10.7066 [10.0000]	107.1%			
PFOA	(413.0 / 369.0) 4269177 (413.0 / 169.0) 1448972	(7.20 , 1.00) (0.00 , N/A , 0.1)	6779.1 130886.0	0.3394 97.4 97.4	11.1591 [10.0000]	111.6%			
PFNA	(463.0 / 419.0) 3593727 (463.0 / 169.0) 785371	(7.82 , 1.00) (0.00 , N/A , -0.1)	34423.4 52396.6	0.2185 93.4 93.4	11.2601 [10.0000]	112.6%			
PFDA	(513.0 / 469.0) 4357130 (513.0 / 169.0) 455442	(8.39 , 1.00) (0.00 , N/A , 0.0)	3068.9 2516.3	0.1045 98.3 98.3	10.9022 [10.0000]	109.0%			
PFUnA	(563.0 / 519.0) 4076367 (563.0 / 169.0) 505324	(8.80 , 1.00) (0.00 , N/A , 0.0)	4201.4 2351.0	0.1240 103.4 103.4	11.3163 [10.0000]	113.2%			
PFDoA	(613.0 / 569.0) 3675190 (613.0 / 169.0) 575616	(9.05 , 1.00) (0.00 , N/A , 0.0)	3706.7 2084.2	0.1566 96.2 96.2	11.8616 [10.0000]	118.6%			
PFTrDA	(663.0 / 619.0) 3510237 (663.0 / 169.0) 804980	(9.24 , 1.02) (N/A , 0.00 , 0.0)	3627.1 11540.5	0.2293 94.0 94.0	11.8136 [10.0000]	118.1%			
PFTeDA	(713.0 / 669.0) 3960952 (713.0 / 169.0) 717233	(9.40 , 1.00) (0.00 , N/A , -0.1)	3406.2 1843.9	0.1811 94.7 94.7	10.1833 [10.0000]	101.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

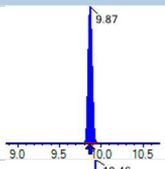
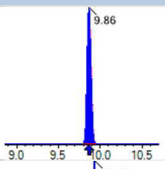
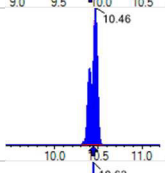
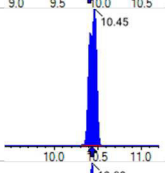
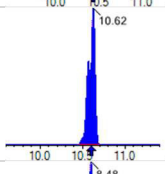
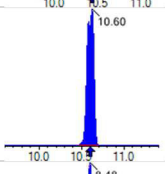
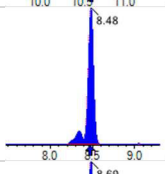
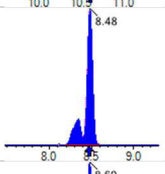
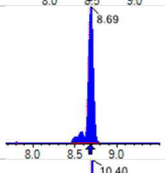
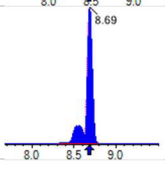
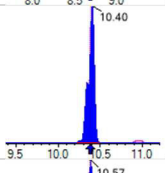
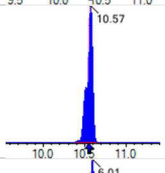
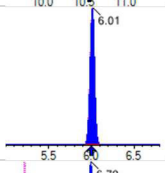
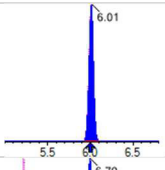
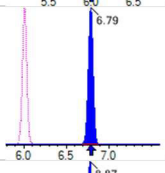
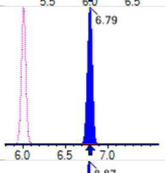
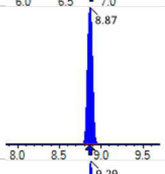
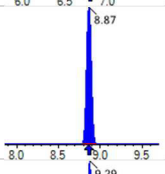
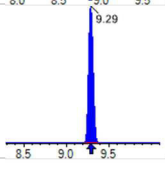
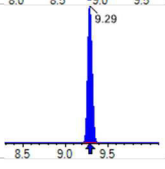
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 6193634 (299.0 / 99.0) 3827218	(5.70 , 1.00) (0.00 , N/A , 0.0)	5759.3 4313.6	0.6179 105.3 105.3	10.1048 [8.8473]	114.2%			
PFPeS	(349.0 / 80.0) 10805698 (349.0 / 99.0) 3726447	(6.62 , 0.90) (N/A , 0.00 , 0.0)	439832.7 6763.0	0.3449 100.9 100.9	10.6880 [9.3838]	113.9%			
PFHxS	(399.0 / 80.0) 9481485 (399.0 / 99.0) 3197112	(7.38 , 1.00) (0.00 , N/A , 0.1)	53584.8 1424234.9	0.3372 98.4 98.4	10.3091 [9.1098]	113.2%			
PFHpS	(449.0 / 80.0) 9776182 (449.0 / 99.0) 2703954	(8.03 , 0.93) (N/A , 0.02 , 0.1)	48634.1 7160.6	0.2766 97.3 97.3	10.6328 [9.5141]	111.8%			
PFOS	(499.0 / 80.0) 11331591 (499.0 / 99.0) 2492053	(8.60 , 1.00) (0.00 , N/A , 0.1)	3266.5 1560.0	0.2199 101.6 101.6	9.9160 [9.2749]	106.9%			
PFNS	(549.0 / 80.0) 12109353 (549.0 / 99.0) 3052635	(8.93 , 1.04) (N/A , 0.01 , 0.1)	24466.1 2253637.3	0.2521 109.9 109.9	11.1740 [9.5989]	116.4%			
PFDS	(599.0 / 80.0) 14052434 (599.0 / 99.0) 3241900	(9.15 , 1.06) (N/A , 0.00 , 0.0)	6376.4 5185.8	0.2307 101.9 101.9	11.2242 [9.6311]	116.5%			
PFDoS	(699.0 / 80.0) 11082155 (699.0 / 99.0) 2497400	(9.48 , 1.10) (N/A , 0.00 , 0.0)	4512.1 3952.2	0.2254 103.4 103.4	11.0737 [9.6956]	114.2%			
4:2FTS	(327.0 / 307.0) 7213879 (327.0 / 81.0) 4343526	(5.42 , 1.00) (0.00 , N/A , 0.0)	6294.0 4390.6	0.6021 97.2 97.2	40.0055 [37.3811]	107.0%			
6:2FTS	(427.0 / 407.0) 4591018 (427.0 / 81.0) 3367582	(6.93 , 1.00) (0.00 , N/A , 0.1)	3835.9 3204.5	0.7335 106.2 106.2	42.7228 [37.9617]	112.5%			
8:2FTS	(527.0 / 507.0) 4747971 (527.0 / 81.0) 3315402	(8.12 , 1.00) (0.00 , N/A , 0.1)	3148.0 3653.6	0.6983 103.4 103.4	41.4503 [38.3315]	108.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

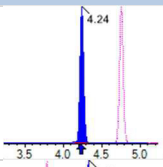
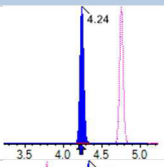
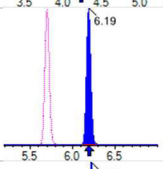
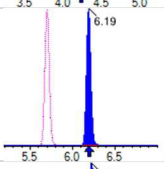
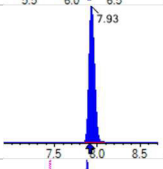
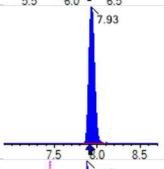
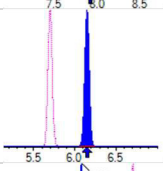
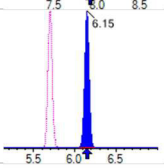
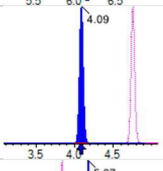
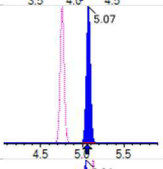
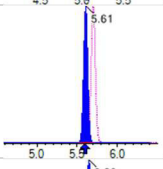
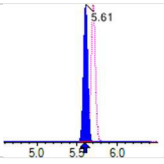
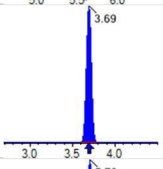
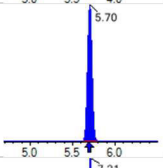
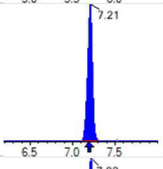
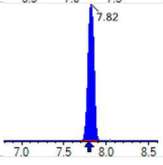
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 16373502 (498.0 / 478.0) 378339	(9.87 , 1.00) (0.00 , N/A , 0.1)	4763.2 1885.7	0.0231 104.0 104.0	11.4882 [10.0000]	114.9%			
NMeFOSA	(512.0 / 219.0) 16497720 (512.0 / 169.0) 13927760	(10.46 , 1.00) (0.00 , N/A , 1.0)	5949.0 8503.3	0.8442 101.0 101.0	45.1248 [40.0000]	112.8%			
NEtFOSA	(526.0 / 219.0) 17698464 (526.0 / 169.0) 21879187	(10.62 , 1.00) (0.00 , N/A , 0.8)	14299.6 17950.9	1.2362 96.9 96.9	44.9492 [40.0000]	112.4%			
NMeFOSAA	(570.0 / 419.0) 1941686 (570.0 / 483.0) 959131	(8.48 , 1.00) (0.00 , N/A , 0.0)	2780.8 713.7	0.4940 105.2 105.2	10.6067 [10.0000]	106.1%			
NEtFOSAA	(584.0 / 419.0) 1760073 (584.0 / 526.0) 983886	(8.69 , 1.00) (0.01 , N/A , 0.1)	2822.6 54782.8	0.5590 87.6 87.6	11.5613 [10.0000]	115.6%			
NMeFOSE	(616.0 / 59.0) 6190679	(10.40 , 1.00) (0.01 , N/A , 0.0)	3385.0	N/A 0.0 0.0	44.9694 [40.0000]	112.4%			
NEtFOSE	(630.0 / 59.0) 7180038	(10.57 , 1.00) (0.01 , N/A , 0.0)	1630.5	N/A 0.0 0.0	46.0220 [40.0000]	115.1%			
HFPO-DA	(285.0 / 169.0) 3666413 (285.0 / 185.0) 10607744	(6.01 , 1.00) (0.00 , N/A , 0.0)	4490.0 6113.0	2.8932 107.5 107.5	21.0240 [20.0000]	105.1%			
ADONA	(377.0 / 85.0) 14256379 (377.0 / 251.0) 1456394	(6.79 , 1.13) (N/A , 0.00 , -0.2)	4595.9 2831.4	0.1022 105.8 105.8	20.7941 [18.8540]	110.3%			
9Cl-Pf3ONS	(531.0 / 351.0) 34792374 (533.0 / 353.0) 11380772	(8.87 , 1.48) (N/A , 0.00 , 0.1)	4232.4 3709.9	0.3271 102.5 102.5	18.8266 [18.6651]	100.9%			
11Cl-PF3OUDS	(631.0 / 451.0) 21366234 (633.0 / 453.0) 7518134	(9.29 , 1.55) (N/A , 0.00 , 0.0)	5480.3 5588.8	0.3519 105.7 105.7	20.3622 [18.8642]	107.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

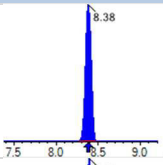
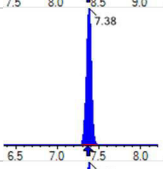
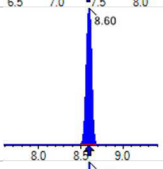
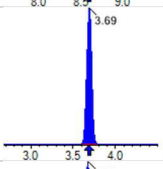
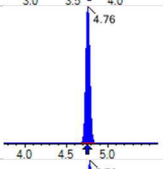
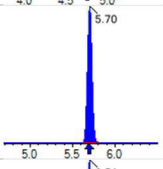
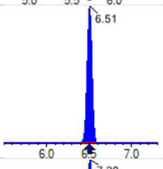
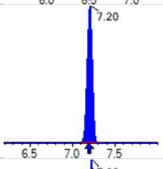
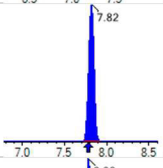
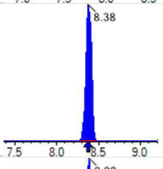
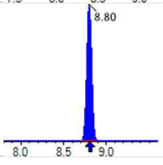
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 356777 (241.0 / 117.0) 714316	(4.24 , 0.89) (N/A , 0.01 , 0.0)	2050.1 1801.3	2.0021 98.2 98.2	41.7912 [40.0000]	104.5%			
5:3FTCA	(341.0 / 236.7) 2509841 (341.0 / 217.0) 4213578	(6.19 , 1.09) (N/A , 0.01 , 0.0)	2909.5 3237.4	1.6788 101.9 101.9	44.8405 [40.0000]	112.1%			
7:3FTCA	(441.0 / 317.0) 4486774 (441.0 / 337.0) 3739024	(7.93 , 1.39) (N/A , 0.02 , 0.0)	2178.6 2236.3	0.8333 97.3 97.3	47.7614 [40.0000]	119.4%			
PFEESA	(315.0 / 135.0) 8587443 (315.0 / 83.0) 2334196	(6.15 , 1.08) (N/A , 0.01 , 0.0)	3933.6 4882.5	0.2718 104.9 104.9	20.9988 [17.8492]	117.6%			
PFMPA	(229.0 / 85.0) 1557216	(4.09 , 0.86) (N/A , 0.01 , 0.0)	5840.2	N/A 0.0 0.0	21.3323 [20.0000]	106.7%			
PFMBA	(279.0 / 85.0) 5022999	(5.07 , 1.07) (N/A , 0.02 , 0.0)	4873.8	N/A 0.0 0.0	21.5442 [20.0000]	107.7%			
NFDHA	(295.0 / 201.0) 4323240 (295.0 / 85.0) 4324686	(5.61 , 0.98) (N/A , 0.01 , 0.1)	6065.2 4345.5	1.0003 99.6 99.6	23.2560 [20.0000]	116.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 193545	(3.69 , N/A) (N/A , 0.01 , N/A)	1721.4	N/A	0.9036 [1.0000]	90.4% { 95.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 308295	(5.70 , N/A) (N/A , 0.01 , N/A)	1400.5	N/A	0.9816 [1.0000]	98.2% { 108.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 445034	(7.21 , N/A) (N/A , 0.01 , N/A)	1881.8	N/A	0.9637 [1.0000]	96.4% { 106.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 405209	(7.82 , N/A) (N/A , 0.02 , N/A)	2019243.5	N/A	0.9710 [1.0000]	97.1% { 105.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

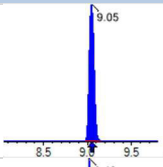
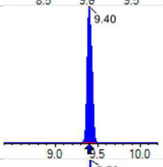
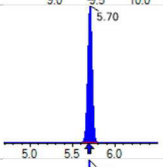
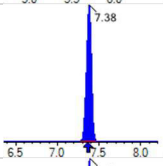
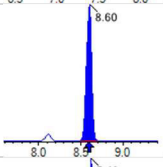
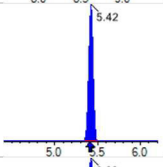
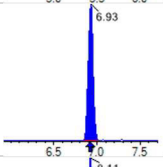
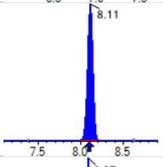
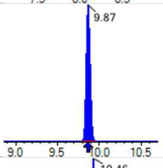
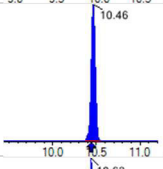
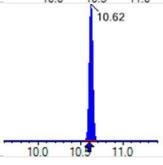
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 385118	(8.38 , N/A) (N/A , 0.01 , N/A)	36473.8	N/A	0.9589 [1.0000]	95.9% { 100.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 635241	(7.38 , N/A) (N/A , 0.02 , N/A)	2302.3	N/A	0.9357 [1.0000]	93.6% { 106.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 852701	(8.60 , N/A) (N/A , 0.01 , N/A)	2500.5	N/A	0.9938 [1.0000]	99.4% { 102.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1703574	(3.69 , N/A) (N/A , 0.01 , N/A)	5949.8	N/A	7.3962 [8.0000]	92.5% { 80.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1289578	(4.76 , N/A) (N/A , 0.02 , N/A)	4159.4	N/A	3.6210 [4.0000]	90.5% { 85.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 737662	(5.70 , N/A) (N/A , 0.01 , N/A)	2296.6	N/A	1.7166 [2.0000]	85.8% { 84.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 732149	(6.51 , N/A) (N/A , 0.00 , N/A)	2603.5	N/A	1.7886 [2.0000]	89.4% { 86.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 842985	(7.20 , N/A) (N/A , 0.01 , N/A)	1725.2	N/A	1.7435 [2.0000]	87.2% { 83.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 368815	(7.82 , N/A) (N/A , 0.03 , N/A)	32715.7	N/A	0.8566 [1.0000]	85.7% { 79.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 423663	(8.38 , N/A) (N/A , 0.01 , N/A)	5125.2	N/A	0.9140 [1.0000]	91.4% { 84.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 451010	(8.80 , N/A) (N/A , 0.00 , N/A)	2135.9	N/A	0.8727 [1.0000]	87.3% { 85.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

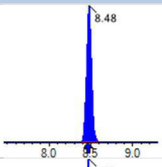
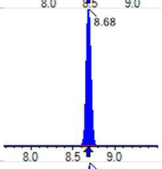
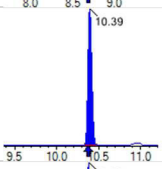
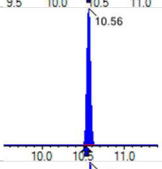
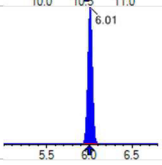
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 368310	(9.05 , N/A) (N/A , 0.00 , N/A)	342.7	N/A	0.8153 [1.0000]	81.5% { 80.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 455581	(9.40 , N/A) (N/A , 0.00 , N/A)	1670.7	N/A	0.9562 [1.0000]	95.6% { 91.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1899060	(5.70 , N/A) (N/A , 0.01 , N/A)	3735.7	N/A	1.8870 [2.0000]	94.4% { 83.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1226116	(7.38 , N/A) (N/A , 0.02 , N/A)	1320.0	N/A	1.8760 [2.0000]	93.8% { 86.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2025888	(8.60 , N/A) (N/A , 0.01 , N/A)	1845.0	N/A	1.7720 [2.0000]	88.6% { 86.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 247292	(5.42 , N/A) (N/A , 0.01 , N/A)	2016.4	N/A	3.8739 [4.0000]	96.8% { 91.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 299237	(6.93 , N/A) (N/A , 0.00 , N/A)	2193.5	N/A	3.5703 [4.0000]	89.3% { 81.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 342283	(8.11 , N/A) (N/A , 0.02 , N/A)	1736.1	N/A	3.7697 [4.0000]	94.2% { 89.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3434548	(9.87 , N/A) (N/A , 0.01 , N/A)	3577.1	N/A	1.7563 [2.0000]	87.8% { 81.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 889264	(10.46 , N/A) (N/A , 0.03 , N/A)	2690.9	N/A	1.7774 [2.0000]	88.9% { 81.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 827237	(10.62 , N/A) (N/A , 0.03 , N/A)	3918.5	N/A	1.8165 [2.0000]	90.8% { 79.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (6)
Acquired: 2023/03/07 - 16:30

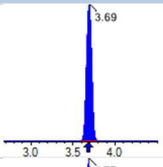
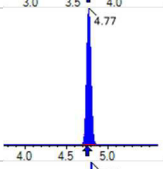
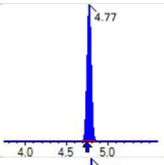
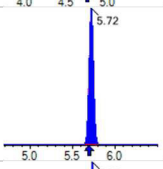
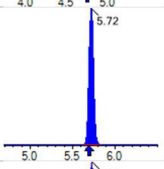
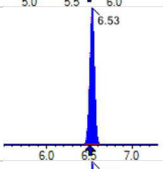
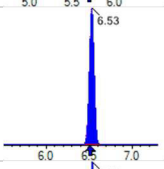
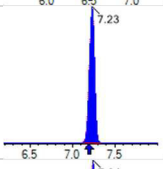
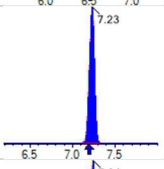
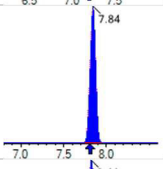
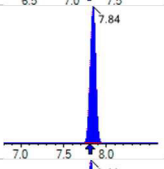
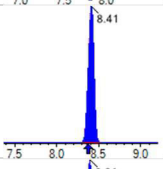
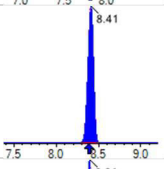
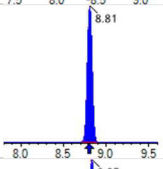
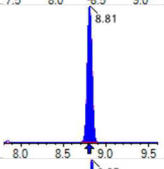
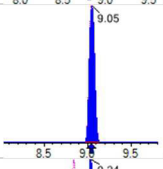
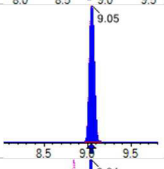
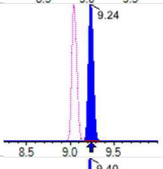
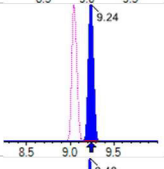
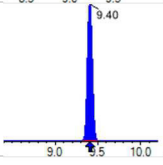
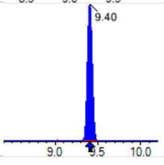
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 710980	(8.48 , N/A) (N/A , 0.01 , N/A)	2012.3	N/A	3.6367 [4.0000]	90.9% { 88.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 726802	(8.68 , N/A) (N/A , 0.01 , N/A)	65178.8	N/A	3.3172 [4.0000]	82.9% { 84.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2779993	(10.39 , N/A) (N/A , 0.02 , N/A)	1471.2	N/A	17.8558 [20.0000]	89.3% { 82.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3228200	(10.56 , N/A) (N/A , 0.03 , N/A)	1895.0	N/A	17.5674 [20.0000]	87.8% { 77.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1754943	(6.01 , N/A) (N/A , 0.01 , N/A)	4435.4	N/A	7.3954 [8.0000]	92.4% { 86.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

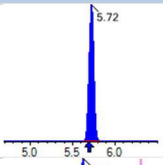
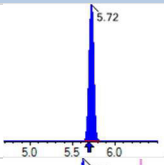
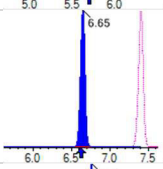
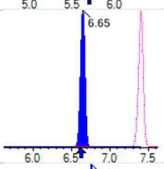
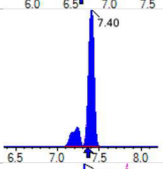
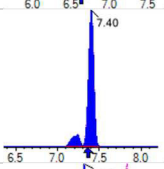
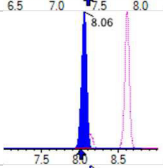
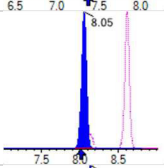
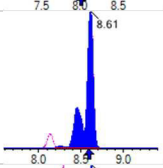
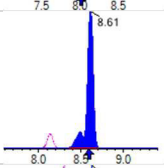
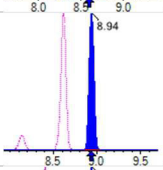
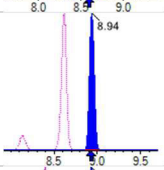
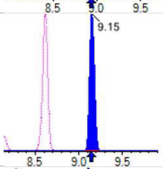
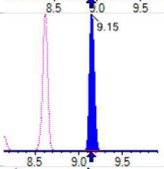
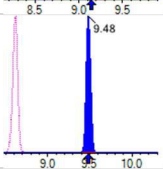
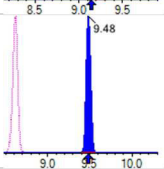
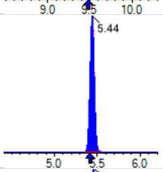
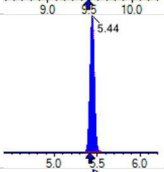
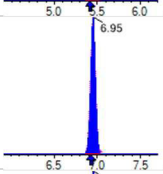
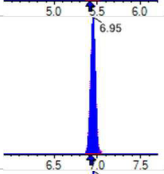
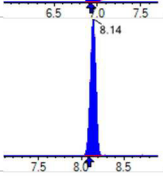
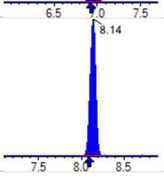
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 14758618	(3.69 , 1.00) (0.00 , N/A , 0.0)	269.9	N/A 0.0 0.0	79.8137 [80.0000]	99.8%			
PFPeA	(263.0 / 219.0) 11859000 (263.0 / 69.0) 137423	(4.77 , 1.00) (0.00 , N/A , 0.0)	8846.2 1726.8	0.0116 102.3 102.3	39.5115 [40.0000]	98.8%			
PFHxA	(313.0 / 269.0) 7395509 (313.0 / 119.0) 726599	(5.72 , 1.00) (0.00 , N/A , 0.1)	8825.8 1371221.3	0.0982 93.3 93.3	19.9785 [20.0000]	99.9%			
PFHpA	(363.0 / 319.0) 6905536 (363.0 / 169.0) 2076469	(6.53 , 1.00) (0.00 , N/A , 0.1)	14057.8 35487569.2	0.3007 92.2 92.2	19.5568 [20.0000]	97.8%			
PFOA	(413.0 / 369.0) 8724085 (413.0 / 169.0) 2898336	(7.23 , 1.00) (0.00 , N/A , 0.0)	16706.9 25376.3	0.3322 95.3 95.3	19.0288 [20.0000]	95.1%			
PFNA	(463.0 / 419.0) 7415635 (463.0 / 169.0) 1716442	(7.84 , 1.00) (0.00 , N/A , -0.1)	10760.6 29340937.6	0.2315 98.9 98.9	19.7834 [20.0000]	98.9%			
PFDA	(513.0 / 469.0) 8867829 (513.0 / 169.0) 981533	(8.41 , 1.00) (0.00 , N/A , 0.1)	4066.1 2058.0	0.1107 104.1 104.1	19.0507 [20.0000]	95.3%			
PFUnA	(563.0 / 519.0) 8406788 (563.0 / 169.0) 939605	(8.81 , 1.00) (0.00 , N/A , 0.1)	4798.2 1717.0	0.1118 93.2 93.2	20.3492 [20.0000]	101.7%			
PFDoA	(613.0 / 569.0) 7250729 (613.0 / 169.0) 1128288	(9.05 , 1.00) (0.00 , N/A , 0.0)	4120.5 2607.5	0.1556 95.6 95.6	17.7930 [20.0000]	89.0%			
PFTrDA	(663.0 / 619.0) 7019990 (663.0 / 169.0) 1586633	(9.24 , 1.02) (N/A , 0.00 , 0.0)	3582.1 2201.2	0.2260 92.6 92.6	17.9633 [20.0000]	89.8%			
PFTeDA	(713.0 / 669.0) 7917785 (713.0 / 169.0) 1646513	(9.40 , 1.00) (0.00 , N/A , 0.0)	4257.9 1930.0	0.2080 108.8 108.8	18.0439 [20.0000]	90.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

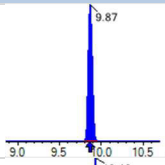
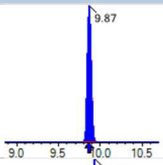
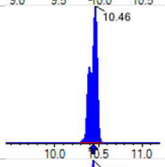
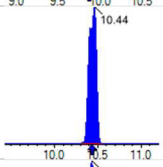
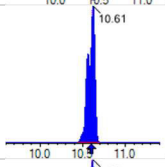
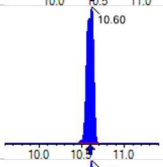
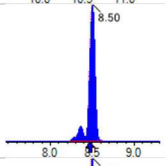
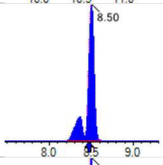
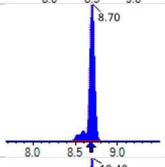
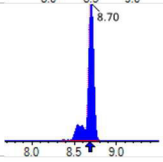
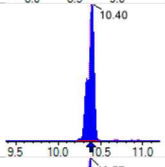
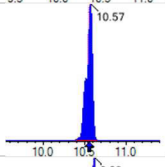
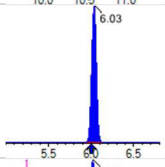
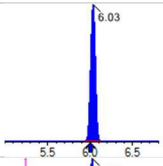
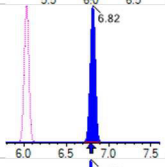
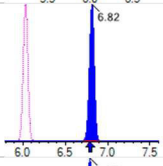
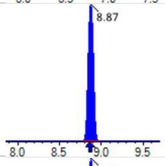
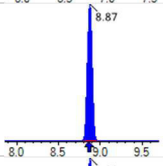
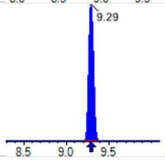
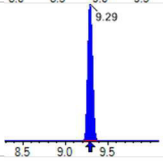
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 11425757 (299.0 / 99.0) 7157682	(5.72 , 1.00) (0.00 , N/A , 0.0)	6254.2 4750.7	0.6265 106.8 106.8	17.7933 [17.6947]	100.6%			
PFPeS	(349.0 / 80.0) 20940326 (349.0 / 99.0) 7731304	(6.65 , 0.90) (N/A , 0.03 , 0.0)	51117.4 2660771.5	0.3692 108.1 108.1	18.4501 [18.7676]	98.3%			
PFHxS	(399.0 / 80.0) 18911315 (399.0 / 99.0) 6485696	(7.40 , 1.00) (0.00 , N/A , 0.1)	9273.8 3233.4	0.3430 100.0 100.0	18.3163 [18.2197]	100.5%			
PFHpS	(449.0 / 80.0) 18481655 (449.0 / 99.0) 5072871	(8.06 , 0.94) (N/A , 0.04 , 0.1)	29383.8 5479.5	0.2745 96.6 96.6	19.9604 [19.0281]	104.9%			
PFOS	(499.0 / 80.0) 20827778 (499.0 / 99.0) 4670568	(8.61 , 1.00) (-0.01 , N/A , 0.0)	3252.1 1953.7	0.2242 103.6 103.6	18.0982 [18.5499]	97.6%			
PFNS	(549.0 / 80.0) 22952215 (549.0 / 99.0) 5879673	(8.94 , 1.04) (N/A , 0.01 , 0.0)	17464.8 407375.5	0.2562 111.7 111.7	21.0311 [19.1977]	109.5%			
PFDS	(599.0 / 80.0) 26197395 (599.0 / 99.0) 6343599	(9.15 , 1.06) (N/A , 0.00 , 0.1)	6182.2 4791.7	0.2421 107.0 107.0	20.7783 [19.2621]	107.9%			
PFDoS	(699.0 / 80.0) 21838547 (699.0 / 99.0) 4941206	(9.48 , 1.10) (N/A , 0.00 , 0.0)	4648.6 2864.0	0.2263 103.8 103.8	21.6690 [19.3913]	111.7%			
4:2FTS	(327.0 / 307.0) 14072671 (327.0 / 81.0) 9123622	(5.44 , 1.00) (0.00 , N/A , 0.0)	6082.6 4925.0	0.6483 104.7 104.7	70.0195 [74.7622]	93.7%			
6:2FTS	(427.0 / 407.0) 9472165 (427.0 / 81.0) 6767863	(6.95 , 1.00) (0.00 , N/A , 0.0)	5556.8 6546.5	0.7145 103.4 103.4	74.5613 [75.9234]	98.2%			
8:2FTS	(527.0 / 507.0) 10263203 (527.0 / 81.0) 6971663	(8.14 , 1.00) (0.00 , N/A , 0.1)	2647.5 3186.9	0.6793 100.6 100.6	71.7898 [76.6631]	93.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

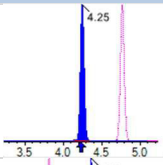
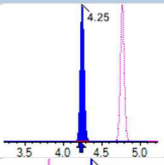
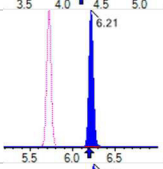
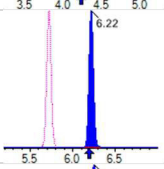
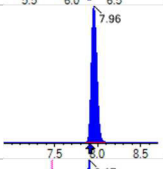
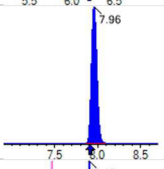
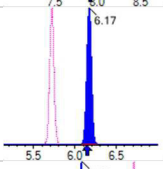
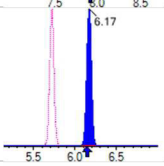
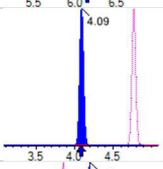
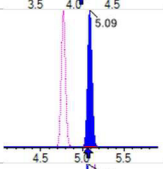
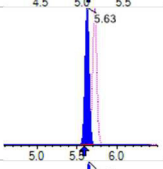
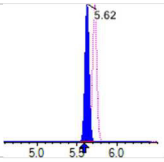
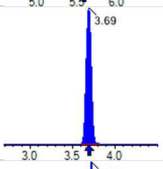
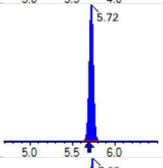
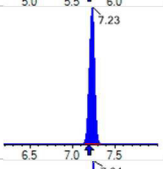
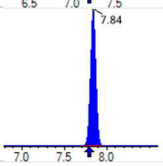
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 29182008 (498.0 / 478.0) 724687	(9.87 , 1.00) (0.00 , N/A , 0.0)	5672.2 1896.0	0.0248 111.8 111.8	18.8584 [20.0000]	94.3%			
NMeFOSA	(512.0 / 219.0) 30792142 (512.0 / 169.0) 26188878	(10.46 , 1.00) (0.00 , N/A , 1.0)	5977.1 6789.0	0.8505 101.7 101.7	73.0814 [80.0000]	91.4%			
NEtFOSA	(526.0 / 219.0) 32684026 (526.0 / 169.0) 39009290	(10.61 , 1.00) (-0.01 , N/A , 0.5)	16641.2 20983.2	1.1935 93.5 93.5	77.4369 [80.0000]	96.8%			
NMeFOSAA	(570.0 / 419.0) 4089582 (570.0 / 483.0) 1843106	(8.50 , 1.00) (0.00 , N/A , -0.1)	3763.2 874.0	0.4507 95.9 95.9	21.4540 [20.0000]	107.3%			
NEtFOSAA	(584.0 / 419.0) 3775897 (584.0 / 526.0) 2100626	(8.70 , 1.00) (0.01 , N/A , -0.1)	3451.8 3551.9	0.5563 87.1 87.1	19.7456 [20.0000]	98.7%			
NMeFOSE	(616.0 / 59.0) 12166463	(10.40 , 1.00) (0.01 , N/A , 0.0)	4159.8	N/A 0.0 0.0	81.9788 [80.0000]	102.5%			
NEtFOSE	(630.0 / 59.0) 13842886	(10.57 , 1.00) (0.01 , N/A , 0.0)	1836.9	N/A 0.0 0.0	79.6583 [80.0000]	99.6%			
HFPO-DA	(285.0 / 169.0) 7416448 (285.0 / 185.0) 19914498	(6.03 , 1.00) (0.00 , N/A , 0.0)	5298.9 5719.4	2.6852 99.8 99.8	39.5174 [40.0000]	98.8%			
ADONA	(377.0 / 85.0) 25207854 (377.0 / 251.0) 2886224	(6.82 , 1.13) (N/A , 0.03 , 0.0)	5928.2 3518.3	0.1145 118.5 118.5	34.1652 [37.7080]	90.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 59394827 (533.0 / 353.0) 22046370	(8.87 , 1.47) (N/A , 0.01 , 0.0)	3116.1 4443.8	0.3712 116.3 116.3	29.8644 [37.3302]	80.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 38576641 (633.0 / 453.0) 14298622	(9.29 , 1.54) (N/A , 0.00 , 0.0)	5660.6 5576.8	0.3707 111.3 111.3	37.1607 [37.7283]	98.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

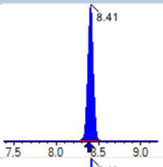
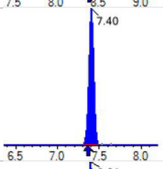
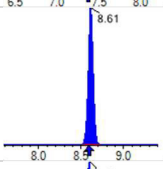
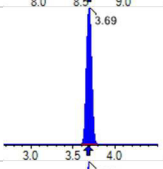
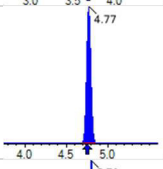
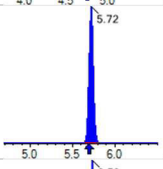
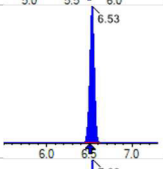
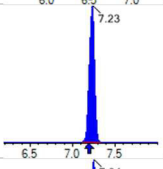
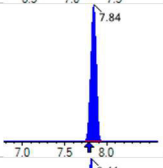
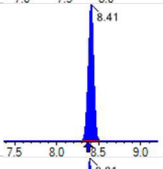
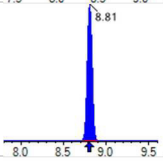
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 753219 (241.0 / 117.0) 1448014	(4.25 , 0.89) (N/A , 0.02 , 0.0)	2440.6 2188.1	1.9224 94.3 94.3	83.3602 [80.0000]	104.2%			
5:3FTCA	(341.0 / 236.7) 5286037 (341.0 / 217.0) 8346667	(6.21 , 1.09) (N/A , 0.03 , -0.1)	2762.8 2692.3	1.5790 95.9 95.9	83.6502 [80.0000]	104.6%			
7:3FTCA	(441.0 / 317.0) 9247687 (441.0 / 337.0) 7377021	(7.96 , 1.39) (N/A , 0.05 , -0.1)	2121.2 2126.7	0.7977 93.1 93.1	87.1944 [80.0000]	109.0%			
PFEESA	(315.0 / 135.0) 16030825 (315.0 / 83.0) 4525293	(6.17 , 1.08) (N/A , 0.03 , 0.0)	3574.1 4784.3	0.2823 108.9 108.9	34.7215 [35.6984]	97.3%			
PFMPA	(229.0 / 85.0) 3047447	(4.09 , 0.86) (N/A , 0.02 , 0.0)	5845.2	N/A 0.0 0.0	39.4434 [40.0000]	98.6%			
PFMBA	(279.0 / 85.0) 9593910	(5.09 , 1.07) (N/A , 0.03 , 0.0)	5244.2	N/A 0.0 0.0	38.8788 [40.0000]	97.2%			
NFDHA	(295.0 / 201.0) 8424025 (295.0 / 85.0) 8362443	(5.63 , 0.98) (N/A , 0.03 , 0.0)	5626.3 5548.2	0.9927 98.8 98.8	40.1382 [40.0000]	100.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 184738	(3.69 , N/A) (N/A , 0.01 , N/A)	1844.2	N/A	0.8624 [1.0000]	86.2% { 91.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 316203	(5.72 , N/A) (N/A , 0.03 , N/A)	8998.6	N/A	1.0068 [1.0000]	100.7% { 110.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 446896	(7.23 , N/A) (N/A , 0.04 , N/A)	4311.5	N/A	0.9677 [1.0000]	96.8% { 106.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 374008	(7.84 , N/A) (N/A , 0.05 , N/A)	2760.9	N/A	0.8962 [1.0000]	89.6% { 96.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

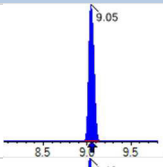
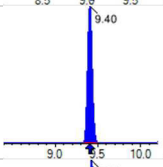
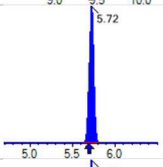
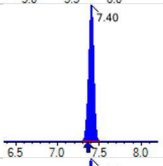
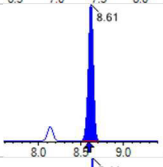
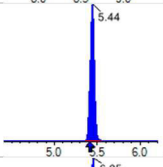
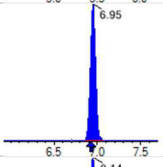
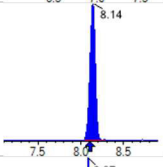
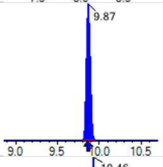
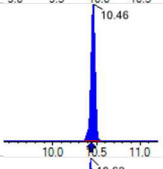
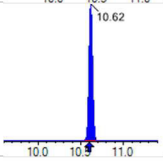
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 396586	(8.41 , N/A) (N/A , 0.03 , N/A)	8541.1	N/A	0.9875 [1.0000]	98.7% { 103.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 651163	(7.40 , N/A) (N/A , 0.05 , N/A)	1191.6	N/A	0.9591 [1.0000]	95.9% { 108.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 694779	(8.61 , N/A) (N/A , 0.03 , N/A)	1603.0	N/A	0.8097 [1.0000]	81.0% { 83.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1791364	(3.69 , N/A) (N/A , 0.01 , N/A)	6420.6	N/A	8.1481 [8.0000]	101.9% { 84.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1364891	(4.77 , N/A) (N/A , 0.03 , N/A)	3948.7	N/A	3.7366 [4.0000]	93.4% { 90.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 832809	(5.72 , N/A) (N/A , 0.03 , N/A)	4092.1	N/A	1.8896 [2.0000]	94.5% { 95.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 836990	(6.53 , N/A) (N/A , 0.03 , N/A)	3788.5	N/A	1.9936 [2.0000]	99.7% { 99.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1010212	(7.23 , N/A) (N/A , 0.04 , N/A)	2678.7	N/A	2.0807 [2.0000]	104.0% { 99.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 433166	(7.84 , N/A) (N/A , 0.05 , N/A)	12692.7	N/A	1.0900 [1.0000]	109.0% { 93.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 493448	(8.41 , N/A) (N/A , 0.04 , N/A)	129642.2	N/A	1.0338 [1.0000]	103.4% { 98.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 517252	(8.81 , N/A) (N/A , 0.01 , N/A)	2396.6	N/A	0.9720 [1.0000]	97.2% { 98.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

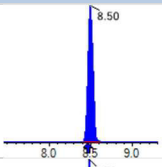
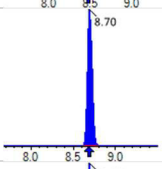
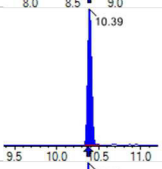
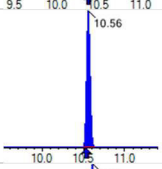
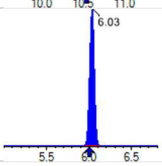
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 484406	(9.05 , N/A) (N/A , 0.00 , N/A)	7173.2	N/A	1.0413 [1.0000]	104.1% { 105.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 513958	(9.40 , N/A) (N/A , 0.01 , N/A)	1662.0	N/A	1.0475 [1.0000]	104.8% { 103.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1989521	(5.72 , N/A) (N/A , 0.04 , N/A)	3980.5	N/A	1.9286 [2.0000]	96.4% { 87.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1376442	(7.40 , N/A) (N/A , 0.04 , N/A)	2202.1	N/A	2.0545 [2.0000]	102.7% { 96.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2040176	(8.61 , N/A) (N/A , 0.03 , N/A)	1272.6	N/A	2.1902 [2.0000]	109.5% { 87.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 275625	(5.44 , N/A) (N/A , 0.03 , N/A)	1410.7	N/A	4.2121 [4.0000]	105.3% { 102.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 353754	(6.95 , N/A) (N/A , 0.03 , N/A)	3351.4	N/A	4.1176 [4.0000]	102.9% { 95.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 427194	(8.14 , N/A) (N/A , 0.04 , N/A)	1428.8	N/A	4.5899 [4.0000]	114.7% { 111.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3728987	(9.87 , N/A) (N/A , 0.01 , N/A)	4888.7	N/A	2.3403 [2.0000]	117.0% { 88.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1024838	(10.46 , N/A) (N/A , 0.02 , N/A)	2513.1	N/A	2.5140 [2.0000]	125.7% { 94.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 886755	(10.62 , N/A) (N/A , 0.02 , N/A)	3320.9	N/A	2.3897 [2.0000]	119.5% { 85.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (7)
Acquired: 2023/03/07 - 16:43

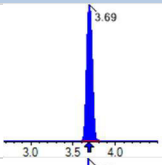
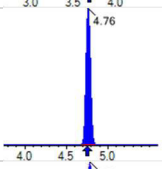
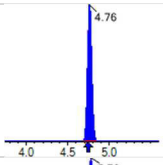
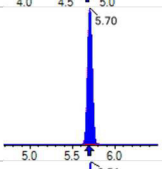
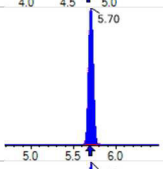
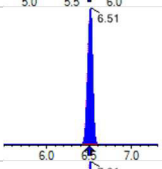
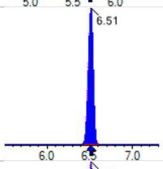
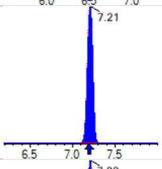
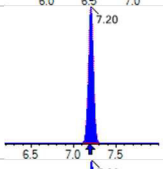
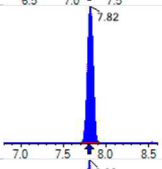
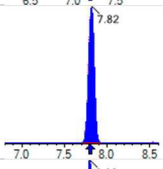
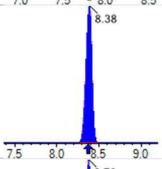
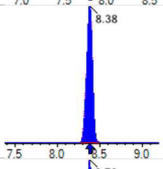
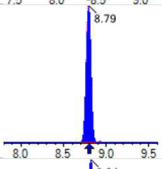
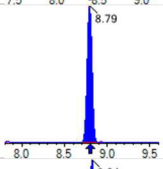
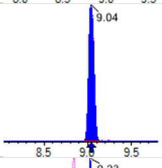
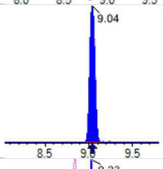
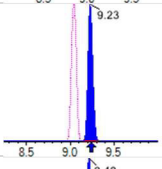
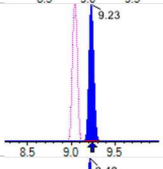
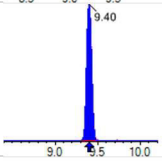
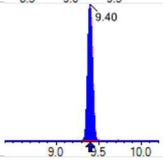
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 740338	(8.50 , N/A) (N/A , 0.03 , N/A)	1875.0	N/A	4.6476 [4.0000]	116.2% { 92.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 912943	(8.70 , N/A) (N/A , 0.02 , N/A)	10881.8	N/A	5.1139 [4.0000]	127.8% { 106.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2996992	(10.39 , N/A) (N/A , 0.02 , N/A)	1441.4	N/A	23.6249 [20.0000]	118.1% { 88.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3595791	(10.56 , N/A) (N/A , 0.02 , N/A)	2390.0	N/A	24.0156 [20.0000]	120.1% { 86.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1888623	(6.03 , N/A) (N/A , 0.03 , N/A)	4552.3	N/A	7.7597 [8.0000]	97.0% { 93.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

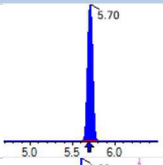
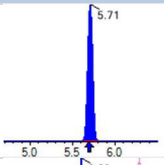
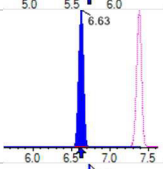
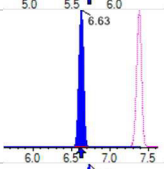
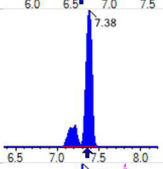
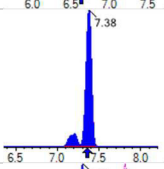
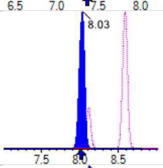
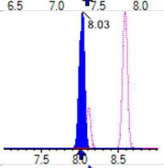
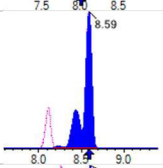
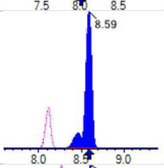
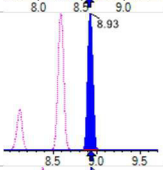
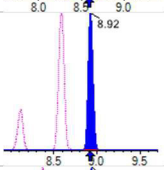
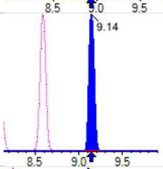
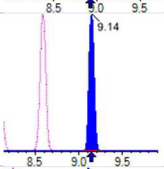
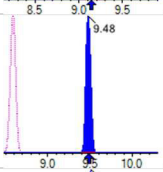
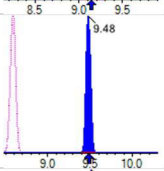
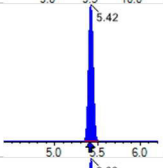
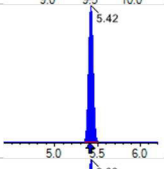
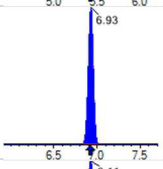
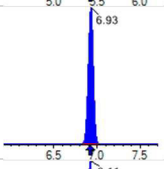
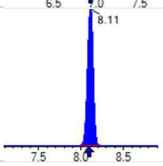
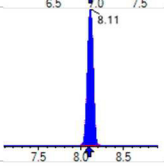
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 28194490	(3.69 , 1.00) (0.00 , N/A , 0.0)	250.1	N/A 0.0 0.0	183.4399 [200.0000]	91.7%			
PFPeA	(263.0 / 219.0) 25676526 (263.0 / 69.0) 291878	(4.76 , 1.00) (0.00 , N/A , 0.0)	11443.3 2310.2	0.0114 100.4 100.4	90.6150 [100.0000]	90.6%			
PFHxA	(313.0 / 269.0) 16221489 (313.0 / 119.0) 1576991	(5.70 , 1.00) (0.00 , N/A , 0.0)	11462.1 3750.2	0.0972 92.3 92.3	47.0488 [50.0000]	94.1%			
PFHpA	(363.0 / 319.0) 16215410 (363.0 / 169.0) 4848365	(6.51 , 1.00) (0.00 , N/A , 0.1)	15117.9 41760.7	0.2990 91.7 91.7	51.2597 [50.0000]	102.5%			
PFOA	(413.0 / 369.0) 20134628 (413.0 / 169.0) 7289396	(7.21 , 1.00) (0.00 , N/A , 0.1)	11959.3 10322.6	0.3620 103.9 103.9	46.0130 [50.0000]	92.0%			
PFNA	(463.0 / 419.0) 17233945 (463.0 / 169.0) 3729063	(7.82 , 1.00) (0.00 , N/A , -0.1)	11806.7 4982.3	0.2164 92.4 92.4	47.9335 [50.0000]	95.9%			
PFDA	(513.0 / 469.0) 21055778 (513.0 / 169.0) 2238507	(8.38 , 1.00) (0.00 , N/A , 0.0)	4807.1 2700.7	0.1063 99.9 99.9	48.2261 [50.0000]	96.5%			
PFUnA	(563.0 / 519.0) 18365759 (563.0 / 169.0) 2027450	(8.79 , 1.00) (0.00 , N/A , 0.0)	5230.4 2274.0	0.1104 92.1 92.1	49.6556 [50.0000]	99.3%			
PFDoA	(613.0 / 569.0) 16804583 (613.0 / 169.0) 2614963	(9.04 , 1.00) (0.00 , N/A , 0.0)	3357.7 3831.5	0.1556 95.6 95.6	44.1770 [50.0000]	88.4%			
PFTrDA	(663.0 / 619.0) 13857572 (663.0 / 169.0) 3472823	(9.23 , 1.02) (N/A , -0.01 , -0.1)	4565.7 3337.5	0.2506 102.7 102.7	37.9871 [50.0000]	76.0%			
PFTeDA	(713.0 / 669.0) 18112204 (713.0 / 169.0) 3591344	(9.40 , 1.00) (0.00 , N/A , 0.0)	5041.8 2497.4	0.1983 103.7 103.7	42.9339 [50.0000]	85.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

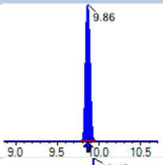
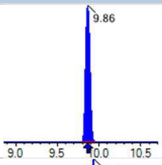
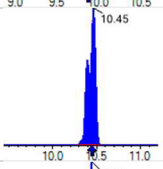
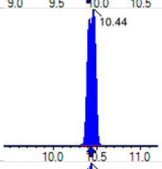
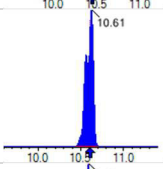
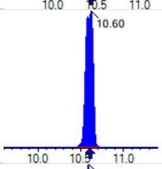
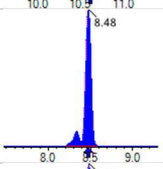
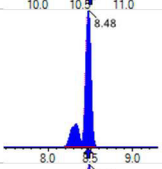
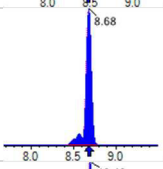
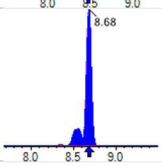
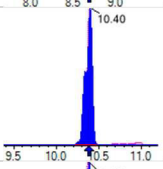
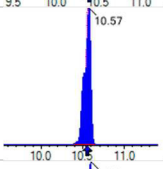
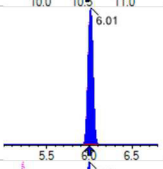
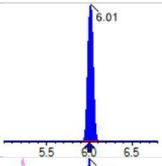
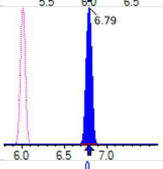
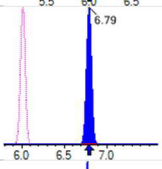
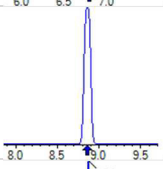
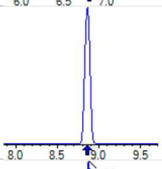
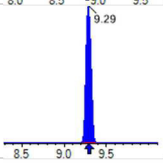
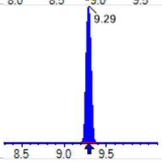
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 23387642 (299.0 / 99.0) 15231547	(5.70 , 1.00) (0.00 , N/A , 0.0)	6420.4 6444.8	0.6513 111.0 111.0	42.1567 [44.2367]	95.3%			
PFPeS	(349.0 / 80.0) 44103650 (349.0 / 99.0) 17745420	(6.63 , 0.90) (N/A , 0.01 , -0.1)	31328.5 41014.8	0.4024 117.8 117.8	41.5157 [46.9191]	88.5%			
PFHxS	(399.0 / 80.0) 42716749 (399.0 / 99.0) 15139756	(7.38 , 1.00) (0.00 , N/A , 0.2)	6466.4 51901071.1	0.3544 103.4 103.4	44.2014 [45.5491]	97.0%			
PFHpS	(449.0 / 80.0) 39760233 (449.0 / 99.0) 12016684	(8.03 , 0.93) (N/A , 0.01 , 0.0)	26714.4 3322.7	0.3022 106.4 106.4	40.6245 [47.5703]	85.4%			
PFOS	(499.0 / 80.0) 50397653 (499.0 / 99.0) 11762234	(8.59 , 1.00) (0.00 , N/A , 0.0)	4099.4 1821.0	0.2334 107.8 107.8	41.4299 [46.3746]	89.3%			
PFNS	(549.0 / 80.0) 42077398 (549.0 / 99.0) 11628110	(8.93 , 1.04) (N/A , 0.00 , 0.0)	13372.1 6635.2	0.2764 120.5 120.5	36.4752 [47.9943]	76.0%			
PFDS	(599.0 / 80.0) 51027281 (599.0 / 99.0) 13711608	(9.14 , 1.06) (N/A , 0.00 , 0.0)	7426.9 5335.7	0.2687 118.7 118.7	38.2883 [48.1553]	79.5%			
PFDoS	(699.0 / 80.0) 43091708 (699.0 / 99.0) 11427848	(9.48 , 1.10) (N/A , 0.00 , -0.1)	4849.8 3795.4	0.2652 121.6 121.6	40.4503 [48.4781]	83.4%			
4:2FTS	(327.0 / 307.0) 32797846 (327.0 / 81.0) 21614814	(5.42 , 1.00) (0.00 , N/A , 0.0)	5700.3 6179.7	0.6590 106.4 106.4	164.4716 [186.9055]	88.0%			
6:2FTS	(427.0 / 407.0) 23591728 (427.0 / 81.0) 17476058	(6.93 , 1.00) (0.00 , N/A , 0.0)	6446.5 6466.3	0.7408 107.2 107.2	166.1053 [189.8085]	87.5%			
8:2FTS	(527.0 / 507.0) 23002314 (527.0 / 81.0) 16933256	(8.11 , 1.00) (0.00 , N/A , 0.0)	4448.6 4618.3	0.7362 109.0 109.0	156.1208 [191.6577]	81.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

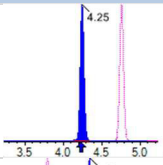
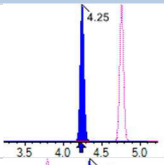
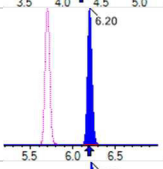
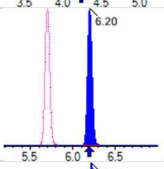
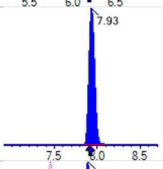
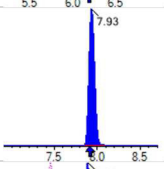
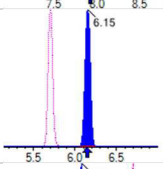
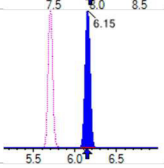
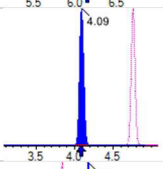
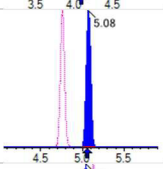
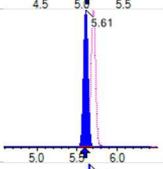
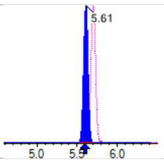
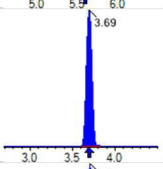
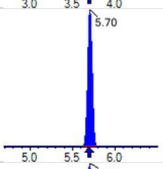
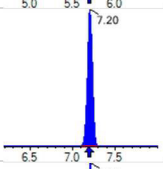
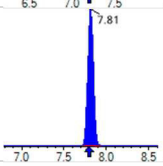
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 53177131 (498.0 / 478.0) 1564730	(9.86 , 1.00) (0.00 , N/A , 0.0)	4192.4 3640.3	0.0294 132.4 132.4	39.1700 [50.0000]	78.3%			
NMeFOSA	(512.0 / 219.0) 59814565 (512.0 / 169.0) 50589226	(10.45 , 1.00) (-0.01 , N/A , 0.9)	4910.1 5159.0	0.8458 101.1 101.1	142.9144 [200.0000]	71.5%			
NEtFOSA	(526.0 / 219.0) 62794272 (526.0 / 169.0) 72096668	(10.61 , 1.00) (-0.01 , N/A , 0.5)	19321.9 21939.1	1.1481 90.0 90.0	181.2571 [200.0000]	90.6%			
NMeFOSAA	(570.0 / 419.0) 9701053 (570.0 / 483.0) 4502968	(8.48 , 1.00) (0.01 , N/A , 0.1)	4095.9 1037.7	0.4642 98.8 98.8	47.9316 [50.0000]	95.9%			
NEtFOSAA	(584.0 / 419.0) 8633231 (584.0 / 526.0) 5053479	(8.68 , 1.00) (0.00 , N/A , -0.1)	3826.8 3618.5	0.5854 91.7 91.7	48.1637 [50.0000]	96.3%			
NMeFOSE	(616.0 / 59.0) 26483793	(10.40 , 1.00) (0.01 , N/A , 0.0)	4892.2	N/A 0.0 0.0	199.1291 [200.0000]	99.6%			
NEtFOSE	(630.0 / 59.0) 27197180	(10.57 , 1.00) (0.01 , N/A , 0.0)	1589.6	N/A 0.0 0.0	193.2760 [200.0000]	96.6%			
HFPO-DA	(285.0 / 169.0) 16930429 (285.0 / 185.0) 39516373	(6.01 , 1.00) (0.00 , N/A , 0.1)	3883.9 6307.4	2.3340 86.7 86.7	94.0318 [100.0000]	94.0%			
ADONA	(377.0 / 85.0) 48907797 (377.0 / 251.0) 6546772	(6.79 , 1.13) (N/A , 0.01 , 0.0)	3820.3 3392.7	0.1339 138.6 138.6	69.0941 [94.2700]	73.3%			
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) 65536324 (633.0 / 453.0) 28646753	(9.29 , 1.54) (N/A , 0.00 , -0.1)	5290.2 2765.0	0.4371 131.3 131.3	94.0420 [94.3208]	99.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

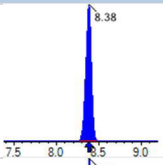
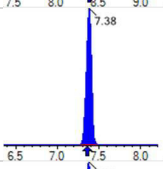
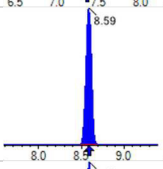
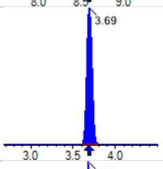
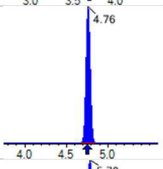
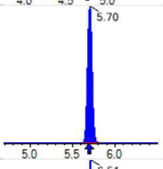
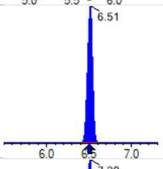
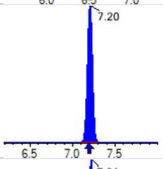
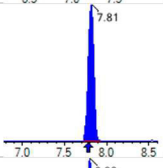
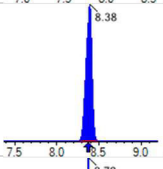
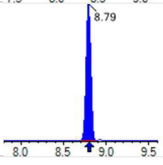
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1913847 (241.0 / 117.0) 3679641	(4.25 , 0.89) (N/A , 0.02 , 0.0)	3445.5 3988.0	1.9226 94.3 94.3	224.3539 [200.0000]	112.2%			
5:3FTCA	(341.0 / 236.7) 12299269 (341.0 / 217.0) 20448567	(6.20 , 1.09) (N/A , 0.01 , -0.1)	3168.7 4271.5	1.6626 100.9 100.9	208.9678 [200.0000]	104.5%			
7:3FTCA	(441.0 / 317.0) 22387428 (441.0 / 337.0) 18959161	(7.93 , 1.39) (N/A , 0.02 , 0.0)	2694.4 2952.5	0.8469 98.8 98.8	226.6329 [200.0000]	113.3%			
PFEESA	(315.0 / 135.0) 33028805 (315.0 / 83.0) 10147116	(6.15 , 1.08) (N/A , 0.01 , 0.1)	3355.2 5125.6	0.3072 118.6 118.6	76.8066 [89.2459]	86.1%			
PFMPA	(229.0 / 85.0) 6549586	(4.09 , 0.86) (N/A , 0.02 , 0.0)	5355.4	N/A 0.0 0.0	89.7925 [100.0000]	89.8%			
PFMBA	(279.0 / 85.0) 20391299	(5.08 , 1.07) (N/A , 0.02 , 0.0)	6325.0	N/A 0.0 0.0	87.5287 [100.0000]	87.5%			
NFDHA	(295.0 / 201.0) 18429626 (295.0 / 85.0) 17844726	(5.61 , 0.98) (N/A , 0.01 , 0.0)	5692.8 6234.0	0.9683 96.4 96.4	94.2797 [100.0000]	94.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 154336	(3.69 , N/A) (N/A , 0.01 , N/A)	1373.1	N/A	0.7205 [1.0000]	72.1% { 76.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 315954	(5.70 , N/A) (N/A , 0.01 , N/A)	10169.6	N/A	1.0060 [1.0000]	100.6% { 110.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 428374	(7.20 , N/A) (N/A , 0.01 , N/A)	6967.6	N/A	0.9276 [1.0000]	92.8% { 102.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 428772	(7.81 , N/A) (N/A , 0.02 , N/A)	31194.2	N/A	1.0274 [1.0000]	102.7% { 111.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

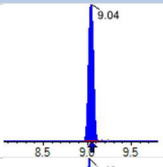
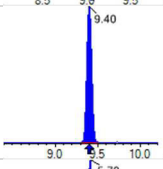
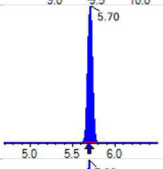
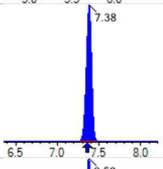
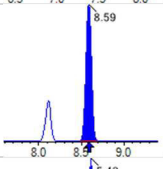
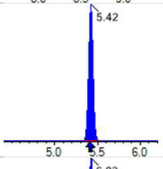
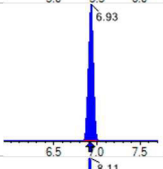
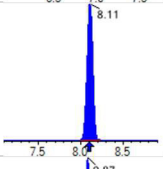
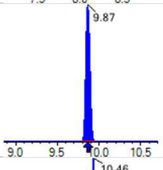
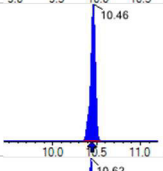
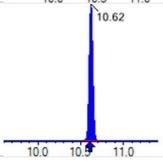
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 406670	(8.38 , N/A) (N/A , 0.01 , N/A)	2681.1	N/A	1.0126 [1.0000]	101.3% { 105.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 686847	(7.38 , N/A) (N/A , 0.02 , N/A)	2000.7	N/A	1.0117 [1.0000]	101.2% { 114.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 777774	(8.59 , N/A) (N/A , 0.00 , N/A)	1430.8	N/A	0.9064 [1.0000]	90.6% { 93.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1488969	(3.69 , N/A) (N/A , 0.01 , N/A)	6419.8	N/A	8.1068 [8.0000]	101.3% { 70.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1288575	(4.76 , N/A) (N/A , 0.02 , N/A)	3874.2	N/A	3.5304 [4.0000]	88.3% { 85.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 775679	(5.70 , N/A) (N/A , 0.01 , N/A)	3089.9	N/A	1.7614 [2.0000]	88.1% { 88.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 749845	(6.51 , N/A) (N/A , 0.01 , N/A)	2507.0	N/A	1.7874 [2.0000]	89.4% { 88.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 964198	(7.20 , N/A) (N/A , 0.01 , N/A)	3804.1	N/A	2.0718 [2.0000]	103.6% { 95.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 415482	(7.81 , N/A) (N/A , 0.02 , N/A)	1566.8	N/A	0.9120 [1.0000]	91.2% { 89.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 462834	(8.38 , N/A) (N/A , 0.01 , N/A)	3370.2	N/A	0.9456 [1.0000]	94.6% { 92.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 463084	(8.79 , N/A) (N/A , 0.00 , N/A)	2050.3	N/A	0.8486 [1.0000]	84.9% { 88.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

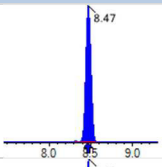
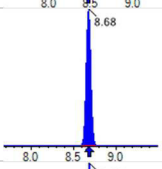
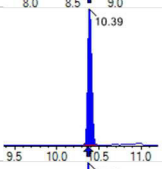
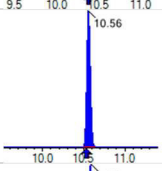
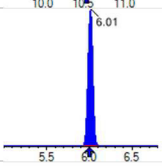
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 452178	(9.04 , N/A) (N/A , 0.00 , N/A)	2858.6	N/A	0.9479 [1.0000]	94.8% { 98.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 494112	(9.40 , N/A) (N/A , 0.00 , N/A)	1888.3	N/A	0.9821 [1.0000]	98.2% { 99.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1718852	(5.70 , N/A) (N/A , 0.02 , N/A)	1764.4	N/A	1.5796 [2.0000]	79.0% { 75.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1288358	(7.38 , N/A) (N/A , 0.02 , N/A)	1981.3	N/A	1.8232 [2.0000]	91.2% { 90.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2156531	(8.59 , N/A) (N/A , 0.00 , N/A)	679.7	N/A	2.0680 [2.0000]	103.4% { 92.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 273474	(5.42 , N/A) (N/A , 0.01 , N/A)	1752.2	N/A	3.9621 [4.0000]	99.1% { 101.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 395495	(6.93 , N/A) (N/A , 0.01 , N/A)	2315.2	N/A	4.3643 [4.0000]	109.1% { 107.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 440267	(8.11 , N/A) (N/A , 0.01 , N/A)	1808.5	N/A	4.4846 [4.0000]	112.1% { 114.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3271539	(9.87 , N/A) (N/A , 0.01 , N/A)	4019.0	N/A	1.8342 [2.0000]	91.7% { 77.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1018012	(10.46 , N/A) (N/A , 0.02 , N/A)	2604.2	N/A	2.2307 [2.0000]	111.5% { 93.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 727849	(10.62 , N/A) (N/A , 0.02 , N/A)	3207.3	N/A	1.7522 [2.0000]	87.6% { 70.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (8)
Acquired: 2023/03/07 - 16:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 786063	(8.47 , N/A) (N/A , 0.00 , N/A)	1968.0	N/A	4.4081 [4.0000]	110.2% { 98.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 855751	(8.68 , N/A) (N/A , 0.00 , N/A)	5504.8	N/A	4.2820 [4.0000]	107.1% { 99.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2685767	(10.39 , N/A) (N/A , 0.02 , N/A)	997.3	N/A	18.9124 [20.0000]	94.6% { 79.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2911689	(10.56 , N/A) (N/A , 0.02 , N/A)	1911.4	N/A	17.3715 [20.0000]	86.9% { 70.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1811885	(6.01 , N/A) (N/A , 0.01 , N/A)	3209.1	N/A	7.4503 [8.0000]	93.1% { 89.7% }			

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2310010
Laboratory ID: SC00916-SCV1
Sequence: SC00916
Standard ID: 23B0089

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	7.66	-4.3	30.00
PFPEA	4.00	3.70	-7.5	30.00
PFHXA	2.00	1.90	-4.8	30.00
PFHPA	2.00	1.77	-11.7	30.00
PFOA	2.00	1.86	-7.0	30.00
PFNA	2.00	1.80	-10.0	30.00
PFDA	2.00	1.73	-13.4	30.00
PFUnA	2.00	1.99	-0.7	30.00
PFDOA	2.00	2.16	8.0	30.00
PFTRDA	2.00	2.28	14.1	30.00
PFTEDA	2.00	1.94	-3.2	30.00
PFBS	1.77	1.59	-10.0	30.00
PFPES	1.88	1.96	4.4	30.00
PFHXS	1.83	1.69	-7.5	30.00
PFHPS	1.91	1.71	-10.6	30.00
PFOS	1.86	1.58	-14.9	30.00
PFNS	1.92	1.90	-1.0	30.00
PFDS	1.93	1.84	-4.7	30.00
PFDOS	1.94	1.85	-4.5	30.00
4:2FTS	7.50	7.07	-5.7	30.00
6:2FTS	7.60	7.46	-1.8	30.00
8:2FTS	7.68	7.26	-5.4	30.00
PFOSA	2.00	1.98	-1.1	30.00
NMeFOSA	8.00	7.71	-3.6	30.00
NEtFOSA	8.00	7.09	-11.4	30.00
NMeFOSAA	2.00	1.83	-8.3	30.00
NEtFOSAA	2.00	1.87	-6.7	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2310010
Laboratory ID: SC00916-SCV1
Sequence: SC00916
Standard ID: 23B0089

NMeFOSE	8.00	8.30	3.8	30.00
NEtFOSE	8.00	8.15	1.9	30.00
HFPO-DA	4.00	3.66	-8.4	30.00
ADONA	3.78	3.81	0.9	30.00
PFEESA	3.56	3.45	-3.1	30.00
PFMPA	4.00	3.45	-13.7	30.00
PFMBA	4.00	3.71	-7.3	30.00
NFDHA	4.00	3.73	-6.7	30.00
9CL-PF3ONS	3.74	3.86	3.2	30.00
11CL-PF3OUDS	3.78	3.75	-0.9	30.00
3:3FTCA	8.00	7.32	-8.5	30.00
5:3FTCA	8.00	6.97	-12.8	30.00
7:3FTCA	8.00	7.25	-9.3	30.00
13C4-PFBA	8.00	8.23	2.8	30.00
13C5-PFPEA	4.00	4.38	9.6	30.00
13C5-PFHXA	2.00	2.10	4.9	30.00
13C4-PFHPA	2.00	2.10	5.0	30.00
13C8-PFOA	2.00	2.27	13.5	30.00
13C9-PFNA	1.00	1.11	11.1	30.00
13C6-PFDA	1.00	1.11	11.1	30.00
13C7-PFUnA	1.00	1.07	7.3	30.00
13C2-PFDOA	1.00	0.970	-3.0	30.00
13C2-PFTEDA	1.00	1.11	10.8	30.00
13C3-PFBS	2.00	2.27	13.7	30.00
13C3-PFHXS	2.00	2.01	0.7	30.00
13C8-PFOS	2.00	2.03	1.6	30.00
13C2-4:2FTS	4.00	4.03	0.8	30.00
13C2-6:2FTS	4.00	4.08	2.0	30.00
13C2-8:2FTS	4.00	4.25	6.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2310010
Laboratory ID: SC00916-SCV1
Sequence: SC00916
Standard ID: 23B0089

13C8-PFOSA	2.00	1.99	-0.5	30.00
D3-NMEFOSA	2.00	1.95	-2.6	30.00
D5-NETFOSA	2.00	2.06	3.0	30.00
D3-NMEFOSAA	4.00	3.84	-4.0	30.00
D5-NETFOSAA	4.00	4.02	0.6	30.00
D7-NMEFOSE	20.0	21.2	5.9	30.00
D9-NETFOSE	20.0	20.5	2.5	30.00
13C3-HFPO-DA	8.00	8.42	5.3	30.00

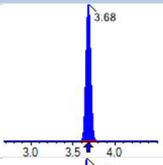
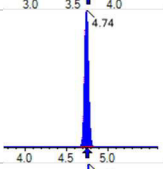
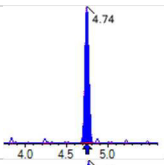
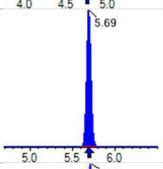
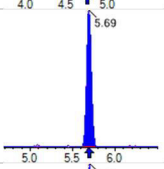
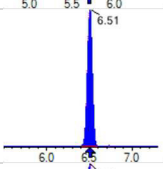
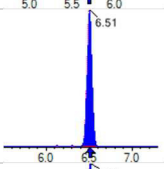
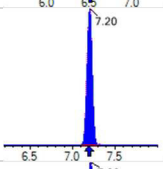
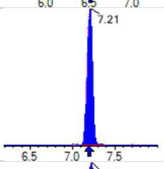
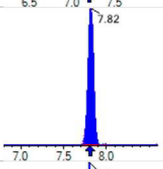
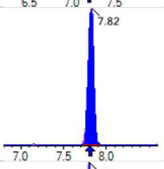
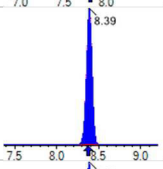
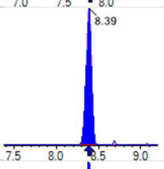
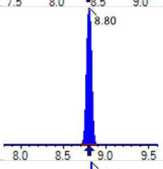
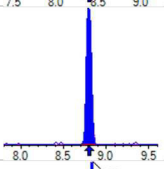
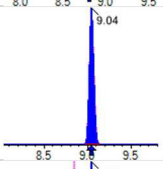
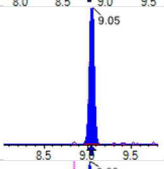
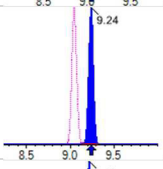
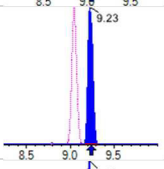
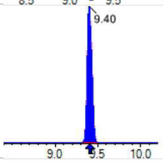
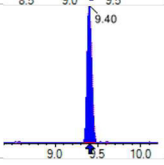
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

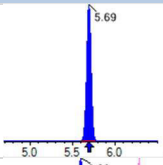
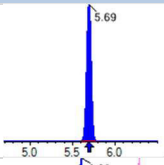
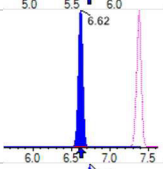
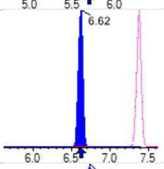
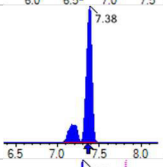
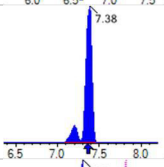
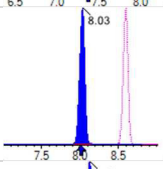
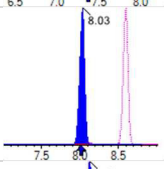
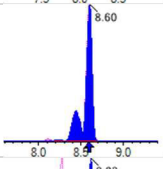
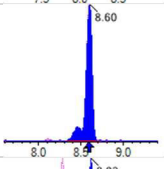
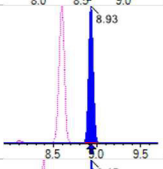
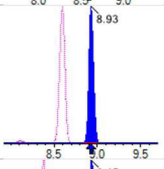
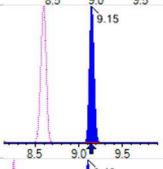
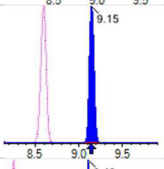
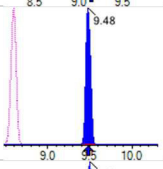
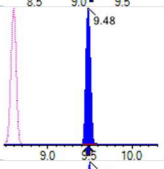
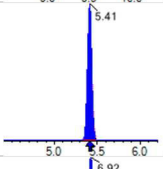
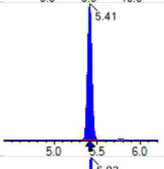
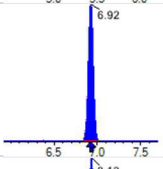
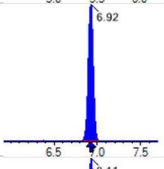
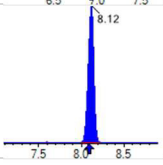
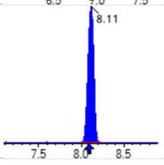
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1664096	(3.68 , 1.00) (0.00 , N/A , 0.0)	261.1	N/A 0.0 0.0	7.6595 [8.0000]	95.7%			
PFPeA	(263.0 / 219.0) 1253382 (263.0 / 69.0) 14187	(4.74 , 1.00) (0.00 , N/A , 0.1)	4512.2 398.1	0.0113 100.0 100.0	3.6984 [4.0000]	92.5%			
PFHxA	(313.0 / 269.0) 753563 (313.0 / 119.0) 73223	(5.69 , 1.00) (0.00 , N/A , -0.1)	6278.8 2909.9	0.0972 92.2 92.2	1.9044 [2.0000]	95.2%			
PFHpA	(363.0 / 319.0) 632362 (363.0 / 169.0) 192370	(6.51 , 1.00) (0.00 , N/A , -0.1)	136798.3 5722.1	0.3042 93.3 93.3	1.7663 [2.0000]	88.3%			
PFOA	(413.0 / 369.0) 885681 (413.0 / 169.0) 300853	(7.20 , 1.00) (0.00 , N/A , -0.3)	7469.5 2755.3	0.3397 97.5 97.5	1.8607 [2.0000]	93.0%			
PFNA	(463.0 / 419.0) 708343 (463.0 / 169.0) 166595	(7.82 , 1.00) (0.00 , N/A , -0.1)	119549.5 3758163.8	0.2352 100.5 100.5	1.7998 [2.0000]	90.0%			
PFDA	(513.0 / 469.0) 825199 (513.0 / 169.0) 81929	(8.39 , 1.00) (0.00 , N/A , 0.0)	1384.8 49713.2	0.0993 93.3 93.3	1.7328 [2.0000]	86.6%			
PFUnA	(563.0 / 519.0) 862355 (563.0 / 169.0) 91390	(8.80 , 1.00) (0.00 , N/A , 0.2)	1646.5 456.3	0.1060 88.4 88.4	1.9857 [2.0000]	99.3%			
PFDoA	(613.0 / 569.0) 780919 (613.0 / 169.0) 120958	(9.04 , 1.00) (0.00 , N/A , -0.3)	1791.5 437.1	0.1549 95.2 95.2	2.1609 [2.0000]	108.0%			
PFTrDA	(663.0 / 619.0) 790884 (663.0 / 169.0) 173759	(9.24 , 1.02) (N/A , 0.00 , 0.5)	1998.3 4252.9	0.2197 90.0 90.0	2.2820 [2.0000]	114.1%			
PFTeDA	(713.0 / 669.0) 855431 (713.0 / 169.0) 159035	(9.40 , 1.00) (0.00 , N/A , 0.1)	2082.1 853.3	0.1859 97.3 97.3	1.9357 [2.0000]	96.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

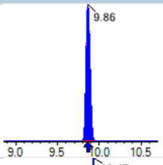
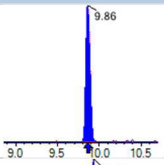
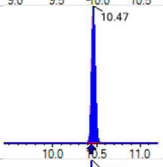
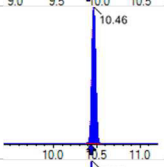
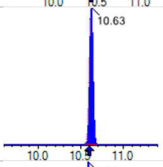
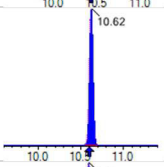
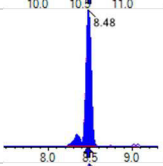
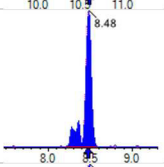
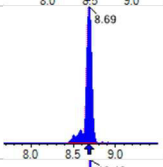
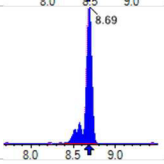
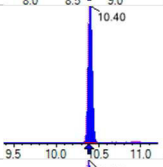
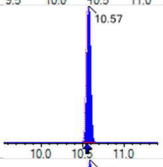
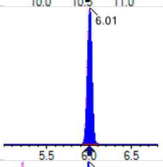
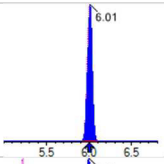
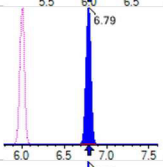
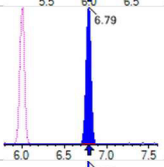
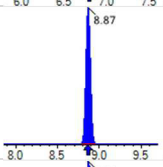
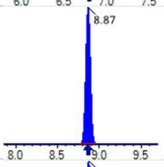
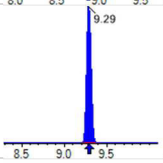
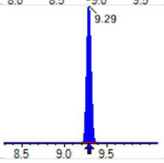
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1201687 (299.0 / 99.0) 760731	(5.69 , 1.00) (0.00 , N/A , 0.0)	4106.3 2562.1	0.6331 107.9 107.9	1.5922 [1.7695]	90.0%			
PFPeS	(349.0 / 80.0) 2175309 (349.0 / 99.0) 746031	(6.62 , 0.90) (N/A , 0.00 , -0.1)	6815.0 76954.6	0.3430 100.4 100.4	1.9623 [1.8768]	104.6%			
PFHxS	(399.0 / 80.0) 1706170 (399.0 / 99.0) 562130	(7.38 , 1.00) (0.00 , N/A , 0.3)	995439.9 2626.3	0.3295 96.1 96.1	1.6919 [1.8220]	92.9%			
PFHpS	(449.0 / 80.0) 1946441 (449.0 / 99.0) 535417	(8.03 , 0.93) (N/A , 0.02 , 0.1)	5262.9 5928897.4	0.2751 96.8 96.8	1.7083 [1.9028]	89.8%			
PFOS	(499.0 / 80.0) 2242196 (499.0 / 99.0) 487501	(8.60 , 1.00) (0.00 , N/A , 0.0)	1456.7 704.5	0.2174 100.5 100.5	1.5833 [1.8550]	85.4%			
PFNS	(549.0 / 80.0) 2551843 (549.0 / 99.0) 610737	(8.93 , 1.04) (N/A , 0.00 , 0.1)	110468.2 3581.4	0.2393 104.4 104.4	1.9001 [1.9198]	99.0%			
PFDS	(599.0 / 80.0) 2853931 (599.0 / 99.0) 637835	(9.15 , 1.06) (N/A , 0.00 , 0.0)	3357.2 2297.6	0.2235 98.7 98.7	1.8394 [1.9262]	95.5%			
PFDoS	(699.0 / 80.0) 2298831 (699.0 / 99.0) 518668	(9.48 , 1.10) (N/A , 0.00 , 0.0)	2567.9 1806.3	0.2256 103.5 103.5	1.8536 [1.9391]	95.6%			
4:2FTS	(327.0 / 307.0) 1355571 (327.0 / 81.0) 852910	(5.41 , 1.00) (0.00 , N/A , -0.1)	5701.3 1849.5	0.6292 101.6 101.6	7.0750 [7.4762]	94.6%			
6:2FTS	(427.0 / 407.0) 936616 (427.0 / 81.0) 688032	(6.92 , 1.00) (0.00 , N/A , 0.0)	2053.3 2319.9	0.7346 106.3 106.3	7.4645 [7.5923]	98.3%			
8:2FTS	(527.0 / 507.0) 958389 (527.0 / 81.0) 717713	(8.12 , 1.00) (0.00 , N/A , 0.1)	2404.4 1881.0	0.7489 110.9 110.9	7.2638 [7.6663]	94.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

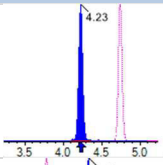
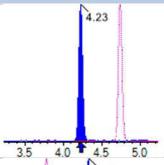
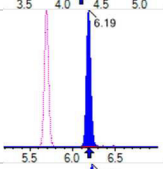
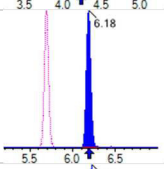
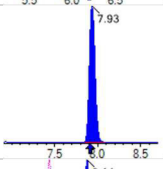
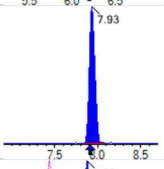
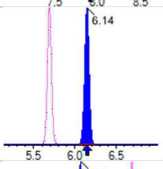
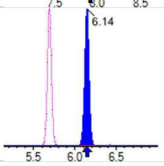
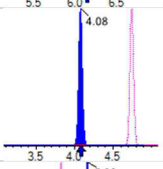
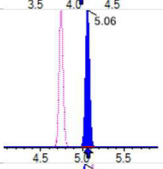
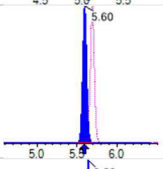
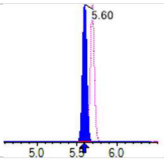
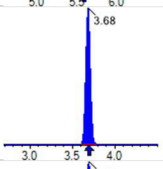
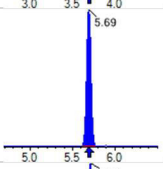
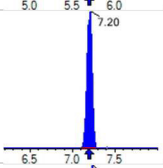
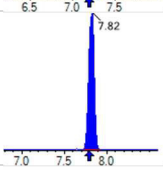
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3453097 (498.0 / 478.0) 75202	(9.86 , 1.00) (0.00 , N/A , 0.2)	3766.9 612.7	0.0218 98.0 98.0	1.9775 [2.0000]	98.9%			
NMeFOSA	(512.0 / 219.0) 3343169 (512.0 / 169.0) 2422949	(10.47 , 1.00) (0.00 , N/A , 0.0)	6906.2 5715.6	0.7247 86.7 86.7	7.7143 [8.0000]	96.4%			
NEtFOSA	(526.0 / 219.0) 3421761 (526.0 / 169.0) 3644672	(10.63 , 1.00) (0.01 , N/A , 0.0)	9783.9 7812.9	1.0651 83.4 83.4	7.0871 [8.0000]	88.6%			
NMeFOSAA	(570.0 / 419.0) 383277 (570.0 / 483.0) 191900	(8.48 , 1.00) (0.00 , N/A , -0.1)	9579.1 355.1	0.5007 106.6 106.6	1.8341 [2.0000]	91.7%			
NEtFOSAA	(584.0 / 419.0) 372479 (584.0 / 526.0) 211704	(8.69 , 1.00) (0.01 , N/A , -0.1)	33267.6 1287.8	0.5684 89.0 89.0	1.8665 [2.0000]	93.3%			
NMeFOSE	(616.0 / 59.0) 1465026	(10.40 , 1.00) (0.01 , N/A , 0.0)	2848.7	N/A 0.0 0.0	8.3016 [8.0000]	103.8%			
NEtFOSE	(630.0 / 59.0) 1604413	(10.57 , 1.00) (0.01 , N/A , 0.0)	2356.0	N/A 0.0 0.0	8.1507 [8.0000]	101.9%			
HFPO-DA	(285.0 / 169.0) 718380 (285.0 / 185.0) 1875342	(6.01 , 1.00) (0.00 , N/A , -0.2)	2183.9 3637.3	2.6105 97.0 97.0	3.6635 [4.0000]	91.6%			
ADONA	(377.0 / 85.0) 2940313 (377.0 / 251.0) 294319	(6.79 , 1.13) (N/A , 0.00 , 0.0)	3346.7 1190.2	0.1001 103.6 103.6	3.8141 [3.7708]	101.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 8022611 (533.0 / 353.0) 2455718	(8.87 , 1.48) (N/A , 0.00 , 0.0)	3379.1 2482.3	0.3061 95.9 95.9	3.8608 [3.7330]	103.4%			
11Cl-PF3OUDS	(631.0 / 451.0) 4731455 (633.0 / 453.0) 1609022	(9.29 , 1.55) (N/A , 0.00 , 0.0)	4301.4 3379.7	0.3401 102.1 102.1	3.7456 [3.7728]	99.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

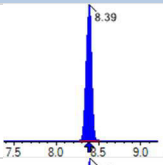
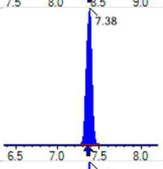
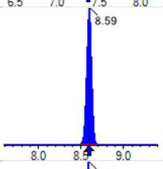
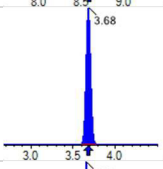
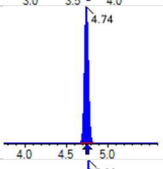
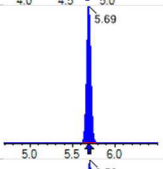
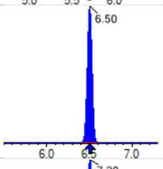
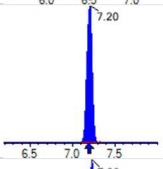
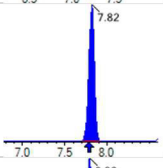
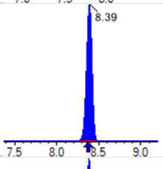
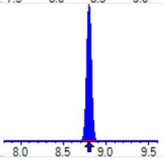
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 74724 (241.0 / 117.0) 133140	(4.23 , 0.89) (N/A , 0.00 , 0.0)	1129.3 569.6	1.7818 87.4 87.4	7.3240 [8.0000]	91.5%			
5:3FTCA	(341.0 / 236.7) 471044 (341.0 / 217.0) 778565	(6.19 , 1.09) (N/A , 0.00 , 0.0)	1725.4 1518.7	1.6529 100.4 100.4	6.9733 [8.0000]	87.2%			
7:3FTCA	(441.0 / 317.0) 822193 (441.0 / 337.0) 732974	(7.93 , 1.39) (N/A , 0.02 , 0.1)	1657.6 1426.6	0.8915 104.0 104.0	7.2522 [8.0000]	90.7%			
PFEESA	(315.0 / 135.0) 1702147 (315.0 / 83.0) 462589	(6.14 , 1.08) (N/A , 0.00 , 0.0)	16538.4 1911.8	0.2718 104.9 104.9	3.4489 [3.5698]	96.6%			
PFMPA	(229.0 / 85.0) 301046	(4.08 , 0.86) (N/A , 0.00 , 0.0)	3905.7	N/A 0.0 0.0	3.4508 [4.0000]	86.3%			
PFMBA	(279.0 / 85.0) 1033208	(5.06 , 1.07) (N/A , 0.00 , 0.0)	5108.7	N/A 0.0 0.0	3.7081 [4.0000]	92.7%			
NFDHA	(295.0 / 201.0) 837378 (295.0 / 85.0) 874846	(5.60 , 0.98) (N/A , 0.00 , 0.0)	2532.7 3328.2	1.0447 104.0 104.0	3.7325 [4.0000]	93.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 214976	(3.68 , N/A) (N/A , 0.00 , N/A)	1796.6	N/A	1.0036 [1.0000]	100.4% { 106.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 304439	(5.69 , N/A) (N/A , 0.00 , N/A)	13439.9	N/A	0.9693 [1.0000]	96.9% { 106.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 425465	(7.20 , N/A) (N/A , 0.01 , N/A)	3979.7	N/A	0.9213 [1.0000]	92.1% { 101.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 385110	(7.82 , N/A) (N/A , 0.03 , N/A)	1641.2	N/A	0.9228 [1.0000]	92.3% { 99.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

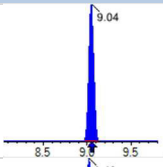
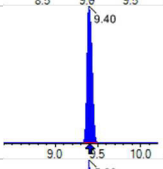
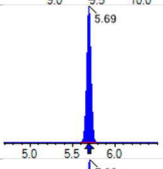
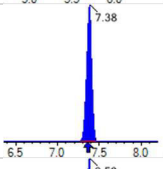
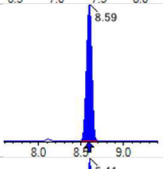
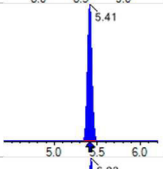
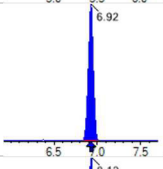
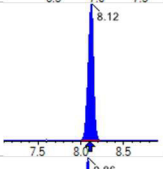
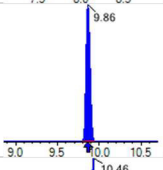
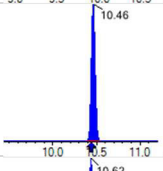
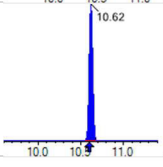
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 377711	(8.39 , N/A) (N/A , 0.01 , N/A)	8059.1	N/A	0.9405 [1.0000]	94.0% { 98.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 648804	(7.38 , N/A) (N/A , 0.02 , N/A)	2264.7	N/A	0.9556 [1.0000]	95.6% { 108.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 921781	(8.59 , N/A) (N/A , 0.01 , N/A)	1328.6	N/A	1.0743 [1.0000]	107.4% { 110.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2104725	(3.68 , N/A) (N/A , 0.00 , N/A)	5991.5	N/A	8.2269 [8.0000]	102.8% { 99.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1541161	(4.74 , N/A) (N/A , 0.00 , N/A)	4238.0	N/A	4.3822 [4.0000]	109.6% { 102.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 890239	(5.69 , N/A) (N/A , 0.00 , N/A)	3757.2	N/A	2.0979 [2.0000]	104.9% { 101.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 848645	(6.50 , N/A) (N/A , 0.00 , N/A)	1489.8	N/A	2.0995 [2.0000]	105.0% { 100.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1048839	(7.20 , N/A) (N/A , 0.01 , N/A)	1580.9	N/A	2.2691 [2.0000]	113.5% { 103.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 454804	(7.82 , N/A) (N/A , 0.03 , N/A)	8063.0	N/A	1.1115 [1.0000]	111.1% { 98.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 504834	(8.39 , N/A) (N/A , 0.02 , N/A)	8986.1	N/A	1.1105 [1.0000]	111.1% { 100.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 543728	(8.80 , N/A) (N/A , 0.00 , N/A)	15878.5	N/A	1.0728 [1.0000]	107.3% { 103.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

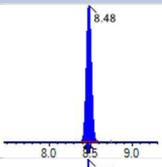
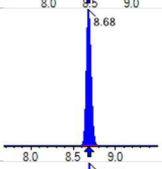
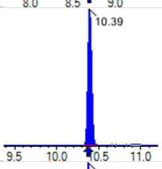
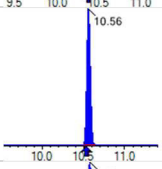
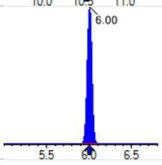
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 429592	(9.04 , N/A) (N/A , 0.00 , N/A)	2775.3	N/A	0.9696 [1.0000]	97.0% { 93.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 517617	(9.40 , N/A) (N/A , 0.00 , N/A)	9065.6	N/A	1.1077 [1.0000]	110.8% { 103.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2338331	(5.69 , N/A) (N/A , 0.00 , N/A)	5427.1	N/A	2.2749 [2.0000]	113.7% { 103.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1344378	(7.38 , N/A) (N/A , 0.02 , N/A)	3272.3	N/A	2.0140 [2.0000]	100.7% { 94.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2510585	(8.59 , N/A) (N/A , 0.01 , N/A)	1778.2	N/A	2.0314 [2.0000]	101.6% { 107.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 262760	(5.41 , N/A) (N/A , 0.00 , N/A)	1789.8	N/A	4.0301 [4.0000]	100.8% { 97.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 349402	(6.92 , N/A) (N/A , 0.00 , N/A)	1824.0	N/A	4.0817 [4.0000]	102.0% { 94.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 394261	(8.12 , N/A) (N/A , 0.02 , N/A)	1449.2	N/A	4.2514 [4.0000]	106.3% { 102.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4207938	(9.86 , N/A) (N/A , 0.01 , N/A)	3731.9	N/A	1.9906 [2.0000]	99.5% { 100.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1054109	(10.46 , N/A) (N/A , 0.02 , N/A)	3195.9	N/A	1.9490 [2.0000]	97.4% { 96.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1014374	(10.62 , N/A) (N/A , 0.02 , N/A)	3874.7	N/A	2.0605 [2.0000]	103.0% { 97.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (10)
Acquired: 2023/03/07 - 17:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 811596	(8.48 , N/A) (N/A , 0.01 , N/A)	1969.1	N/A	3.8403 [4.0000]	96.0% { 101.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 952742	(8.68 , N/A) (N/A , 0.01 , N/A)	109957.8	N/A	4.0226 [4.0000]	100.6% { 111.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3563722	(10.39 , N/A) (N/A , 0.02 , N/A)	1337.9	N/A	21.1742 [20.0000]	105.9% { 105.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4073064	(10.56 , N/A) (N/A , 0.02 , N/A)	1946.3	N/A	20.5040 [20.0000]	102.5% { 98.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1973305	(6.00 , N/A) (N/A , 0.00 , N/A)	3904.3	N/A	8.4209 [8.0000]	105.3% { 97.7% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2310010
Laboratory ID: SC01019-LCV1
Sequence: SC01019
Standard ID: 23B0080

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.447	11.8	30.00
PFPEA	0.200	0.232	15.9	30.00
PFHXA	0.100	0.103	3.0	30.00
PFHPA	0.100	0.131	31.3 *	30.00
PFOA	0.100	0.120	19.7	30.00
PFNA	0.100	0.113	12.7	30.00
PFDA	0.100	0.117	16.7	30.00
PFUnA	0.100	0.122	22.3	30.00
PFDOA	0.100	0.117	17.1	30.00
PFTRDA	0.100	0.106	5.8	30.00
PFTEDA	0.100	0.106	6.3	30.00
PFBS	0.0885	0.0932	5.3	30.00
PFPES	0.0940	0.122	29.8	30.00
PFHXS	0.0915	0.0976	6.7	30.00
PFHPS	0.0955	0.0846	-11.4	30.00
PFOS	0.0930	0.0908	-2.4	30.00
PFNS	0.0960	0.113	17.5	30.00
PFDS	0.0965	0.0963	-0.2	30.00
PFDOS	0.0970	0.0838	-13.6	30.00
4:2FTS	0.375	0.443	18.0	30.00
6:2FTS	0.380	0.442	16.3	30.00
8:2FTS	0.384	0.389	1.3	30.00
PFOSA	0.100	0.123	23.4	30.00
NMeFOSA	0.400	0.452	13.0	30.00
NEtFOSA	0.400	0.426	6.4	30.00
NMeFOSAA	0.100	0.0745	-25.5	30.00
NEtFOSAA	0.100	0.144	44.4 *	30.00
NMeFOSE	0.400	0.463	15.7	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2310010
Laboratory ID: SC01019-LCV1
Sequence: SC01019
Standard ID: 23B0080

NEtFOSE	0.400	0.456	14.0	30.00
HFPO-DA	0.200	0.218	9.2	30.00
ADONA	0.189	0.197	4.0	30.00
PFEESA	0.178	0.182	2.0	30.00
PFMPA	0.200	0.209	4.6	30.00
PFMBA	0.200	0.220	9.8	30.00
NFDHA	0.200	0.206	3.2	30.00
9CL-PF3ONS	0.187	0.211	12.8	30.00
11CL-PF3OUDS	0.189	0.254	34.1 *	30.00
3:3FTCA	0.400	0.386	-3.6	30.00
5:3FTCA	0.400	0.365	-8.8	30.00
7:3FTCA	0.400	0.344	-13.9	30.00

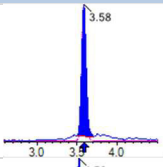
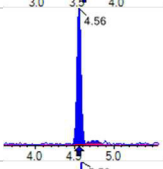
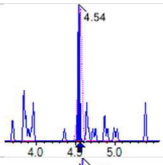
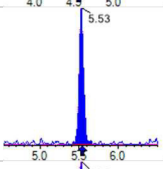
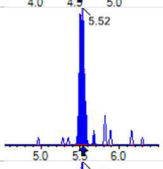
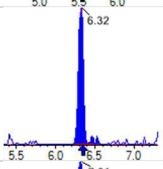
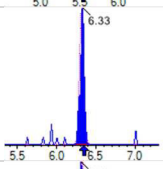
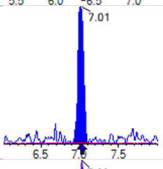
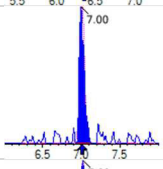
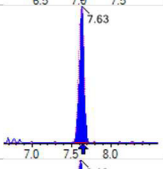
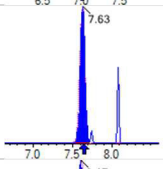
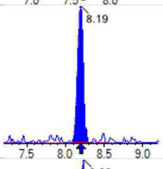
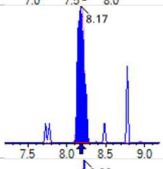
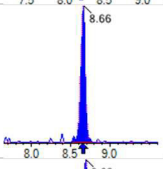
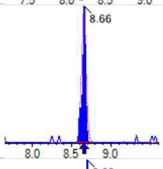
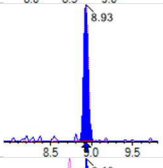
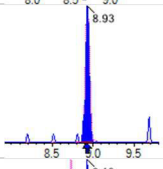
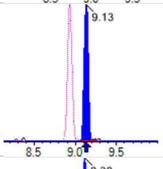
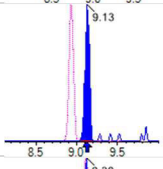
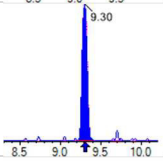
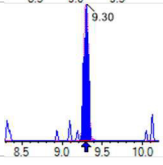
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

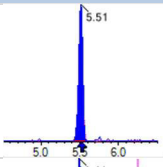
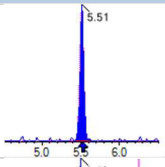
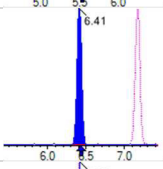
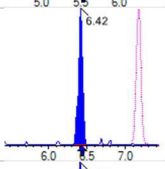
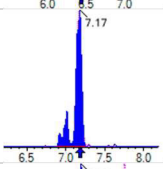
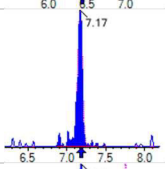
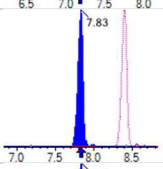
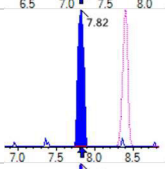
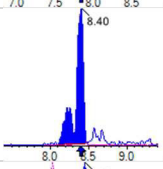
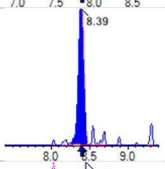
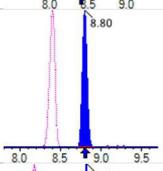
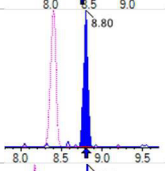
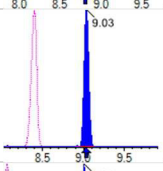
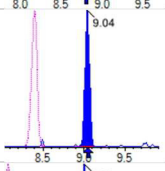
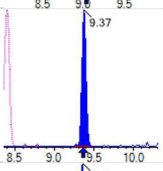
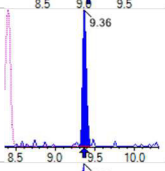
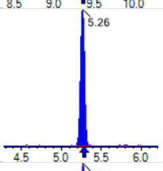
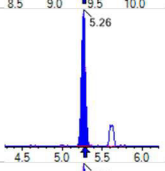
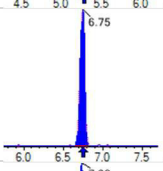
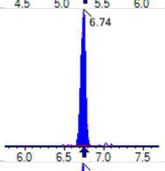
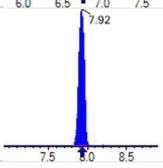
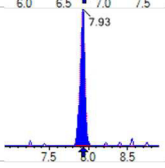
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 81550	(3.58 , 1.00) (0.00 , N/A , 0.0)	118.4	N/A 0.0 0.0	0.4473 [0.4000]	111.8%			
PFPeA	(263.0 / 219.0) 69679 (263.0 / 69.0) 619	(4.56 , 1.00) (0.00 , N/A , 1.0)	331.7 45.3	0.0089 78.4 81.8	0.2319 [0.2000]	115.9%			
PFHxA	(313.0 / 269.0) 40868 (313.0 / 119.0) 7062	(5.53 , 1.00) (0.00 , N/A , 0.5)	215.5 516631.9	0.1728 164.0 181.8	0.1030 [0.1000]	103.0%			IR2,
PFHpA	(363.0 / 319.0) 45186 (363.0 / 169.0) 8259	(6.32 , 1.00) (0.00 , N/A , -0.5)	449.0 703.5	0.1828 56.1 60.9	0.1313 [0.1000]	131.3%			QC,
PFOA	(413.0 / 369.0) 50517 (413.0 / 169.0) 20991	(7.01 , 1.00) (0.00 , N/A , 0.6)	94.0 163.3	0.4155 119.2 121.8	0.1197 [0.1000]	119.7%			
PFNA	(463.0 / 419.0) 43883 (463.0 / 169.0) 6010	(7.63 , 1.00) (0.00 , N/A , 0.2)	128933.4 101.9	0.1370 58.5 60.5	0.1127 [0.1000]	112.7%			
PFDA	(513.0 / 469.0) 51859 (513.0 / 169.0) 5524	(8.19 , 1.00) (0.01 , N/A , 1.1)	102.7 314.8	0.1065 100.1 99.5	0.1167 [0.1000]	116.7%			
PFUnA	(563.0 / 519.0) 47524 (563.0 / 169.0) 7917	(8.66 , 1.00) (0.01 , N/A , 0.0)	215.9 245.8	0.1666 138.9 136.3	0.1223 [0.1000]	122.3%			
PFDoA	(613.0 / 569.0) 40148 (613.0 / 169.0) 6657	(8.93 , 1.00) (0.00 , N/A , -0.2)	180.4 649.5	0.1658 101.9 97.4	0.1171 [0.1000]	117.1%			
PFTrDA	(663.0 / 619.0) 34782 (663.0 / 169.0) 9262	(9.13 , 1.02) (N/A , 0.00 , 0.0)	2136.4 175.7	0.2663 109.1 106.6	0.1058 [0.1000]	105.8%			
PFTeDA	(713.0 / 669.0) 33725 (713.0 / 169.0) 7013	(9.30 , 1.00) (0.00 , N/A , -0.3)	235.3 142.8	0.2079 108.8 100.6	0.1063 [0.1000]	106.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

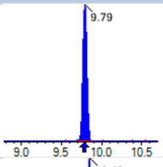
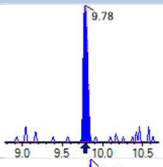
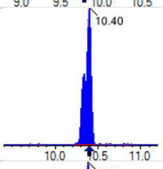
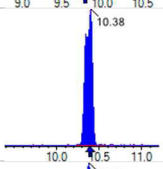
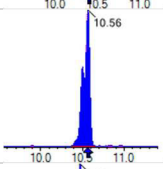
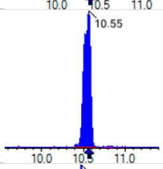
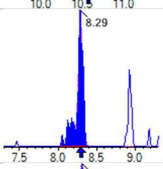
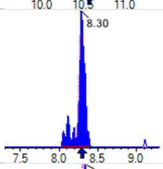
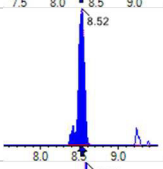
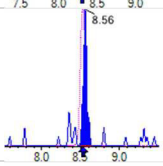
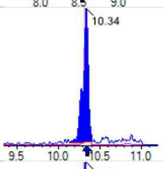
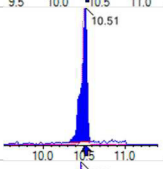
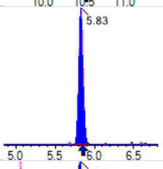
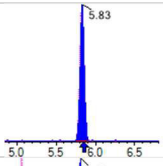
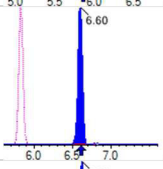
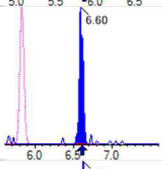
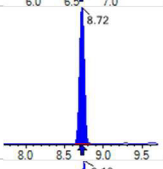
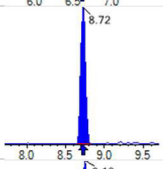
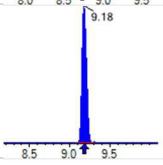
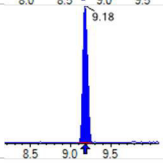
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 59275 (299.0 / 99.0) 39409	(5.51 , 1.00) (0.00 , N/A , -0.1)	403.7 222.2	0.6648 113.3 106.6	0.0932 [0.0885]	105.3%			
PFPeS	(349.0 / 80.0) 116103 (349.0 / 99.0) 42123	(6.41 , 0.89) (N/A , -0.01 , -0.2)	5918.8 8298.8	0.3628 106.2 101.9	0.1220 [0.0938]	130.0%			QC,
PFHxS	(399.0 / 80.0) 84524 (399.0 / 99.0) 29180	(7.17 , 1.00) (0.00 , N/A , -0.2)	1442.5 968585.4	0.3452 100.7 101.2	0.0976 [0.0911]	107.2%			
PFHpS	(449.0 / 80.0) 93776 (449.0 / 99.0) 24192	(7.83 , 0.93) (N/A , 0.01 , 0.7)	14251.7 81549.7	0.2580 90.8 93.2	0.0846 [0.0951]	88.9%			
PFOS	(499.0 / 80.0) 125051 (499.0 / 99.0) 31568	(8.40 , 1.00) (0.00 , N/A , 0.3)	146.6 101.9	0.2524 116.6 116.4	0.0908 [0.0927]	97.9%			
PFNS	(549.0 / 80.0) 147386 (549.0 / 99.0) 34482	(8.80 , 1.05) (N/A , 0.00 , -0.1)	4961.5 678.8	0.2340 102.0 92.7	0.1128 [0.0960]	117.5%			
PFDS	(599.0 / 80.0) 145395 (599.0 / 99.0) 37035	(9.03 , 1.08) (N/A , 0.00 , -0.3)	871.5 337.1	0.2547 112.5 109.6	0.0963 [0.0963]	100.0%			
PFDoS	(699.0 / 80.0) 101049 (699.0 / 99.0) 23759	(9.37 , 1.12) (N/A , 0.01 , 0.5)	413.7 173.7	0.2351 107.8 100.8	0.0838 [0.0970]	86.4%			
4:2FTS	(327.0 / 307.0) 77747 (327.0 / 81.0) 45087	(5.26 , 1.00) (0.00 , N/A , 0.1)	805.8 408.5	0.5799 93.7 91.9	0.4427 [0.3738]	118.4%			
6:2FTS	(427.0 / 407.0) 48453 (427.0 / 81.0) 44161	(6.75 , 1.00) (0.00 , N/A , 0.1)	14992.9 1969.8	0.9114 131.9 124.3	0.4420 [0.3796]	116.4%			
8:2FTS	(527.0 / 507.0) 50210 (527.0 / 81.0) 39836	(7.92 , 1.00) (0.00 , N/A , -0.2)	3860.5 484.4	0.7934 117.5 100.9	0.3888 [0.3833]	101.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

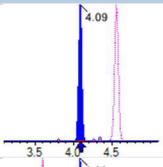
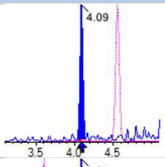
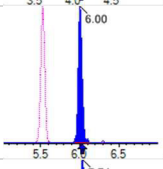
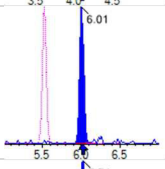
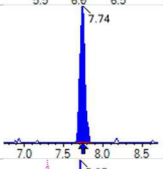
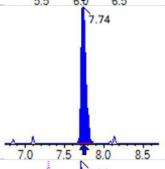
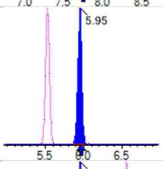
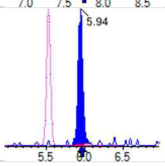
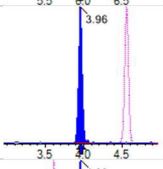
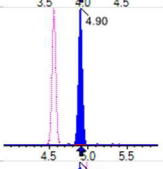
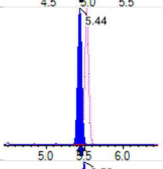
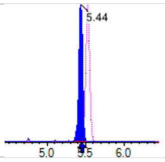
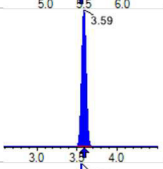
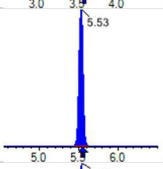
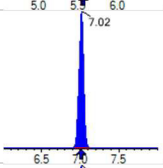
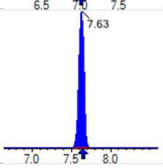
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 187149 (498.0 / 478.0) 6590	(9.79 , 1.00) (0.00 , N/A , 0.4)	789.7 86.8	0.0352 158.5 141.2	0.1234 [0.1000]	123.4%			
NMeFOSA	(512.0 / 219.0) 134068 (512.0 / 169.0) 112906	(10.40 , 1.00) (0.00 , N/A , 1.1)	1071.8 762.1	0.8422 100.7 99.5	0.4521 [0.4000]	113.0%			
NEtFOSA	(526.0 / 219.0) 142145 (526.0 / 169.0) 177723	(10.56 , 1.00) (0.00 , N/A , 0.8)	1126.8 1024.3	1.2503 98.0 99.1	0.4256 [0.4000]	106.4%			
NMeFOSAA	(570.0 / 419.0) 16147 (570.0 / 483.0) 13097	(8.29 , 1.00) (0.00 , N/A , -0.3)	27547.7 196.8	0.8111 172.7 162.8	0.0745 [0.1000]	74.5%			IR2,
NEtFOSAA	(584.0 / 419.0) 22820 (584.0 / 526.0) 6414	(8.52 , 1.00) (0.00 , N/A , -2.1)	752.0 519.5	0.2811 44.0 46.1	0.1444 [0.1000]	144.4%			QC,IR1,
NMeFOSE	(616.0 / 59.0) 61743	(10.34 , 1.00) (0.01 , N/A , 0.0)	166.0	N/A 0.0 0.0	0.4628 [0.4000]	115.7%			
NEtFOSE	(630.0 / 59.0) 63333	(10.51 , 1.00) (0.01 , N/A , 0.0)	188.0	N/A 0.0 0.0	0.4561 [0.4000]	114.0%			
HFPO-DA	(285.0 / 169.0) 41274 (285.0 / 185.0) 113024	(5.83 , 1.00) (0.00 , N/A , -0.4)	881.9 934.4	2.7384 101.7 102.8	0.2184 [0.2000]	109.2%			
ADONA	(377.0 / 85.0) 146042 (377.0 / 251.0) 18428	(6.60 , 1.13) (N/A , -0.01 , 0.0)	12693.8 209.1	0.1262 130.6 126.0	0.1966 [0.1885]	104.3%			
9Cl-Pf3ONS	(531.0 / 351.0) 422460 (533.0 / 353.0) 148370	(8.72 , 1.50) (N/A , 0.00 , 0.0)	846.3 549.4	0.3512 110.1 106.0	0.2110 [0.1867]	113.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 263814 (633.0 / 453.0) 90877	(9.18 , 1.57) (N/A , 0.00 , 0.0)	1325.6 625.6	0.3445 103.4 91.4	0.2535 [0.1886]	134.4%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

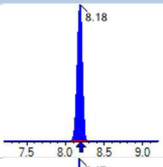
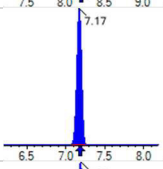
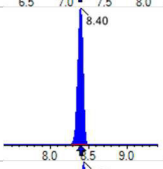
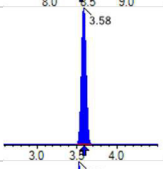
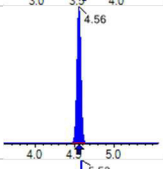
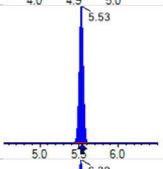
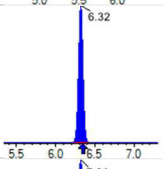
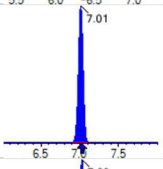
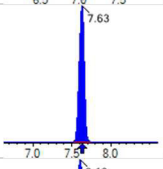
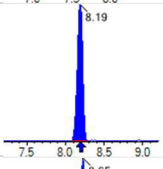
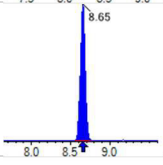
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3489 (241.0 / 117.0) 6024	(4.09 , 0.90) (N/A , 0.00 , -0.1)	52042.3 80.2	1.7268 84.7 116.0	0.3856 [0.4000]	96.4%			
5:3FTCA	(341.0 / 236.7) 24724 (341.0 / 217.0) 41026	(6.00 , 1.09) (N/A , -0.02 , -0.2)	192.4 193.3	1.6594 100.7 104.0	0.3650 [0.4000]	91.2%			
7:3FTCA	(441.0 / 317.0) 39157 (441.0 / 337.0) 34558	(7.74 , 1.40) (N/A , -0.01 , 0.1)	745.6 543.4	0.8825 103.0 101.9	0.3444 [0.4000]	86.1%			
PFEESA	(315.0 / 135.0) 89846 (315.0 / 83.0) 21711	(5.95 , 1.08) (N/A , -0.01 , 0.5)	482.8 129.3	0.2417 93.3 101.7	0.1815 [0.1785]	101.7%			
PFMPA	(229.0 / 85.0) 16175	(3.96 , 0.87) (N/A , 0.00 , 0.0)	679.4	N/A 0.0 0.0	0.2091 [0.2000]	104.6%			
PFMBA	(279.0 / 85.0) 54259	(4.90 , 1.07) (N/A , -0.01 , 0.0)	917.7	N/A 0.0 0.0	0.2196 [0.2000]	109.8%			
NFDHA	(295.0 / 201.0) 46451 (295.0 / 85.0) 41694	(5.44 , 0.98) (N/A , -0.01 , 0.0)	14699.9 4196.7	0.8976 89.4 96.6	0.2065 [0.2000]	103.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 206979	(3.59 , N/A) (N/A , 0.00 , N/A)	2790.3	N/A	0.9663 [1.0000]	96.6% { 114.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 316561	(5.53 , N/A) (N/A , -0.02 , N/A)	2126.3	N/A	1.0079 [1.0000]	100.8% { 111.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 430802	(7.02 , N/A) (N/A , 0.00 , N/A)	7105.0	N/A	0.9328 [1.0000]	93.3% { 108.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 429901	(7.63 , N/A) (N/A , 0.00 , N/A)	226.3	N/A	1.0302 [1.0000]	103.0% { 109.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

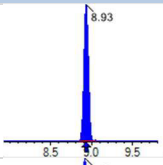
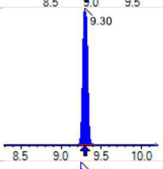
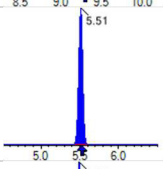
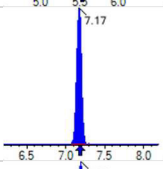
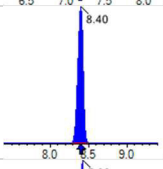
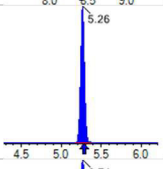
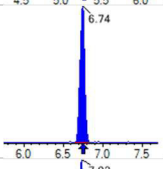
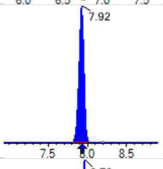
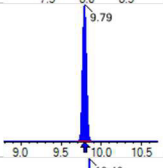
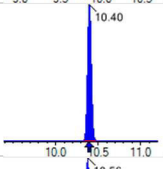
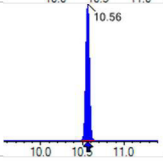
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 453622	(8.18 , N/A) (N/A , 0.00 , N/A)	1244.3	N/A	1.1295 [1.0000]	112.9% { 111.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 569129	(7.17 , N/A) (N/A , -0.01 , N/A)	2392.6	N/A	0.8383 [1.0000]	83.8% { 105.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 984303	(8.40 , N/A) (N/A , 0.00 , N/A)	1493.5	N/A	1.1471 [1.0000]	114.7% { 105.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1766407	(3.58 , N/A) (N/A , 0.00 , N/A)	7010.3	N/A	7.1712 [8.0000]	89.6% { 96.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1366535	(4.56 , N/A) (N/A , 0.00 , N/A)	5454.1	N/A	3.7369 [4.0000]	93.4% { 94.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 892793	(5.53 , N/A) (N/A , -0.02 , N/A)	3884.5	N/A	2.0234 [2.0000]	101.2% { 100.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 815561	(6.32 , N/A) (N/A , -0.01 , N/A)	3588.2	N/A	1.9404 [2.0000]	97.0% { 87.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 930288	(7.01 , N/A) (N/A , -0.01 , N/A)	3128.2	N/A	1.9877 [2.0000]	99.4% { 91.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 449869	(7.63 , N/A) (N/A , 0.00 , N/A)	1836.7	N/A	0.9849 [1.0000]	98.5% { 98.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 470878	(8.19 , N/A) (N/A , 0.00 , N/A)	1747.4	N/A	0.8625 [1.0000]	86.2% { 95.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 486423	(8.65 , N/A) (N/A , 0.00 , N/A)	5384.1	N/A	0.7991 [1.0000]	79.9% { 93.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

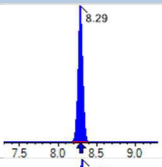
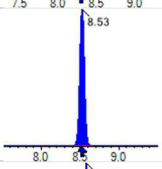
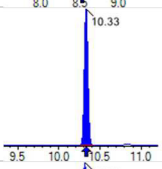
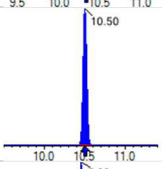
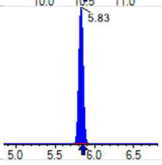
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 407622	(8.93 , N/A) (N/A , 0.00 , N/A)	6467.9	N/A	0.7661 [1.0000]	76.6% { 89.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 371682	(9.30 , N/A) (N/A , 0.01 , N/A)	1675.0	N/A	0.6623 [1.0000]	66.2% { 92.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1970629	(5.51 , N/A) (N/A , -0.02 , N/A)	4724.2	N/A	2.1856 [2.0000]	109.3% { 95.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1153984	(7.17 , N/A) (N/A , 0.00 , N/A)	1505.0	N/A	1.9708 [2.0000]	98.5% { 91.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2442007	(8.40 , N/A) (N/A , 0.00 , N/A)	3031.8	N/A	1.8504 [2.0000]	92.5% { 94.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 240867	(5.26 , N/A) (N/A , -0.02 , N/A)	1948.7	N/A	4.2115 [4.0000]	105.3% { 88.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 305262	(6.74 , N/A) (N/A , -0.01 , N/A)	1111.9	N/A	4.0653 [4.0000]	101.6% { 91.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 385850	(7.92 , N/A) (N/A , 0.00 , N/A)	1449.3	N/A	4.7432 [4.0000]	118.6% { 95.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3655124	(9.79 , N/A) (N/A , 0.00 , N/A)	4181.2	N/A	1.6192 [2.0000]	81.0% { 92.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 721297	(10.40 , N/A) (N/A , 0.00 , N/A)	2485.8	N/A	1.2489 [2.0000]	62.4% { 84.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 701624	(10.56 , N/A) (N/A , 0.00 , N/A)	2793.7	N/A	1.3347 [2.0000]	66.7% { 89.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (2)
Acquired: 2023/03/14 - 15:05

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 841626	(8.29 , N/A) (N/A , 0.00 , N/A)	1829.5	N/A	3.7294 [4.0000]	93.2% { 93.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 754219	(8.53 , N/A) (N/A , 0.00 , N/A)	15276.9	N/A	2.9821 [4.0000]	74.6% { 83.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2693864	(10.33 , N/A) (N/A , 0.00 , N/A)	1693.0	N/A	14.9892 [20.0000]	74.9% { 91.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2873030	(10.50 , N/A) (N/A , 0.00 , N/A)	2082.1	N/A	13.5443 [20.0000]	67.7% { 78.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1901693	(5.83 , N/A) (N/A , -0.02 , N/A)	4385.2	N/A	7.8046 [8.0000]	97.6% { 90.4% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV1	PFBA	20.0	18.9	94.7	ng/mL	+/- 30.00%
	PFPEA	10.0	9.84	98.4	ng/mL	+/- 30.00%
	PFHXA	5.00	4.79	95.8	ng/mL	+/- 30.00%
	PFHPA	5.00	4.43	88.6	ng/mL	+/- 30.00%
	PFOA	5.00	4.51	90.2	ng/mL	+/- 30.00%
	PFNA	5.00	4.74	94.8	ng/mL	+/- 30.00%
	PFDA	5.00	4.86	97.1	ng/mL	+/- 30.00%
	PFUnA	5.00	4.91	98.3	ng/mL	+/- 30.00%
	PFDOA	5.00	4.87	97.3	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.54	90.7	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.71	94.3	ng/mL	+/- 30.00%
	PFBS	4.42	4.24	95.9	ng/mL	+/- 30.00%
	PFPES	4.70	5.33	113	ng/mL	+/- 30.00%
	PFHXS	4.58	4.38	95.7	ng/mL	+/- 30.00%
	PFHPS	4.78	3.97	83.1	ng/mL	+/- 30.00%
	PFOS	4.65	4.26	91.7	ng/mL	+/- 30.00%
	PFNS	4.80	4.72	98.3	ng/mL	+/- 30.00%
	PFDS	4.82	4.72	97.9	ng/mL	+/- 30.00%
	PFDOS	4.85	4.05	83.6	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.9	95.1	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.8	98.7	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.7	92.4	ng/mL	+/- 30.00%
	PFOSA	5.00	4.85	97.0	ng/mL	+/- 30.00%
	NMeFOSA	20.0	17.8	88.9	ng/mL	+/- 30.00%
	NEtFOSA	20.0	18.5	92.6	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.08	81.6	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.27	85.4	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.7	93.4	ng/mL	+/- 30.00%
	NEtFOSE	20.0	18.7	93.3	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.2	102	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

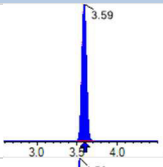
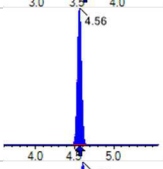
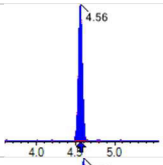
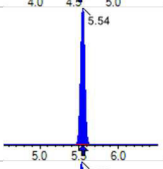
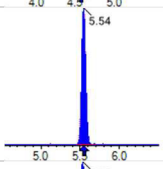
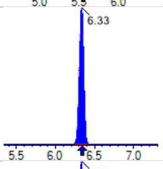
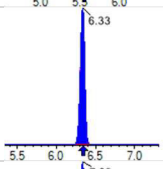
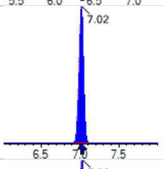
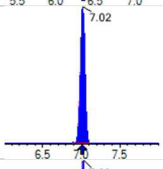
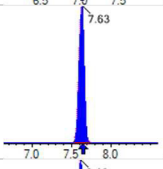
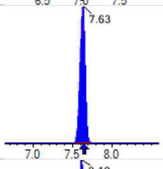
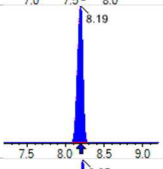
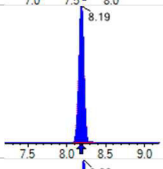
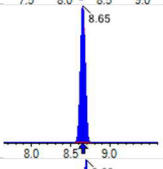
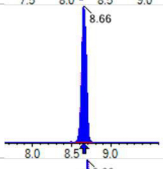
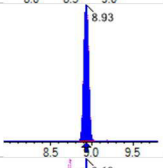
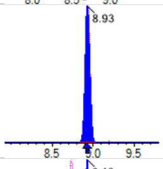
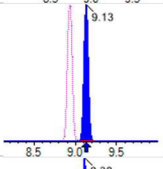
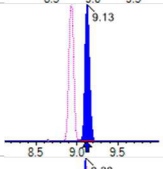
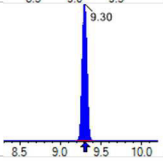
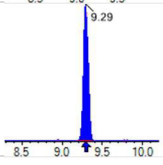
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV1	ADONA	9.45	8.63	91.3	ng/mL	+/- 30.00%
	PFEESA	8.90	9.15	103	ng/mL	+/- 30.00%
	PFMPA	10.0	9.33	93.3	ng/mL	+/- 30.00%
	PFMBA	10.0	9.46	94.6	ng/mL	+/- 30.00%
	NFDHA	10.0	9.64	96.4	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.33	99.8	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.48	100	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.5	97.3	ng/mL	+/- 30.00%
	5:3FTCA	20.0	16.8	84.0	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.1	85.4	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

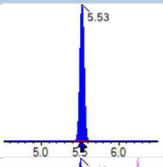
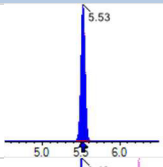
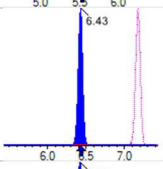
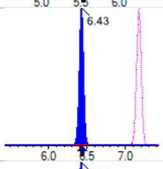
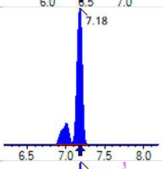
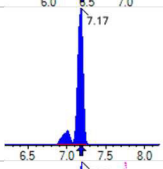
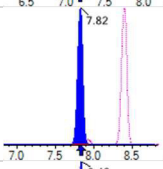
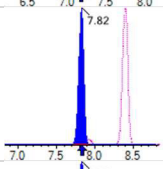
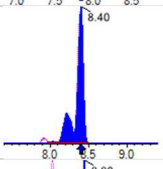
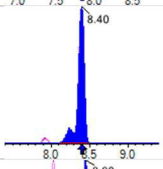
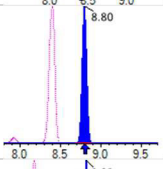
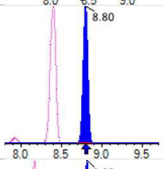
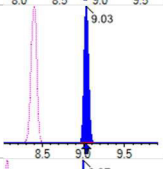
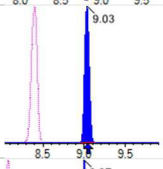
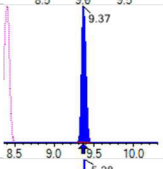
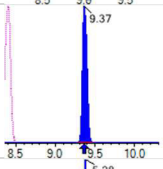
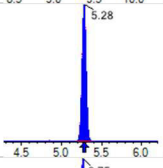
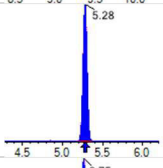
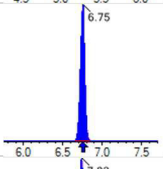
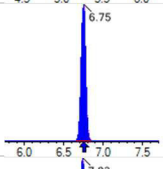
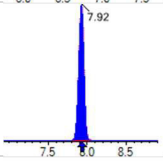
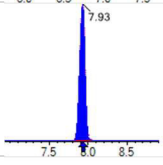
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3593166	(3.59 , 1.00) (0.00 , N/A , 0.0)	257.2	N/A 0.0 0.0	18.9466 [20.0000]	94.7%			
PFPeA	(263.0 / 219.0) 3147577 (263.0 / 69.0) 34179	(4.56 , 1.00) (0.00 , N/A , 0.1)	5419.2 725.7	0.0109 95.9 100.0	9.8408 [10.0000]	98.4%			
PFHxA	(313.0 / 269.0) 1891323 (313.0 / 119.0) 179763	(5.54 , 1.00) (0.00 , N/A , 0.1)	4334.4 402219.8	0.0950 90.2 100.0	4.7877 [5.0000]	95.8%			
PFHpA	(363.0 / 319.0) 1738359 (363.0 / 169.0) 521526	(6.33 , 1.00) (0.00 , N/A , 0.0)	10747.2 497441.5	0.3000 92.0 100.0	4.4312 [5.0000]	88.6%			
PFOA	(413.0 / 369.0) 2091373 (413.0 / 169.0) 713311	(7.02 , 1.00) (0.00 , N/A , 0.1)	3166.9 5376.0	0.3411 97.9 100.0	4.5107 [5.0000]	90.2%			
PFNA	(463.0 / 419.0) 1873005 (463.0 / 169.0) 424054	(7.63 , 1.00) (0.00 , N/A , 0.0)	9397.6 6635.3	0.2264 96.7 100.0	4.7395 [5.0000]	94.8%			
PFDA	(513.0 / 469.0) 2262468 (513.0 / 169.0) 242102	(8.19 , 1.00) (0.00 , N/A , 0.2)	2502.2 1644.4	0.1070 100.6 100.0	4.8572 [5.0000]	97.1%			
PFUnA	(563.0 / 519.0) 2047989 (563.0 / 169.0) 250246	(8.65 , 1.00) (0.00 , N/A , -0.2)	3006.4 2041.9	0.1222 101.9 100.0	4.9141 [5.0000]	98.3%			
PFDoA	(613.0 / 569.0) 1868386 (613.0 / 169.0) 317933	(8.93 , 1.00) (0.00 , N/A , 0.1)	2715.8 1384.6	0.1702 104.5 100.0	4.8659 [5.0000]	97.3%			
PFTrDA	(663.0 / 619.0) 1670075 (663.0 / 169.0) 417100	(9.13 , 1.02) (N/A , 0.00 , 0.3)	3258.9 1498.1	0.2497 102.3 100.0	4.5354 [5.0000]	90.7%			
PFTeDA	(713.0 / 669.0) 1623495 (713.0 / 169.0) 335515	(9.30 , 1.00) (0.00 , N/A , 0.1)	3241.9 972.8	0.2067 108.1 100.0	4.7150 [5.0000]	94.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

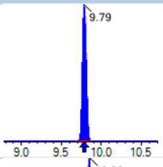
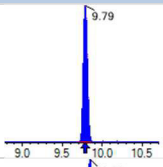
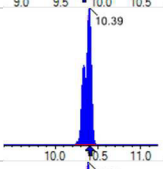
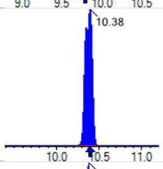
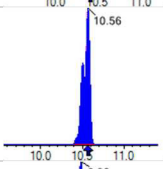
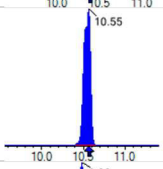
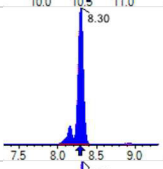
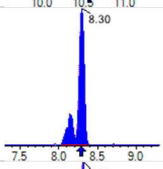
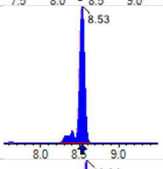
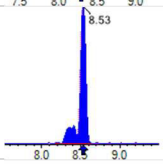
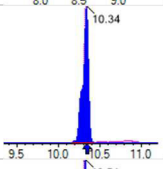
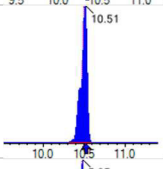
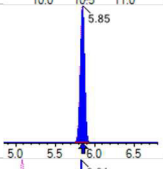
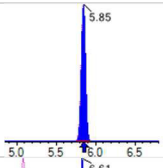
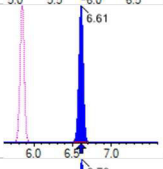
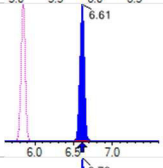
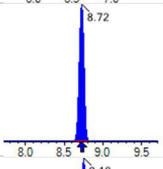
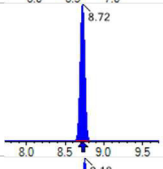
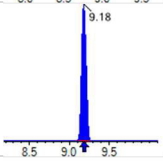
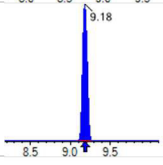
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2824272 (299.0 / 99.0) 1761257	(5.53 , 1.00) (0.00 , N/A , 0.0)	5092.0 3427.4	0.6236 106.3 100.0	4.2388 [4.4237]	95.8%			
PFPeS	(349.0 / 80.0) 5545372 (349.0 / 99.0) 1975108	(6.43 , 0.90) (N/A , 0.00 , 0.0)	5339.0 43353490.3	0.3562 104.2 100.0	5.3334 [4.6919]	113.7%			
PFHxS	(399.0 / 80.0) 4145236 (399.0 / 99.0) 1413391	(7.18 , 1.00) (0.00 , N/A , 0.2)	11547.2 3083.7	0.3410 99.5 100.0	4.3825 [4.5549]	96.2%			
PFHpS	(449.0 / 80.0) 4645650 (449.0 / 99.0) 1286321	(7.82 , 0.93) (N/A , 0.00 , -0.1)	18694.5 14211243.1	0.2769 97.4 100.0	3.9744 [4.7570]	83.5%			
PFOS	(499.0 / 80.0) 6195708 (499.0 / 99.0) 1343933	(8.40 , 1.00) (0.00 , N/A , 0.2)	2107.7 1024.8	0.2169 100.2 100.0	4.2646 [4.6375]	92.0%			
PFNS	(549.0 / 80.0) 6497586 (549.0 / 99.0) 1640639	(8.80 , 1.05) (N/A , 0.00 , -0.1)	24790.5 1240016.0	0.2525 110.1 100.0	4.7161 [4.7994]	98.3%			
PFDS	(599.0 / 80.0) 7511950 (599.0 / 99.0) 1745823	(9.03 , 1.08) (N/A , 0.00 , 0.0)	4193.0 2944.0	0.2324 102.7 100.0	4.7196 [4.8155]	98.0%			
PFDoS	(699.0 / 80.0) 5155695 (699.0 / 99.0) 1202892	(9.37 , 1.12) (N/A , 0.00 , -0.1)	3459.0 2861.5	0.2333 107.0 100.0	4.0523 [4.8478]	83.6%			
4:2FTS	(327.0 / 307.0) 3558308 (327.0 / 81.0) 2245033	(5.28 , 1.00) (0.00 , N/A , 0.1)	5759.9 4107.9	0.6309 101.9 100.0	17.8799 [18.6906]	95.7%			
6:2FTS	(427.0 / 407.0) 2247124 (427.0 / 81.0) 1648109	(6.75 , 1.00) (0.00 , N/A , 0.2)	3802.5 4700.9	0.7334 106.2 100.0	18.7612 [18.9808]	98.8%			
8:2FTS	(527.0 / 507.0) 2396403 (527.0 / 81.0) 1883970	(7.92 , 1.00) (0.00 , N/A , 0.0)	3310.8 2571.6	0.7862 116.4 100.0	17.7454 [19.1658]	92.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

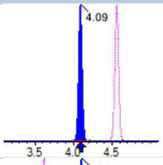
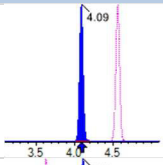
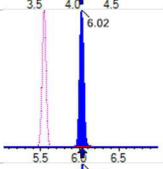
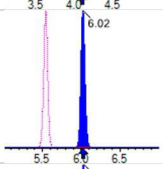
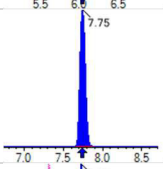
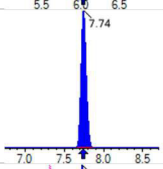
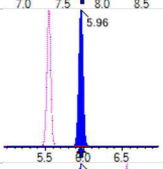
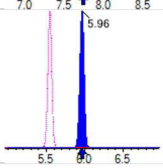
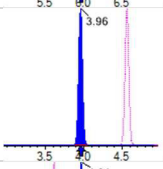
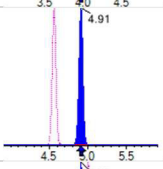
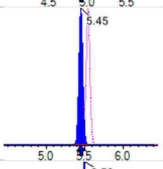
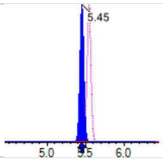
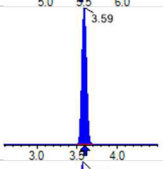
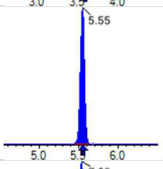
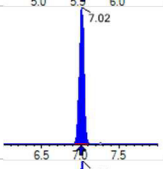
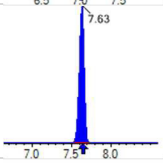
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7984056 (498.0 / 478.0) 199155	(9.79 , 1.00) (0.00 , N/A , 0.0)	5819.7 1047.2	0.0249 112.3 100.0	4.8516 [5.0000]	97.0%			
NMeFOSA	(512.0 / 219.0) 6231107 (512.0 / 169.0) 5272242	(10.39 , 1.00) (0.00 , N/A , 1.0)	4689.7 6863.1	0.8461 101.2 100.0	17.7861 [20.0000]	88.9%			
NEtFOSA	(526.0 / 219.0) 6883791 (526.0 / 169.0) 8687537	(10.56 , 1.00) (0.00 , N/A , 0.8)	10219.2 11257.2	1.2620 98.9 100.0	18.5225 [20.0000]	92.6%			
NMeFOSAA	(570.0 / 419.0) 948352 (570.0 / 483.0) 472578	(8.30 , 1.00) (0.01 , N/A , 0.0)	4780.6 374.7	0.4983 106.1 100.0	4.0799 [5.0000]	81.6%			
NEtFOSAA	(584.0 / 419.0) 809067 (584.0 / 526.0) 493220	(8.53 , 1.00) (0.01 , N/A , -0.1)	4726.3 1141.5	0.6096 95.5 100.0	4.2714 [5.0000]	85.4%			
NMeFOSE	(616.0 / 59.0) 2736062	(10.34 , 1.00) (0.01 , N/A , 0.0)	2907.9	N/A 0.0 0.0	18.6814 [20.0000]	93.4%			
NEtFOSE	(630.0 / 59.0) 3292672	(10.51 , 1.00) (0.01 , N/A , 0.0)	1508.1	N/A 0.0 0.0	18.6585 [20.0000]	93.3%			
HFPO-DA	(285.0 / 169.0) 2137882 (285.0 / 185.0) 5695885	(5.85 , 1.00) (0.00 , N/A , 0.1)	3414.3 6150.6	2.6643 99.0 100.0	10.2323 [10.0000]	102.3%			
ADONA	(377.0 / 85.0) 7090441 (377.0 / 251.0) 710285	(6.61 , 1.13) (N/A , 0.00 , -0.1)	5446.2 1440.9	0.1002 103.7 100.0	8.6322 [9.4270]	91.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 20655028 (533.0 / 353.0) 6845990	(8.72 , 1.49) (N/A , 0.00 , 0.1)	4862.8 3347.5	0.3314 103.9 100.0	9.3289 [9.3325]	100.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 12512224 (633.0 / 453.0) 4715428	(9.18 , 1.57) (N/A , 0.00 , 0.0)	4349.3 5949.7	0.3769 113.2 100.0	9.4760 [9.4321]	100.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

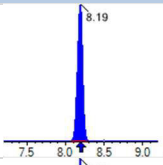
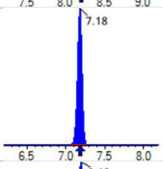
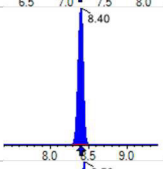
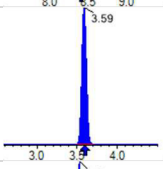
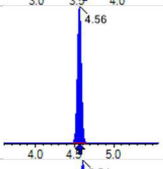
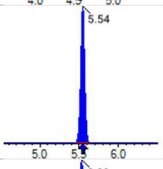
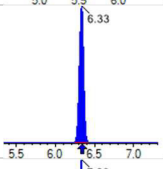
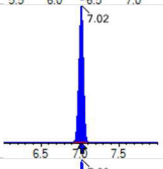
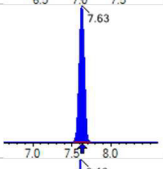
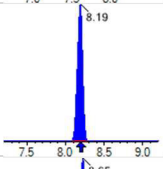
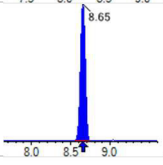
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 187335 (241.0 / 117.0) 278820	(4.09 , 0.90) (N/A , 0.00 , 0.0)	2751.1 1784.0	1.4884 73.0 100.0	19.4551 [20.0000]	97.3%			
5:3FTCA	(341.0 / 236.7) 1133511 (341.0 / 217.0) 1808816	(6.02 , 1.09) (N/A , 0.00 , 0.2)	1556.6 2279.8	1.5958 96.9 100.0	16.8087 [20.0000]	84.0%			
7:3FTCA	(441.0 / 317.0) 1932643 (441.0 / 337.0) 1674633	(7.75 , 1.40) (N/A , 0.00 , 0.0)	1700.4 2188.0	0.8665 101.1 100.0	17.0757 [20.0000]	85.4%			
PFEESA	(315.0 / 135.0) 4508672 (315.0 / 83.0) 1071446	(5.96 , 1.08) (N/A , 0.00 , 0.0)	5534.4 2402.9	0.2376 91.7 100.0	9.1509 [8.9246]	102.5%			
PFMPA	(229.0 / 85.0) 768476	(3.96 , 0.87) (N/A , 0.00 , 0.0)	5883.7	N/A 0.0 0.0	9.3335 [10.0000]	93.3%			
PFMBA	(279.0 / 85.0) 2486999	(4.91 , 1.08) (N/A , 0.00 , 0.0)	4945.3	N/A 0.0 0.0	9.4574 [10.0000]	94.6%			
NFDHA	(295.0 / 201.0) 2160152 (295.0 / 85.0) 2007412	(5.45 , 0.98) (N/A , 0.00 , 0.0)	3777.1 3829.3	0.9293 92.5 100.0	9.6448 [10.0000]	96.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 180150	(3.59 , N/A) (N/A , 0.00 , N/A)	2244.3	N/A	0.8410 [1.0000]	84.1% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 284384	(5.55 , N/A) (N/A , 0.00 , N/A)	1998.1	N/A	0.9055 [1.0000]	90.5% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 396494	(7.02 , N/A) (N/A , 0.00 , N/A)	2496.5	N/A	0.8586 [1.0000]	85.9% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 392723	(7.63 , N/A) (N/A , 0.00 , N/A)	2898093.4	N/A	0.9411 [1.0000]	94.1% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

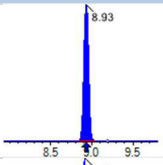
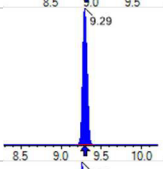
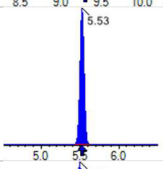
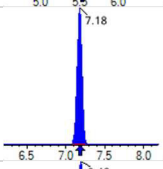
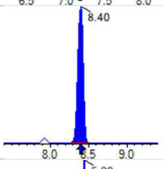
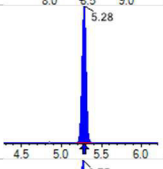
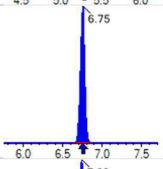
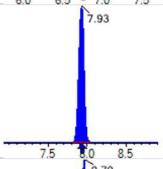
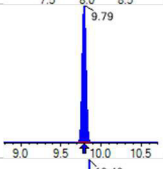
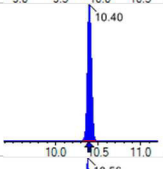
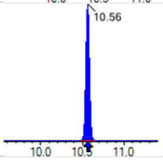
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 407253	(8.19 , N/A) (N/A , 0.00 , N/A)	4884.2	N/A	1.0140 [1.0000]	101.4% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 541864	(7.18 , N/A) (N/A , 0.00 , N/A)	4922.3	N/A	0.7981 [1.0000]	79.8% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 931887	(8.40 , N/A) (N/A , 0.00 , N/A)	1896.0	N/A	1.0860 [1.0000]	108.6% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1837220	(3.59 , N/A) (N/A , 0.00 , N/A)	7048.7	N/A	8.5695 [8.0000]	107.1% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1454522	(4.56 , N/A) (N/A , 0.00 , N/A)	5868.3	N/A	4.4275 [4.0000]	110.7% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 888739	(5.54 , N/A) (N/A , 0.00 , N/A)	2695.2	N/A	2.2421 [2.0000]	112.1% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 929912	(6.33 , N/A) (N/A , 0.00 , N/A)	3026.1	N/A	2.4628 [2.0000]	123.1% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1021617	(7.02 , N/A) (N/A , 0.00 , N/A)	2475.6	N/A	2.3717 [2.0000]	118.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 456678	(7.63 , N/A) (N/A , 0.00 , N/A)	26524.7	N/A	1.0944 [1.0000]	109.4% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 493779	(8.19 , N/A) (N/A , 0.00 , N/A)	2229.8	N/A	1.0074 [1.0000]	100.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 521794	(8.65 , N/A) (N/A , 0.00 , N/A)	1388.2	N/A	0.9548 [1.0000]	95.5% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

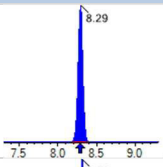
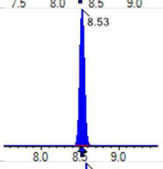
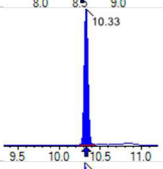
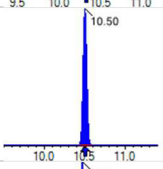
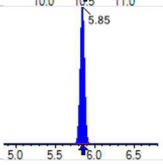
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 456433	(8.93 , N/A) (N/A , 0.00 , N/A)	1767.0	N/A	0.9555 [1.0000]	95.5% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 403298	(9.29 , N/A) (N/A , 0.00 , N/A)	3213.7	N/A	0.8005 [1.0000]	80.0% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2064338	(5.53 , N/A) (N/A , 0.00 , N/A)	5328.3	N/A	2.4047 [2.0000]	120.2% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1260957	(7.18 , N/A) (N/A , 0.00 , N/A)	3580.8	N/A	2.2618 [2.0000]	113.1% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2575554	(8.40 , N/A) (N/A , 0.00 , N/A)	1469.0	N/A	2.0614 [2.0000]	103.1% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 272923	(5.28 , N/A) (N/A , 0.00 , N/A)	1515.4	N/A	5.0121 [4.0000]	125.3% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 333527	(6.75 , N/A) (N/A , 0.00 , N/A)	1590.9	N/A	4.6652 [4.0000]	116.6% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 403533	(7.93 , N/A) (N/A , 0.00 , N/A)	1628.4	N/A	5.2102 [4.0000]	130.3% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3965702	(9.79 , N/A) (N/A , 0.00 , N/A)	5201.1	N/A	1.8556 [2.0000]	92.8% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 852133	(10.40 , N/A) (N/A , 0.00 , N/A)	2997.3	N/A	1.5585 [2.0000]	77.9% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 780808	(10.56 , N/A) (N/A , 0.00 , N/A)	3402.5	N/A	1.5688 [2.0000]	78.4% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (3)
Acquired: 2023/03/14 - 15:18

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 902766	(8.29 , N/A) (N/A , 0.00 , N/A)	1719.6	N/A	4.2253 [4.0000]	105.6% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 904294	(8.53 , N/A) (N/A , 0.00 , N/A)	3886.2	N/A	3.7766 [4.0000]	94.4% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2957595	(10.33 , N/A) (N/A , 0.00 , N/A)	1093.2	N/A	17.3823 [20.0000]	86.9% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3651494	(10.50 , N/A) (N/A , 0.00 , N/A)	2066.1	N/A	18.1825 [20.0000]	90.9% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2102550	(5.85 , N/A) (N/A , 0.00 , N/A)	6191.4	N/A	9.6052 [8.0000]	120.1% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV2	PFBA	20.0	18.8	94.1	ng/mL	+/- 30.00%
	PFPEA	10.0	9.60	96.0	ng/mL	+/- 30.00%
	PFHXA	5.00	4.59	91.9	ng/mL	+/- 30.00%
	PFHPA	5.00	4.74	94.8	ng/mL	+/- 30.00%
	PFOA	5.00	4.82	96.4	ng/mL	+/- 30.00%
	PFNA	5.00	5.14	103	ng/mL	+/- 30.00%
	PFDA	5.00	4.20	83.9	ng/mL	+/- 30.00%
	PFUnA	5.00	4.82	96.4	ng/mL	+/- 30.00%
	PFDOA	5.00	4.78	95.5	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.33	86.6	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.78	95.6	ng/mL	+/- 30.00%
	PFBS	4.42	4.55	103	ng/mL	+/- 30.00%
	PFPES	4.70	5.57	118	ng/mL	+/- 30.00%
	PFHXS	4.58	4.64	101	ng/mL	+/- 30.00%
	PFHPS	4.78	3.74	78.1	ng/mL	+/- 30.00%
	PFOS	4.65	4.20	90.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.17	87.0	ng/mL	+/- 30.00%
	PFDS	4.82	4.50	93.4	ng/mL	+/- 30.00%
	PFDOS	4.85	3.72	76.6	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.5	109	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.6	103	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.4	95.7	ng/mL	+/- 30.00%
	PFOSA	5.00	4.83	96.7	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.2	90.8	ng/mL	+/- 30.00%
	NEtFOSA	20.0	17.8	89.2	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.27	85.5	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.21	104	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.0	95.0	ng/mL	+/- 30.00%
	NEtFOSE	20.0	20.1	101	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.77	97.7	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

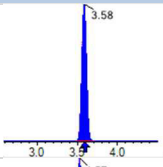
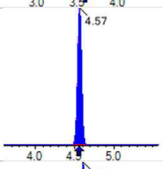
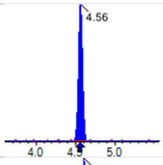
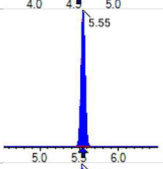
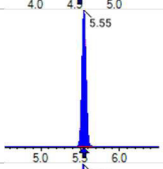
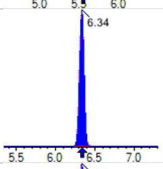
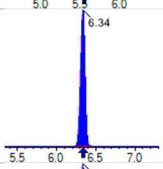
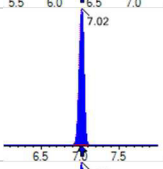
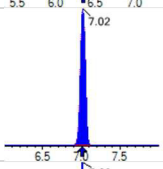
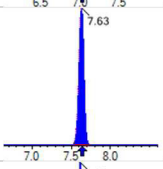
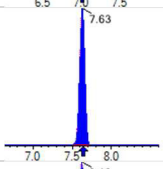
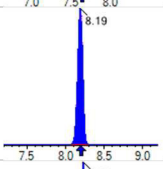
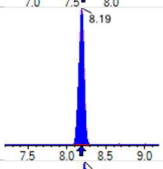
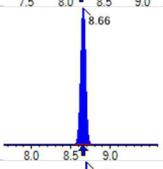
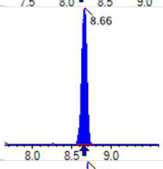
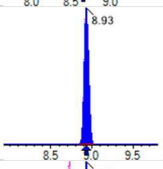
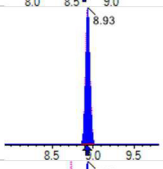
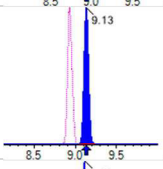
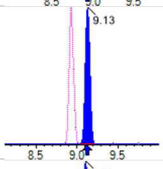
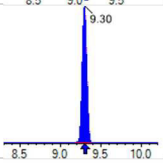
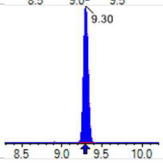
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV2	ADONA	9.45	8.43	89.2	ng/mL	+/- 30.00%
	PFEESA	8.90	7.51	84.4	ng/mL	+/- 30.00%
	PFMPA	10.0	8.98	89.8	ng/mL	+/- 30.00%
	PFMBA	10.0	9.38	93.8	ng/mL	+/- 30.00%
	NFDHA	10.0	9.26	92.6	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.89	106	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.74	103	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.8	98.8	ng/mL	+/- 30.00%
	5:3FTCA	**20.0**	**13.0**	**65.2**	**ng/mL**	+/- 30.00%
	7:3FTCA	20.0	15.7	78.7	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

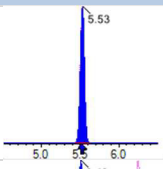
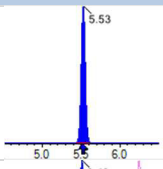
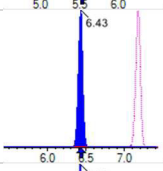
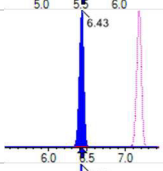
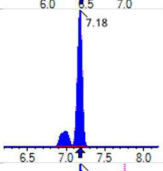
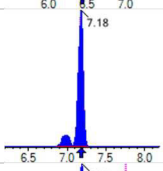
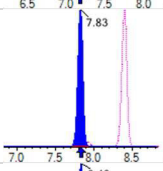
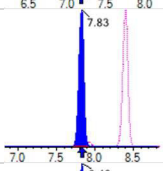
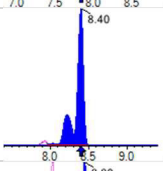
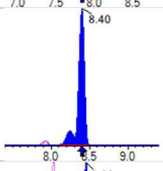
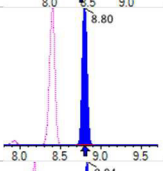
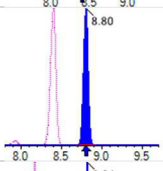
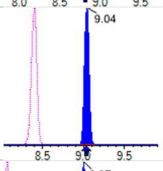
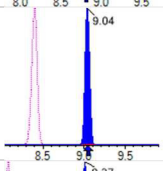
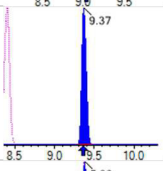
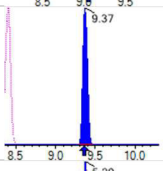
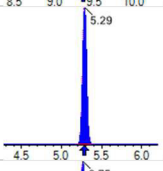
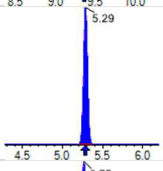
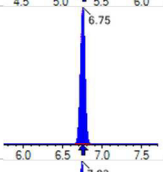
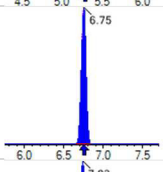
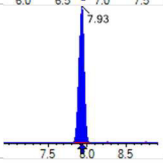
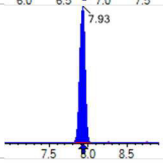
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3521184	(3.58 , 1.00) (0.00 , N/A , 0.0)	240.4	N/A 0.0 0.0	18.8249 [20.0000]	94.1%			
PFPeA	(263.0 / 219.0) 3012151 (263.0 / 69.0) 37989	(4.57 , 1.00) (0.00 , N/A , 0.1)	5555.5 582.1	0.0126 111.4 116.1	9.6019 [10.0000]	96.0%			
PFHxA	(313.0 / 269.0) 1903732 (313.0 / 119.0) 187410	(5.55 , 1.00) (0.00 , N/A , 0.2)	6603.4 751483.8	0.0984 93.5 103.6	4.5947 [5.0000]	91.9%			
PFHpA	(363.0 / 319.0) 1683470 (363.0 / 169.0) 513411	(6.34 , 1.00) (0.00 , N/A , 0.0)	5843.5 3887.6	0.3050 93.6 101.7	4.7384 [5.0000]	94.8%			
PFOA	(413.0 / 369.0) 2005746 (413.0 / 169.0) 642509	(7.02 , 1.00) (0.00 , N/A , 0.2)	2564.8 4639.9	0.3203 91.9 93.9	4.8215 [5.0000]	96.4%			
PFNA	(463.0 / 419.0) 1937557 (463.0 / 169.0) 435068	(7.63 , 1.00) (0.01 , N/A , 0.2)	36585.7 9511.7	0.2245 95.9 99.2	5.1418 [5.0000]	102.8%			
PFDA	(513.0 / 469.0) 2227771 (513.0 / 169.0) 268816	(8.19 , 1.00) (0.00 , N/A , 0.1)	2040.9 4653.8	0.1207 113.4 112.8	4.1952 [5.0000]	83.9%			
PFUnA	(563.0 / 519.0) 2135283 (563.0 / 169.0) 272708	(8.66 , 1.00) (0.00 , N/A , -0.1)	2007.2 1336.8	0.1277 106.5 104.5	4.8189 [5.0000]	96.4%			
PFDoA	(613.0 / 569.0) 1951065 (613.0 / 169.0) 331721	(8.93 , 1.00) (0.00 , N/A , 0.0)	2796.0 3441.6	0.1700 104.5 99.9	4.7765 [5.0000]	95.5%			
PFTrDA	(663.0 / 619.0) 1695793 (663.0 / 169.0) 399521	(9.13 , 1.02) (N/A , 0.00 , 0.1)	3778.2 1421.5	0.2356 96.5 94.3	4.3290 [5.0000]	86.6%			
PFTeDA	(713.0 / 669.0) 1726437 (713.0 / 169.0) 335835	(9.30 , 1.00) (0.00 , N/A , 0.0)	3660.5 1430.9	0.1945 101.8 94.1	4.7819 [5.0000]	95.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

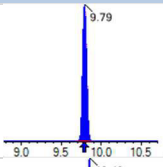
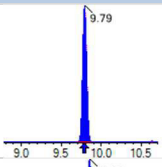
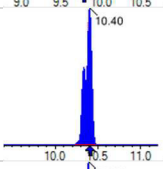
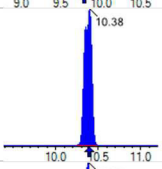
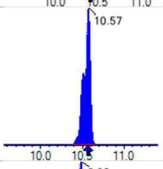
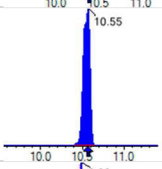
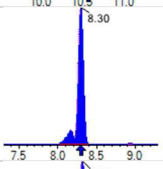
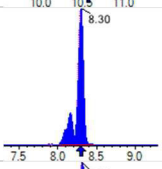
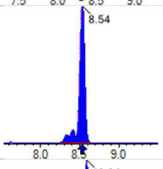
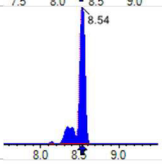
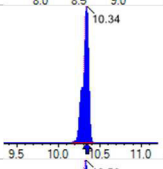
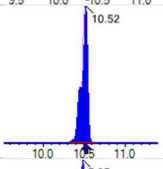
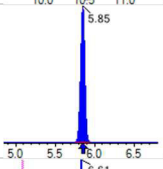
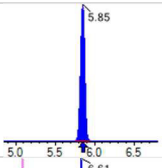
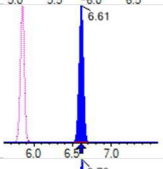
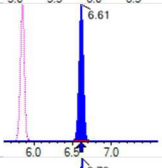
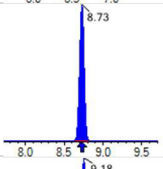
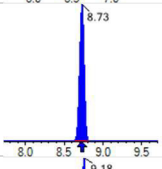
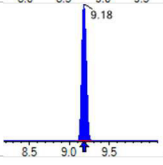
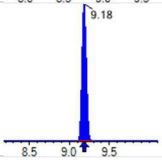
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2949724 (299.0 / 99.0) 1750590	(5.53 , 1.00) (0.00 , N/A , 0.1)	4926.6 3722.6	0.5935 101.2 95.2	4.5523 [4.4237]	102.9%			
PFPeS	(349.0 / 80.0) 5543463 (349.0 / 99.0) 1897469	(6.43 , 0.90) (N/A , 0.00 , -0.1)	74982.2 7011.4	0.3423 100.2 96.1	5.5669 [4.6919]	118.6%			
PFHxS	(399.0 / 80.0) 4203559 (399.0 / 99.0) 1418629	(7.18 , 1.00) (0.00 , N/A , -0.1)	23070.6 2735.5	0.3375 98.4 99.0	4.6404 [4.5549]	101.9%			
PFHpS	(449.0 / 80.0) 4603584 (449.0 / 99.0) 1246556	(7.83 , 0.93) (N/A , 0.00 , 0.0)	31856691.5 5215.5	0.2708 95.3 97.8	3.7354 [4.7570]	78.5%			
PFOS	(499.0 / 80.0) 6440725 (499.0 / 99.0) 1379070	(8.40 , 1.00) (0.00 , N/A , 0.0)	1910.5 998.0	0.2141 98.9 98.7	4.2047 [4.6375]	90.7%			
PFNS	(549.0 / 80.0) 6062713 (549.0 / 99.0) 1409304	(8.80 , 1.05) (N/A , 0.00 , -0.2)	9417.4 1031075.6	0.2325 101.4 92.1	4.1737 [4.7994]	87.0%			
PFDS	(599.0 / 80.0) 7553749 (599.0 / 99.0) 1702763	(9.04 , 1.08) (N/A , 0.01 , 0.0)	5782.9 3401.2	0.2254 99.6 97.0	4.5012 [4.8155]	93.5%			
PFDoS	(699.0 / 80.0) 4985250 (699.0 / 99.0) 1115620	(9.37 , 1.12) (N/A , 0.00 , -0.1)	6017.6 2615.7	0.2238 102.6 95.9	3.7163 [4.8478]	76.7%			
4:2FTS	(327.0 / 307.0) 3446714 (327.0 / 81.0) 2158819	(5.29 , 1.00) (0.00 , N/A , 0.0)	4146.2 4706.6	0.6263 101.1 99.3	20.5242 [18.6906]	109.8%			
6:2FTS	(427.0 / 407.0) 2272064 (427.0 / 81.0) 1717822	(6.75 , 1.00) (0.00 , N/A , 0.0)	3999.1 3702.0	0.7561 109.4 103.1	19.5613 [18.9808]	103.1%			
8:2FTS	(527.0 / 507.0) 2564724 (527.0 / 81.0) 1888045	(7.93 , 1.00) (0.00 , N/A , 0.1)	3035.6 2571.1	0.7362 109.0 93.6	18.3699 [19.1658]	95.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

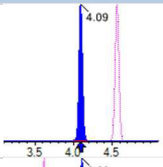
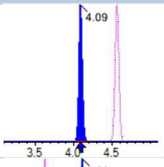
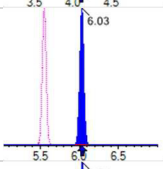
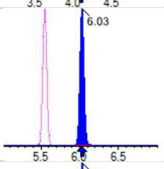
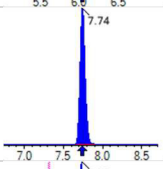
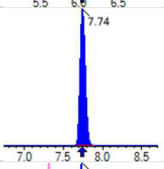
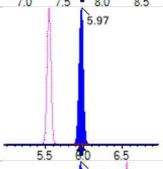
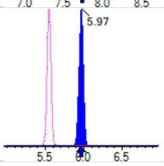
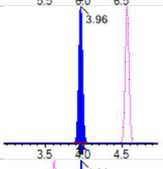
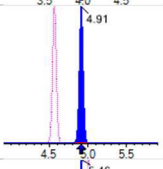
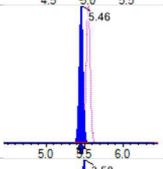
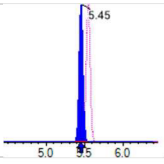
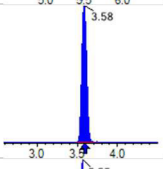
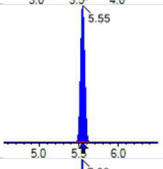
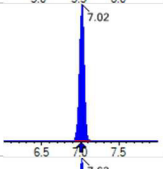
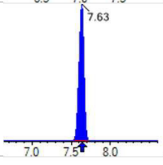
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7858447 (498.0 / 478.0) 178706	(9.79 , 1.00) (0.00 , N/A , 0.0)	5306.4 1378.0	0.0227 102.3 91.2	4.8333 [5.0000]	96.7%			
NMeFOSA	(512.0 / 219.0) 6170300 (512.0 / 169.0) 5300398	(10.40 , 1.00) (0.00 , N/A , 1.0)	5278.1 5577.9	0.8590 102.7 101.5	18.1620 [20.0000]	90.8%			
NEtFOSA	(526.0 / 219.0) 6409277 (526.0 / 169.0) 8231730	(10.57 , 1.00) (0.00 , N/A , 1.2)	8489.7 11400.0	1.2843 100.6 101.8	17.8492 [20.0000]	89.2%			
NMeFOSAA	(570.0 / 419.0) 1044706 (570.0 / 483.0) 461468	(8.30 , 1.00) (0.01 , N/A , -0.1)	3399.1 506.8	0.4417 94.0 88.6	4.2728 [5.0000]	85.5%			
NEtFOSAA	(584.0 / 419.0) 911868 (584.0 / 526.0) 516222	(8.54 , 1.00) (0.01 , N/A , 0.0)	2955.3 1740.6	0.5661 88.7 92.9	5.2130 [5.0000]	104.3%			
NMeFOSE	(616.0 / 59.0) 2754961	(10.34 , 1.00) (0.01 , N/A , 0.0)	2466.0	N/A 0.0 0.0	19.0057 [20.0000]	95.0%			
NEtFOSE	(630.0 / 59.0) 3051633	(10.52 , 1.00) (0.01 , N/A , 0.0)	1360.3	N/A 0.0 0.0	20.1244 [20.0000]	100.6%			
HFPO-DA	(285.0 / 169.0) 2011411 (285.0 / 185.0) 5430937	(5.85 , 1.00) (0.00 , N/A , 0.1)	3042.2 4884.2	2.7001 100.3 101.3	9.7685 [10.0000]	97.7%			
ADONA	(377.0 / 85.0) 6822137 (377.0 / 251.0) 707028	(6.61 , 1.13) (N/A , 0.00 , 0.0)	4033.7 2164.5	0.1036 107.3 103.5	8.4276 [9.4270]	89.4%			
9Cl-Pf3ONS	(531.0 / 351.0) 21580493 (533.0 / 353.0) 6717665	(8.73 , 1.49) (N/A , 0.00 , 0.0)	4707.4 3364.0	0.3113 97.6 93.9	9.8902 [9.3325]	106.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 12664675 (633.0 / 453.0) 4749840	(9.18 , 1.57) (N/A , 0.00 , -0.1)	4903.1 3913.9	0.3750 112.6 99.5	9.7432 [9.4321]	103.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

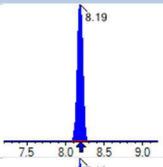
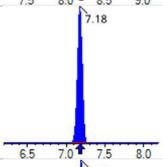
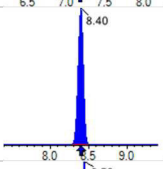
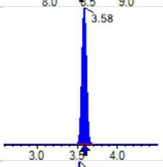
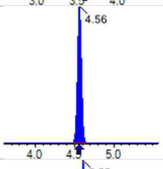
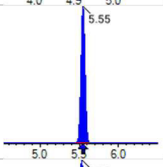
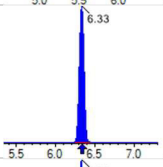
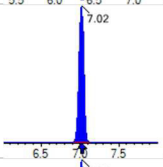
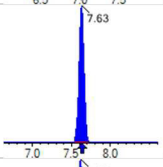
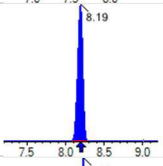
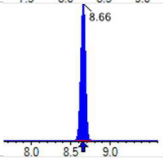
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 186667 (241.0 / 117.0) 286217	(4.09 , 0.90) (N/A , 0.00 , 0.1)	2554.1 1876.0	1.5333 75.2 103.0	19.7656 [20.0000]	98.8%			
5:3FTCA	(341.0 / 236.7) 922629 (341.0 / 217.0) 1700301	(6.03 , 1.09) (N/A , 0.01 , 0.2)	2699.9 2421.6	1.8429 111.9 115.5	13.0442 [20.0000]	65.2%			QC,
7:3FTCA	(441.0 / 317.0) 1868191 (441.0 / 337.0) 1629661	(7.74 , 1.40) (N/A , 0.00 , -0.1)	1829.9 1819.6	0.8723 101.8 100.7	15.7374 [20.0000]	78.7%			
PFEESA	(315.0 / 135.0) 3880568 (315.0 / 83.0) 845196	(5.97 , 1.08) (N/A , 0.00 , 0.0)	5849.0 2264.0	0.2178 84.1 91.7	7.5092 [8.9246]	84.1%			
PFMPA	(229.0 / 85.0) 724981	(3.96 , 0.87) (N/A , 0.00 , 0.0)	5534.9	N/A 0.0 0.0	8.9778 [10.0000]	89.8%			
PFMBA	(279.0 / 85.0) 2419506	(4.91 , 1.08) (N/A , 0.00 , 0.0)	5361.7	N/A 0.0 0.0	9.3810 [10.0000]	93.8%			
NFDHA	(295.0 / 201.0) 2175878 (295.0 / 85.0) 2105955	(5.46 , 0.98) (N/A , 0.00 , 0.1)	3639.9 3469.2	0.9679 96.4 104.2	9.2625 [10.0000]	92.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 175812	(3.58 , N/A) (N/A , 0.00 , N/A)	1924.0	N/A	0.8208 [1.0000]	82.1% { 97.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 299363	(5.55 , N/A) (N/A , 0.00 , N/A)	3724.9	N/A	0.9532 [1.0000]	95.3% { 105.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 397298	(7.02 , N/A) (N/A , 0.00 , N/A)	3579.8	N/A	0.8603 [1.0000]	86.0% { 100.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 391441	(7.63 , N/A) (N/A , 0.00 , N/A)	2503.2	N/A	0.9380 [1.0000]	93.8% { 99.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

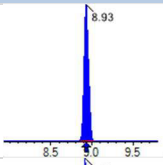
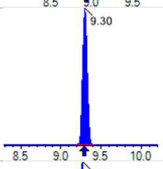
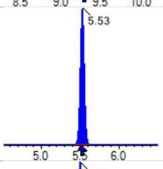
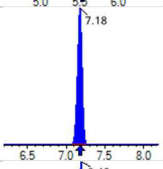
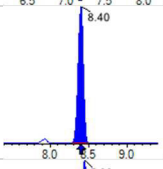
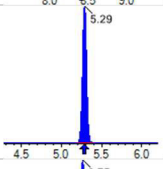
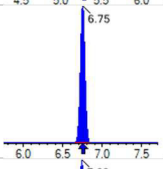
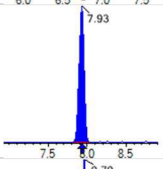
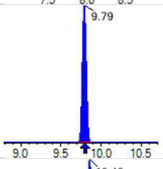
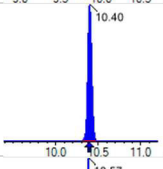
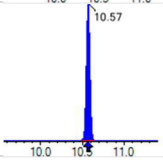
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 415739	(8.19 , N/A) (N/A , 0.00 , N/A)	21173.7	N/A	1.0352 [1.0000]	103.5% { 102.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 552832	(7.18 , N/A) (N/A , 0.00 , N/A)	1795.7	N/A	0.8143 [1.0000]	81.4% { 102.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 972357	(8.40 , N/A) (N/A , 0.00 , N/A)	2102.7	N/A	1.1332 [1.0000]	113.3% { 104.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1812055	(3.58 , N/A) (N/A , 0.00 , N/A)	5940.1	N/A	8.6607 [8.0000]	108.3% { 98.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1426574	(4.56 , N/A) (N/A , 0.00 , N/A)	4254.8	N/A	4.1252 [4.0000]	103.1% { 98.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 932160	(5.55 , N/A) (N/A , 0.00 , N/A)	5345.2	N/A	2.2340 [2.0000]	111.7% { 104.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 842155	(6.33 , N/A) (N/A , 0.00 , N/A)	2213.8	N/A	2.1187 [2.0000]	105.9% { 90.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 916643	(7.02 , N/A) (N/A , 0.00 , N/A)	2367.2	N/A	2.1237 [2.0000]	106.2% { 89.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 435455	(7.63 , N/A) (N/A , 0.00 , N/A)	1986.8	N/A	1.0470 [1.0000]	104.7% { 95.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 562931	(8.19 , N/A) (N/A , 0.00 , N/A)	3188.6	N/A	1.1250 [1.0000]	112.5% { 114.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 554788	(8.66 , N/A) (N/A , 0.00 , N/A)	11366.4	N/A	0.9945 [1.0000]	99.4% { 106.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

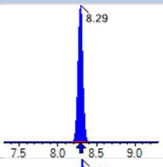
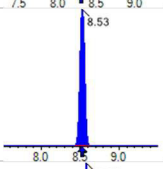
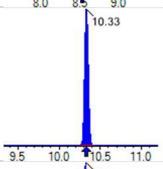
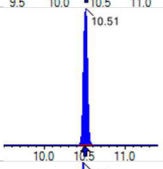
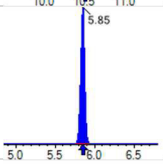
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 485556	(8.93 , N/A) (N/A , 0.00 , N/A)	3755.9	N/A	0.9957 [1.0000]	99.6% { 106.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 422870	(9.30 , N/A) (N/A , 0.01 , N/A)	2868.5	N/A	0.8222 [1.0000]	82.2% { 104.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2007573	(5.53 , N/A) (N/A , 0.00 , N/A)	4199.1	N/A	2.2922 [2.0000]	114.6% { 97.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1207647	(7.18 , N/A) (N/A , 0.00 , N/A)	3187.5	N/A	2.1232 [2.0000]	106.2% { 95.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2715529	(8.40 , N/A) (N/A , 0.00 , N/A)	1932.6	N/A	2.0830 [2.0000]	104.1% { 105.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 230304	(5.29 , N/A) (N/A , 0.00 , N/A)	1723.5	N/A	4.1455 [4.0000]	103.6% { 84.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 323437	(6.75 , N/A) (N/A , 0.00 , N/A)	2870.8	N/A	4.4343 [4.0000]	110.9% { 97.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 417195	(7.93 , N/A) (N/A , 0.00 , N/A)	962.2	N/A	5.2797 [4.0000]	132.0% { 103.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3918123	(9.79 , N/A) (N/A , 0.00 , N/A)	4853.5	N/A	1.7571 [2.0000]	87.9% { 98.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 826352	(10.40 , N/A) (N/A , 0.00 , N/A)	2330.2	N/A	1.4484 [2.0000]	72.4% { 97.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 754407	(10.57 , N/A) (N/A , 0.01 , N/A)	3026.7	N/A	1.4527 [2.0000]	72.6% { 96.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (17)
Acquired: 2023/03/14 - 18:18

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 949600	(8.29 , N/A) (N/A , 0.00 , N/A)	2225.0	N/A	4.2596 [4.0000]	106.5% { 105.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 835096	(8.53 , N/A) (N/A , 0.00 , N/A)	3980.9	N/A	3.3425 [4.0000]	83.6% { 92.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2927218	(10.33 , N/A) (N/A , 0.00 , N/A)	2133.6	N/A	16.4877 [20.0000]	82.4% { 99.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3137685	(10.51 , N/A) (N/A , 0.01 , N/A)	1663.6	N/A	14.9737 [20.0000]	74.9% { 85.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2072091	(5.85 , N/A) (N/A , 0.00 , N/A)	3295.0	N/A	8.9924 [8.0000]	112.4% { 98.6% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV3	PFBA	20.0	19.3	96.3	ng/mL	+/- 30.00%
	PFPEA	10.0	9.65	96.5	ng/mL	+/- 30.00%
	PFHXA	5.00	4.93	98.5	ng/mL	+/- 30.00%
	PFHPA	5.00	5.16	103	ng/mL	+/- 30.00%
	PFOA	5.00	4.43	88.6	ng/mL	+/- 30.00%
	PFNA	5.00	4.78	95.6	ng/mL	+/- 30.00%
	PFDA	5.00	4.44	88.8	ng/mL	+/- 30.00%
	PFUnA	5.00	5.01	100	ng/mL	+/- 30.00%
	PFDOA	5.00	4.93	98.7	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.56	91.3	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.63	92.7	ng/mL	+/- 30.00%
	PFBS	4.42	4.45	101	ng/mL	+/- 30.00%
	PFPES	4.70	5.33	113	ng/mL	+/- 30.00%
	PFHXS	4.58	4.44	96.8	ng/mL	+/- 30.00%
	PFHPS	4.78	3.91	81.8	ng/mL	+/- 30.00%
	PFOS	4.65	4.06	87.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.90	102	ng/mL	+/- 30.00%
	PFDS	4.82	4.48	92.9	ng/mL	+/- 30.00%
	PFDOS	4.85	3.96	81.7	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.3	108	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.4	102	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.2	94.9	ng/mL	+/- 30.00%
	PFOSA	5.00	5.07	101	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.8	94.0	ng/mL	+/- 30.00%
	NEtFOSA	20.0	19.0	94.9	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.08	81.6	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.03	101	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.8	93.8	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.4	96.9	ng/mL	+/- 30.00%
	HFPO-DA	10.0	11.0	110	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23C0038
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2310010
Standard ID:	23B0095	Sequence:	SC01019

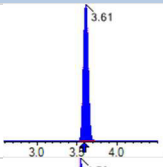
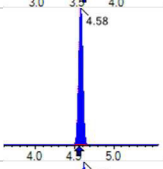
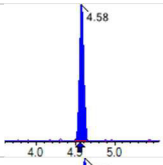
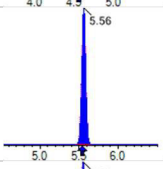
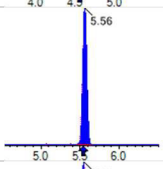
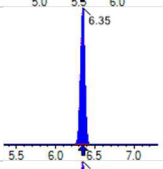
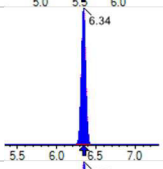
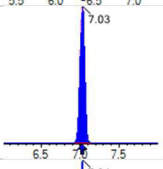
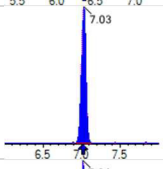
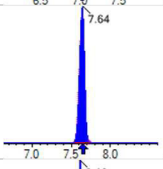
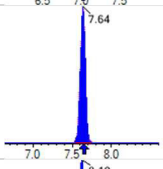
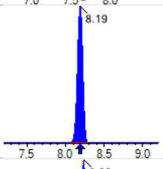
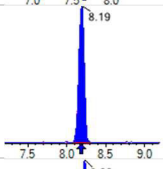
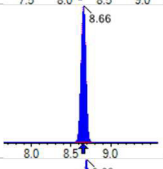
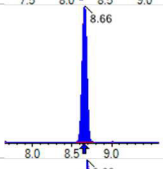
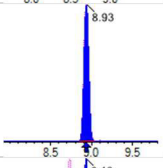
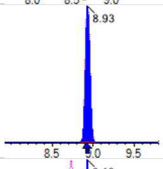
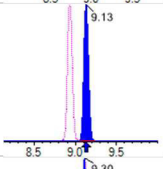
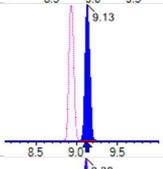
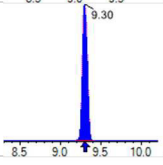
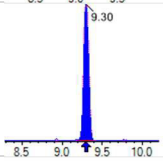
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC01019-CCV3	ADONA	9.45	10.0	106	ng/mL	+/- 30.00%
	PFEESA	8.90	9.32	105	ng/mL	+/- 30.00%
	PFMPA	10.0	8.77	87.7	ng/mL	+/- 30.00%
	PFMBA	10.0	9.49	94.9	ng/mL	+/- 30.00%
	NFDHA	10.0	10.3	103	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	11.2	120	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	11.3	119	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.9	99.5	ng/mL	+/- 30.00%
	5:3FTCA	20.0	16.0	80.2	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.5	92.4	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

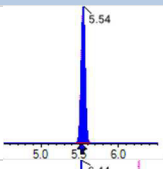
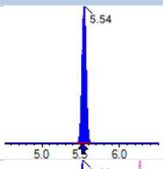
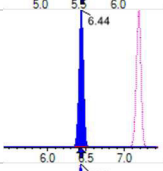
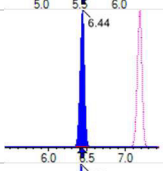
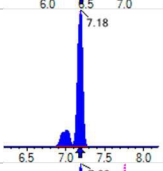
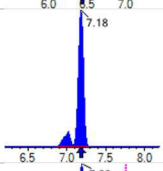
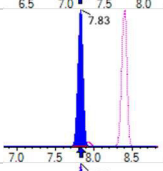
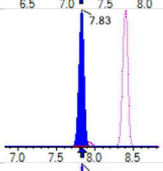
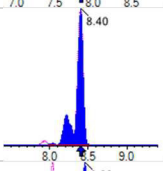
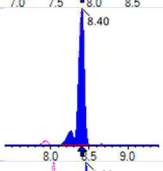
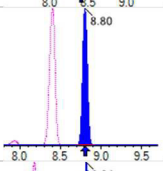
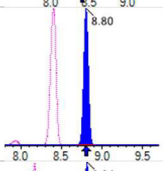
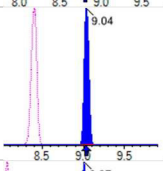
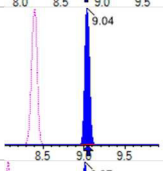
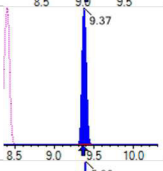
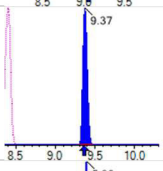
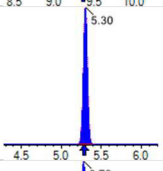
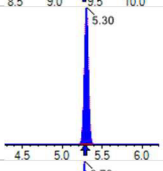
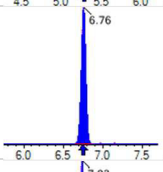
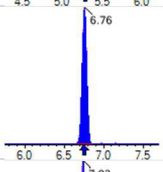
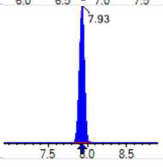
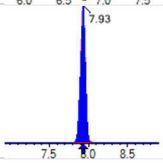
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3603398	(3.61 , 1.00) (0.00 , N/A , 0.0)	255.7	N/A 0.0 0.0	19.2627 [20.0000]	96.3%			
PFPeA	(263.0 / 219.0) 3074435 (263.0 / 69.0) 38786	(4.58 , 1.00) (0.00 , N/A , 0.1)	5104.3 645.8	0.0126 111.4 116.2	9.6487 [10.0000]	96.5%			
PFHxA	(313.0 / 269.0) 1817651 (313.0 / 119.0) 180679	(5.56 , 1.00) (0.00 , N/A , 0.0)	5220.2 563048.9	0.0994 94.4 104.6	4.9265 [5.0000]	98.5%			
PFHpA	(363.0 / 319.0) 1840535 (363.0 / 169.0) 529580	(6.35 , 1.00) (0.00 , N/A , 0.2)	7388.0 7940.4	0.2877 88.3 95.9	5.1592 [5.0000]	103.2%			
PFOA	(413.0 / 369.0) 1892612 (413.0 / 169.0) 644423	(7.03 , 1.00) (0.00 , N/A , -0.1)	2332.8 5344.0	0.3405 97.7 99.8	4.4294 [5.0000]	88.6%			
PFNA	(463.0 / 419.0) 1919286 (463.0 / 169.0) 391031	(7.64 , 1.00) (0.00 , N/A , 0.1)	10793.6 2198.6	0.2037 87.0 90.0	4.7783 [5.0000]	95.6%			
PFDA	(513.0 / 469.0) 2296231 (513.0 / 169.0) 247134	(8.19 , 1.00) (0.00 , N/A , 0.0)	2404.0 1015.6	0.1076 101.2 100.6	4.4396 [5.0000]	88.8%			
PFUnA	(563.0 / 519.0) 2232635 (563.0 / 169.0) 266303	(8.66 , 1.00) (0.00 , N/A , 0.0)	2992.7 1058.3	0.1193 99.5 97.6	5.0100 [5.0000]	100.2%			
PFDoA	(613.0 / 569.0) 1935454 (613.0 / 169.0) 325352	(8.93 , 1.00) (0.00 , N/A , 0.0)	2587.3 6373.4	0.1681 103.3 98.8	4.9341 [5.0000]	98.7%			
PFTrDA	(663.0 / 619.0) 1717148 (663.0 / 169.0) 400302	(9.13 , 1.02) (N/A , 0.00 , 0.1)	3386.9 1876.1	0.2331 95.5 93.3	4.5647 [5.0000]	91.3%			
PFTeDA	(713.0 / 669.0) 1657081 (713.0 / 169.0) 317245	(9.30 , 1.00) (0.00 , N/A , 0.1)	2258.6 1053.4	0.1914 100.2 92.6	4.6328 [5.0000]	92.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

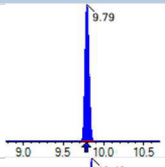
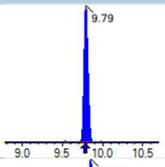
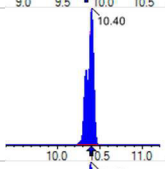
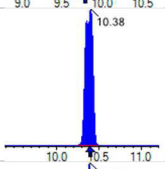
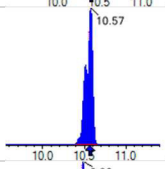
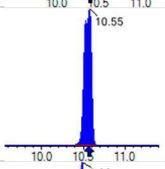
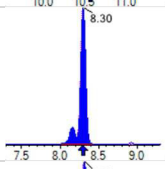
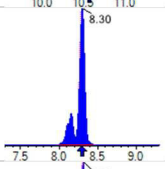
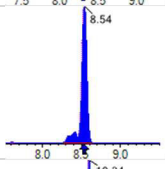
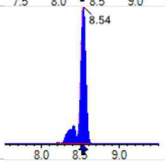
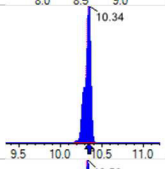
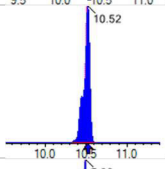
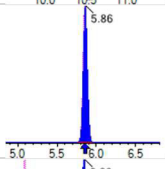
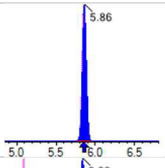
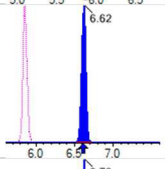
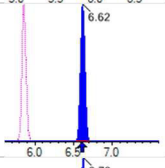
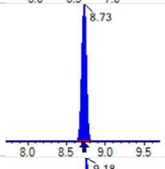
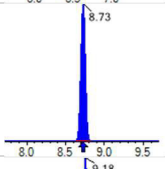
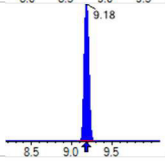
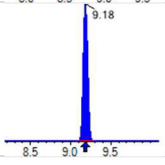
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2922787 (299.0 / 99.0) 1786998	(5.54 , 1.00) (0.00 , N/A , 0.0)	5628.7 3717.1	0.6114 104.2 98.0	4.4518 [4.4237]	100.6%			
PFPeS	(349.0 / 80.0) 5464175 (349.0 / 99.0) 1971431	(6.44 , 0.90) (N/A , 0.01 , 0.0)	242039.6 2589473.9	0.3608 105.6 101.3	5.3342 [4.6919]	113.7%			
PFHxS	(399.0 / 80.0) 4133090 (399.0 / 99.0) 1396430	(7.18 , 1.00) (0.00 , N/A , 0.1)	31293.4 2964.4	0.3379 98.6 99.1	4.4352 [4.5549]	97.4%			
PFHpS	(449.0 / 80.0) 4789498 (449.0 / 99.0) 1259204	(7.83 , 0.93) (N/A , 0.00 , 0.0)	389445.8 16845.0	0.2629 92.5 95.0	3.9095 [4.7570]	82.2%			
PFOS	(499.0 / 80.0) 6186396 (499.0 / 99.0) 1382173	(8.40 , 1.00) (0.00 , N/A , -0.1)	1713.7 797.1	0.2234 103.2 103.0	4.0629 [4.6375]	87.6%			
PFNS	(549.0 / 80.0) 7082006 (549.0 / 99.0) 1661553	(8.80 , 1.05) (N/A , 0.00 , -0.1)	24950.9 16141.7	0.2346 102.3 92.9	4.9045 [4.7994]	102.2%			
PFDS	(599.0 / 80.0) 7468341 (599.0 / 99.0) 1716037	(9.04 , 1.08) (N/A , 0.00 , 0.0)	4866.3 2759.9	0.2298 101.5 98.9	4.4769 [4.8155]	93.0%			
PFDoS	(699.0 / 80.0) 5282001 (699.0 / 99.0) 1132592	(9.37 , 1.12) (N/A , 0.01 , 0.1)	5060.3 1932.9	0.2144 98.3 91.9	3.9611 [4.8478]	81.7%			
4:2FTS	(327.0 / 307.0) 3476269 (327.0 / 81.0) 2129787	(5.30 , 1.00) (0.00 , N/A , 0.0)	5195.8 4245.4	0.6127 98.9 97.1	20.3250 [18.6906]	108.7%			
6:2FTS	(427.0 / 407.0) 2257063 (427.0 / 81.0) 1672609	(6.76 , 1.00) (0.00 , N/A , 0.1)	2450.4 3737.5	0.7411 107.3 101.0	19.3794 [18.9808]	102.1%			
8:2FTS	(527.0 / 507.0) 2606993 (527.0 / 81.0) 1947409	(7.93 , 1.00) (0.00 , N/A , -0.1)	3662.3 3278.7	0.7470 110.6 95.0	18.2207 [19.1658]	95.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

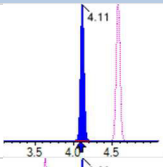
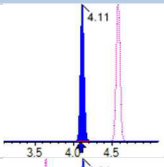
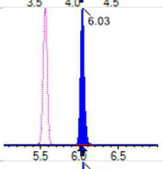
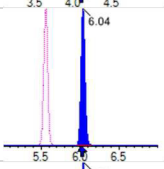
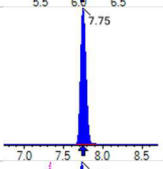
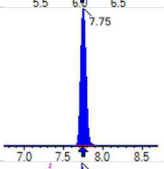
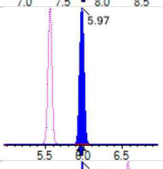
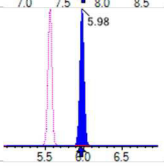
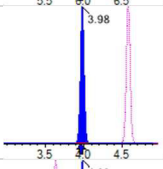
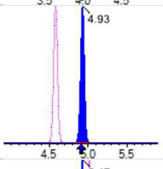
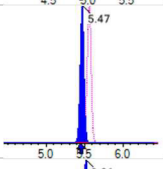
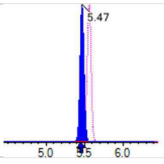
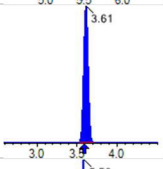
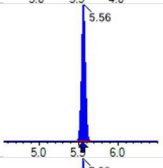
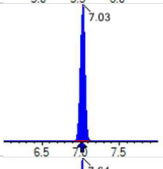
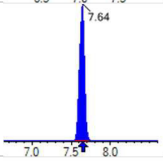
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7621432 (498.0 / 478.0) 186310	(9.79 , 1.00) (0.00 , N/A , 0.0)	5066.3 1381.9	0.0244 110.0 98.0	5.0710 [5.0000]	101.4%			
NMeFOSA	(512.0 / 219.0) 6364272 (512.0 / 169.0) 5248142	(10.40 , 1.00) (0.00 , N/A , 1.2)	5925.3 5038.4	0.8246 98.6 97.5	18.8066 [20.0000]	94.0%			
NEtFOSA	(526.0 / 219.0) 6309470 (526.0 / 169.0) 7900056	(10.57 , 1.00) (0.00 , N/A , 1.0)	9044.6 7921.8	1.2521 98.1 99.2	18.9812 [20.0000]	94.9%			
NMeFOSAA	(570.0 / 419.0) 997564 (570.0 / 483.0) 503451	(8.30 , 1.00) (0.01 , N/A , -0.1)	3044.4 500.7	0.5047 107.4 101.3	4.0789 [5.0000]	81.6%			
NEtFOSAA	(584.0 / 419.0) 876524 (584.0 / 526.0) 516834	(8.54 , 1.00) (0.01 , N/A , 0.1)	3805.7 3257.6	0.5896 92.4 96.7	5.0299 [5.0000]	100.6%			
NMeFOSE	(616.0 / 59.0) 2788817	(10.34 , 1.00) (0.01 , N/A , 0.0)	2672.4	N/A 0.0 0.0	18.7543 [20.0000]	93.8%			
NEtFOSE	(630.0 / 59.0) 2975231	(10.52 , 1.00) (0.01 , N/A , 0.0)	1435.4	N/A 0.0 0.0	19.3885 [20.0000]	96.9%			
HFPO-DA	(285.0 / 169.0) 1982243 (285.0 / 185.0) 5212533	(5.86 , 1.00) (0.00 , N/A , -0.1)	3270.6 6090.5	2.6296 97.7 98.7	10.9987 [10.0000]	110.0%			
ADONA	(377.0 / 85.0) 7089256 (377.0 / 251.0) 751738	(6.62 , 1.13) (N/A , 0.01 , 0.1)	4875.3 2843.5	0.1060 109.8 105.9	10.0056 [9.4270]	106.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 21409984 (533.0 / 353.0) 7110849	(8.73 , 1.49) (N/A , 0.00 , 0.0)	4100.4 3309.2	0.3321 104.1 100.2	11.2102 [9.3325]	120.1%			
11Cl-PF3OUDS	(631.0 / 451.0) 12750439 (633.0 / 453.0) 4645883	(9.18 , 1.57) (N/A , 0.01 , 0.1)	5576.7 3733.0	0.3644 109.4 96.7	11.2804 [9.4321]	119.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

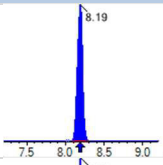
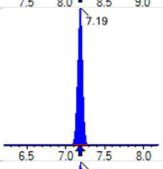
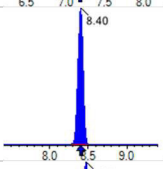
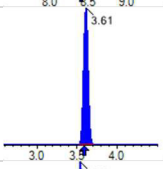
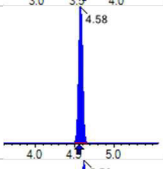
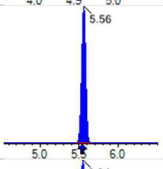
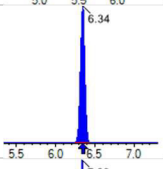
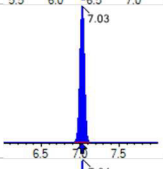
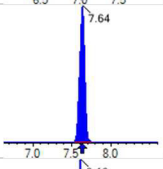
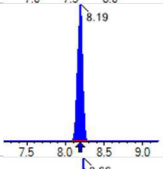
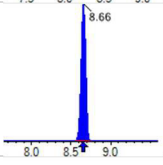
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 190843 (241.0 / 117.0) 292483	(4.11 , 0.90) (N/A , 0.02 , 0.0)	2790.3 1525.2	1.5326 75.2 103.0	19.8949 [20.0000]	99.5%			
5:3FTCA	(341.0 / 236.7) 1010606 (341.0 / 217.0) 1802662	(6.03 , 1.09) (N/A , 0.01 , -0.2)	2673.6 3344.6	1.7837 108.3 111.8	16.0456 [20.0000]	80.2%			
7:3FTCA	(441.0 / 317.0) 1953236 (441.0 / 337.0) 1688351	(7.75 , 1.39) (N/A , 0.00 , -0.1)	1578.8 1882.5	0.8644 100.9 99.8	18.4777 [20.0000]	92.4%			
PFEESA	(315.0 / 135.0) 4287137 (315.0 / 83.0) 1035986	(5.97 , 1.07) (N/A , 0.01 , -0.1)	3689.6 2273.0	0.2416 93.3 101.7	9.3164 [8.9246]	104.4%			
PFMPA	(229.0 / 85.0) 719017	(3.98 , 0.87) (N/A , 0.02 , 0.0)	6465.5	N/A 0.0 0.0	8.7660 [10.0000]	87.7%			
PFMBA	(279.0 / 85.0) 2485242	(4.93 , 1.08) (N/A , 0.02 , 0.0)	5428.7	N/A 0.0 0.0	9.4866 [10.0000]	94.9%			
NFDHA	(295.0 / 201.0) 2155762 (295.0 / 85.0) 1946666	(5.47 , 0.98) (N/A , 0.02 , 0.1)	5782.9 3719.9	0.9030 89.9 97.2	10.3057 [10.0000]	103.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 182987	(3.61 , N/A) (N/A , 0.02 , N/A)	1868.7	N/A	0.8543 [1.0000]	85.4% { 101.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 297036	(5.56 , N/A) (N/A , 0.01 , N/A)	4630.4	N/A	0.9458 [1.0000]	94.6% { 104.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 394222	(7.03 , N/A) (N/A , 0.01 , N/A)	3002220.2	N/A	0.8536 [1.0000]	85.4% { 99.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 395598	(7.64 , N/A) (N/A , 0.01 , N/A)	9410.6	N/A	0.9480 [1.0000]	94.8% { 100.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

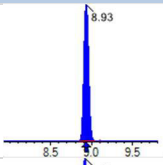
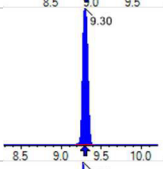
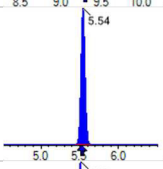
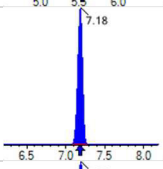
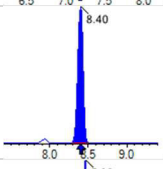
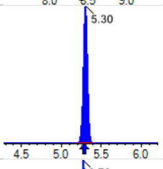
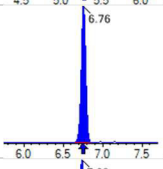
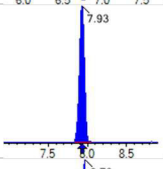
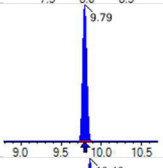
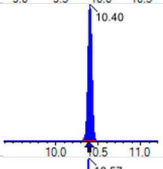
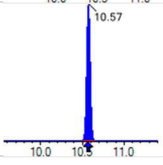
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 397704	(8.19 , N/A) (N/A , 0.00 , N/A)	802.2	N/A	0.9903 [1.0000]	99.0% { 97.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 536682	(7.19 , N/A) (N/A , 0.01 , N/A)	3705.9	N/A	0.7905 [1.0000]	79.0% { 99.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 916970	(8.40 , N/A) (N/A , 0.00 , N/A)	1974.3	N/A	1.0687 [1.0000]	106.9% { 98.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1812217	(3.61 , N/A) (N/A , 0.02 , N/A)	6620.8	N/A	8.3218 [8.0000]	104.0% { 98.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1449010	(4.58 , N/A) (N/A , 0.02 , N/A)	4190.9	N/A	4.2229 [4.0000]	105.6% { 99.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 830056	(5.56 , N/A) (N/A , 0.02 , N/A)	3578.3	N/A	2.0049 [2.0000]	100.2% { 93.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 845628	(6.34 , N/A) (N/A , 0.01 , N/A)	3312.3	N/A	2.1442 [2.0000]	107.2% { 90.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 941500	(7.03 , N/A) (N/A , 0.01 , N/A)	2580.6	N/A	2.1983 [2.0000]	109.9% { 92.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 464165	(7.64 , N/A) (N/A , 0.01 , N/A)	14088.0	N/A	1.1043 [1.0000]	110.4% { 101.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 548291	(8.19 , N/A) (N/A , 0.00 , N/A)	3205.1	N/A	1.1455 [1.0000]	114.5% { 111.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 557957	(8.66 , N/A) (N/A , 0.00 , N/A)	2664.9	N/A	1.0455 [1.0000]	104.6% { 106.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

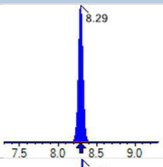
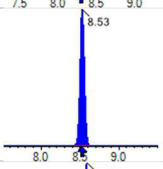
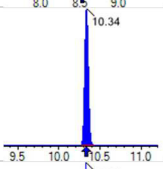
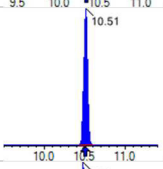
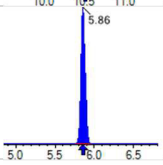
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 466290	(8.93 , N/A) (N/A , 0.00 , N/A)	1254.8	N/A	0.9995 [1.0000]	100.0% { 102.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 418939	(9.30 , N/A) (N/A , 0.01 , N/A)	1414.7	N/A	0.8515 [1.0000]	85.1% { 103.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2034137	(5.54 , N/A) (N/A , 0.01 , N/A)	3819.3	N/A	2.3924 [2.0000]	119.6% { 98.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1242318	(7.18 , N/A) (N/A , 0.01 , N/A)	2639.6	N/A	2.2499 [2.0000]	112.5% { 98.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2699381	(8.40 , N/A) (N/A , 0.00 , N/A)	1870.2	N/A	2.1956 [2.0000]	109.8% { 104.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 234555	(5.30 , N/A) (N/A , 0.02 , N/A)	1441.2	N/A	4.3491 [4.0000]	108.7% { 85.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 324316	(6.76 , N/A) (N/A , 0.01 , N/A)	3927.4	N/A	4.5802 [4.0000]	114.5% { 97.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 427543	(7.93 , N/A) (N/A , 0.00 , N/A)	1572.3	N/A	5.5735 [4.0000]	139.3% { 106.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3621829	(9.79 , N/A) (N/A , 0.00 , N/A)	4021.3	N/A	1.7223 [2.0000]	86.1% { 91.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 823114	(10.40 , N/A) (N/A , 0.01 , N/A)	2713.7	N/A	1.5299 [2.0000]	76.5% { 96.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 698371	(10.57 , N/A) (N/A , 0.01 , N/A)	3723.0	N/A	1.4260 [2.0000]	71.3% { 89.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (26)
Acquired: 2023/03/14 - 20:14

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
D3_MeFOSAA_EIS	(573.0 / 419.0) 949857	(8.29 , N/A) (N/A , 0.00 , N/A)	2421.9	N/A	4.5181 [4.0000]	113.0% { 105.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 831958	(8.53 , N/A) (N/A , 0.00 , N/A)	17996.6	N/A	3.5310 [4.0000]	88.3% { 92.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3002910	(10.34 , N/A) (N/A , 0.01 , N/A)	1891.6	N/A	17.9357 [20.0000]	89.7% { 101.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3175226	(10.51 , N/A) (N/A , 0.01 , N/A)	2245.1	N/A	16.0681 [20.0000]	80.3% { 87.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1813646	(5.86 , N/A) (N/A , 0.01 , N/A)	2606.4	N/A	7.9325 [8.0000]	99.2% { 86.3% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00916
Calibration: 2310010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00916-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	0.0136	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	0.0203	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	0.0168	ng/mL	0.10	U
	NEtFOSAA	0.0225	ng/mL	0.10	U
	NMeFOSE	0.0804	ng/mL	0.40	U
	NEtFOSE	0.0948	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	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00916	Instrument:	Saphira
Calibration:	2310010		

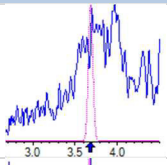
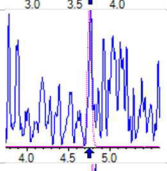
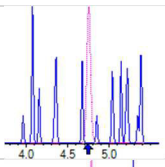
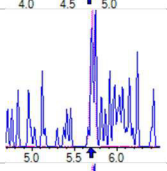
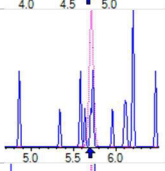
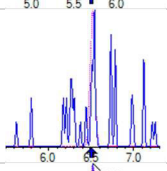
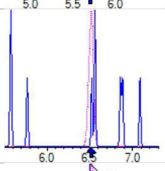
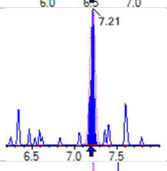
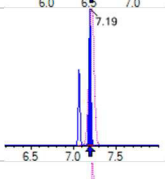
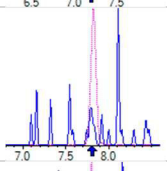
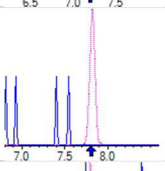
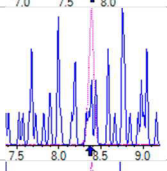
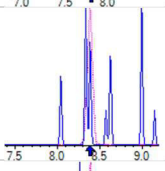
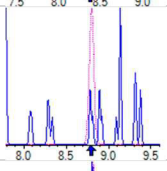
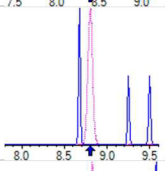
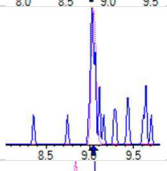
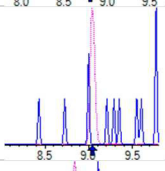
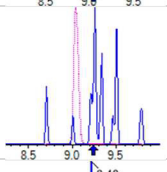
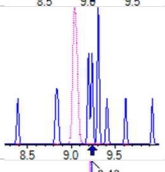
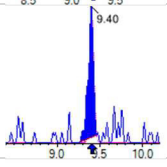
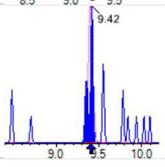
Lab Sample ID	Analyte	Found	Units	RL	C
SC00916-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.0478	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.20	ng/mL		
	13C5-PFPEA	3.76	ng/mL		
	13C5-PFHXA	1.79	ng/mL		
	13C4-PFHPA	1.69	ng/mL		
	13C8-PFOA	1.76	ng/mL		
	13C9-PFNA	0.736	ng/mL		
	13C6-PFDA	0.824	ng/mL		
	13C7-PFUnA	0.889	ng/mL		
	13C2-PFDOA	1.02	ng/mL		
	13C2-PFTEDA	0.868	ng/mL		
	13C3-PFBS	1.99	ng/mL		
	13C3-PFHXS	1.80	ng/mL		
	13C8-PFOS	1.75	ng/mL		
	13C2-4:2FTS	3.79	ng/mL		
	13C2-6:2FTS	3.39	ng/mL		
	13C2-8:2FTS	3.41	ng/mL		
	13C8-PFOSA	1.85	ng/mL		
	D3-NMEFOSA	1.75	ng/mL		
	D5-NETFOSA	1.94	ng/mL		
	D3-NMEFOSAA	3.13	ng/mL		
	D5-NETFOSAA	3.41	ng/mL		
	D7-NMEFOSE	18.5	ng/mL		
	D9-NETFOSE	19.4	ng/mL		
	13C3-HFPO-DA	7.53	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

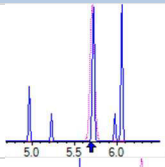
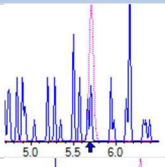
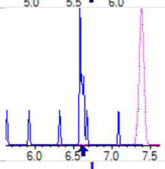
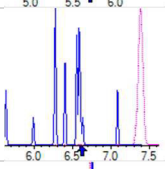
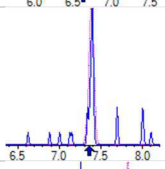
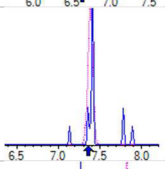
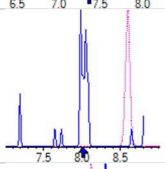
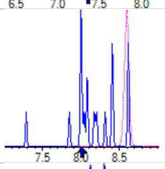
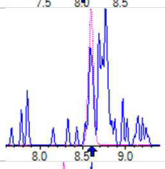
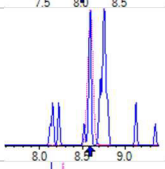
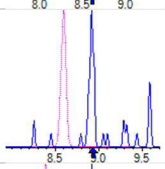
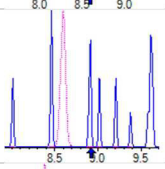
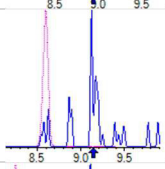
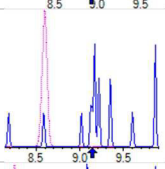
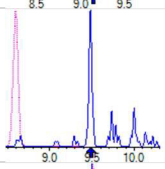
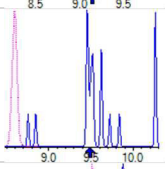
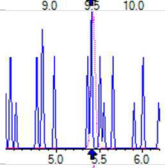
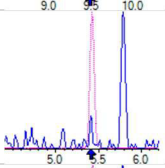
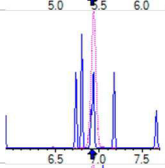
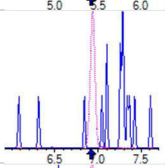
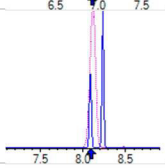
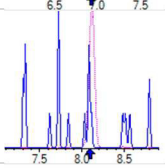
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 5598 (413.0 / 169.0) 1649	(7.21 , 1.00) (0.00 , N/A , 1.3)	1765.2 714.9	0.2945 84.5 84.5	0.0136	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) 7244 (713.0 / 169.0) 2099	(9.40 , 1.00) (0.00 , N/A , -1.1)	31.4 178.5	0.2897 151.6 151.6	0.0203	N/A			IR2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

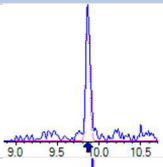
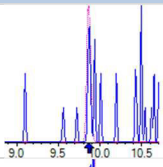
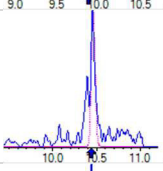
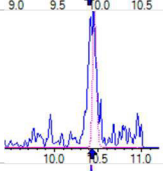
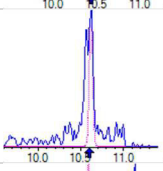
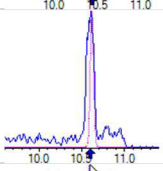
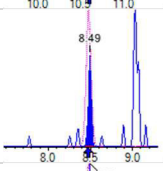
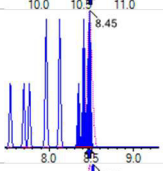
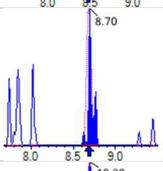
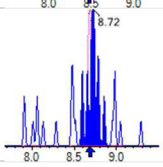
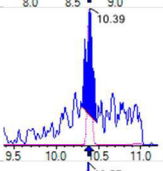
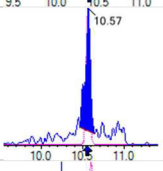
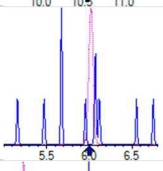
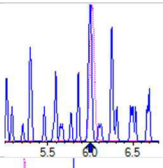
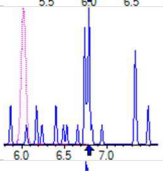
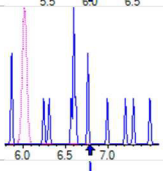
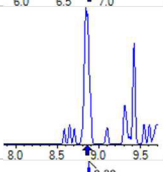
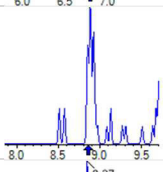
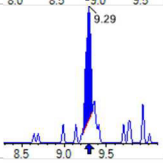
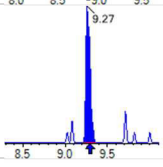
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

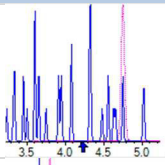
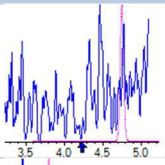
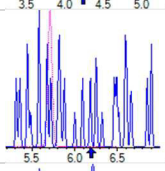
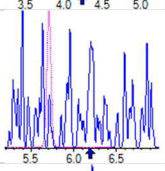
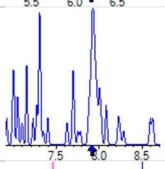
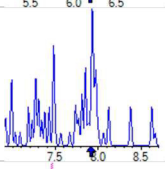
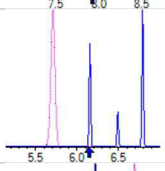
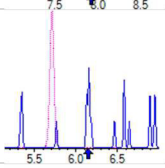
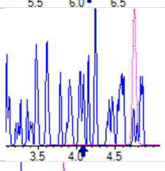
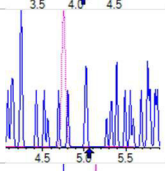
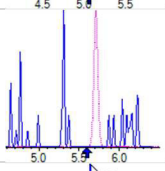
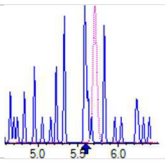
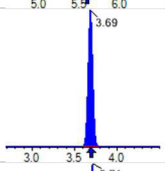
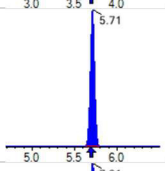
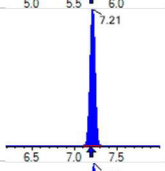
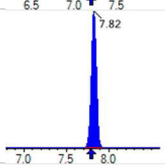
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 2697 (570.0 / 483.0) 1245	(8.49 , 1.00) (0.02 , N/A , 2.5)	1510.5 446.0	0.4614 98.2 98.2	0.0168	N/A			
NEtFOSAA	(584.0 / 419.0) 3590 (584.0 / 526.0) 4622	(8.70 , 1.00) (0.01 , N/A , -1.5)	1564.3 146.5	1.2877 201.7 201.7	0.0225	N/A			IR2,
NMeFOSE	(616.0 / 59.0) 11691	(10.39 , 1.00) (0.00 , N/A , 0.0)	22.1	N/A 0.0 0.0	0.0804	N/A			
NEtFOSE	(630.0 / 59.0) 16668	(10.57 , 1.00) (0.01 , N/A , 0.0)	20.8	N/A 0.0 0.0	0.0948	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) 6356 (633.0 / 453.0) 5900	(9.29 , 1.54) (N/A , 0.00 , 1.2)	9.7 245.8	0.9282 278.7 278.7	0.0478	N/A			IR2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

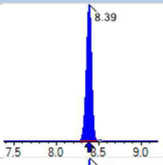
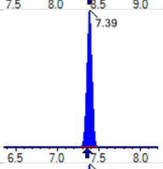
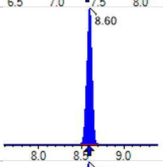
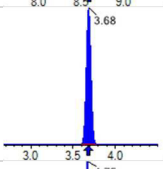
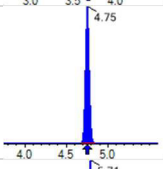
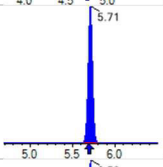
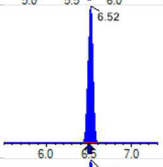
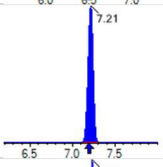
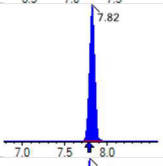
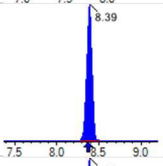
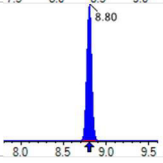
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 232842	(3.69 , N/A) (N/A , 0.00 , N/A)	2043.3	N/A	1.0870 [1.0000]	108.7% { 115.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 319636	(5.71 , N/A) (N/A , 0.02 , N/A)	3374.6	N/A	1.0177 [1.0000]	101.8% { 112.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 474636	(7.21 , N/A) (N/A , 0.02 , N/A)	3052.6	N/A	1.0278 [1.0000]	102.8% { 113.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 445306	(7.82 , N/A) (N/A , 0.03 , N/A)	364.9	N/A	1.0671 [1.0000]	106.7% { 115.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

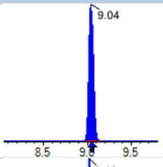
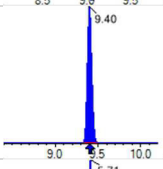
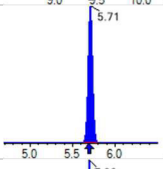
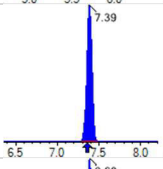
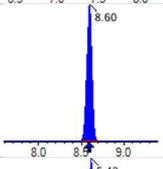
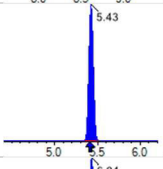
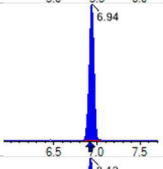
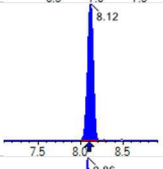
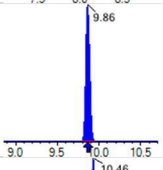
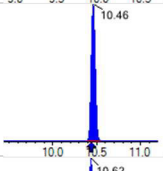
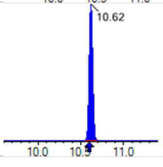
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 388299	(8.39 , N/A) (N/A , 0.01 , N/A)	210.7	N/A	0.9668 [1.0000]	96.7% { 101.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 647647	(7.39 , N/A) (N/A , 0.03 , N/A)	4282.3	N/A	0.9539 [1.0000]	95.4% { 108.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 868682	(8.60 , N/A) (N/A , 0.01 , N/A)	2002.7	N/A	1.0124 [1.0000]	101.2% { 104.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1994127	(3.68 , N/A) (N/A , 0.00 , N/A)	7087.2	N/A	7.1965 [8.0000]	90.0% { 94.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1387209	(4.75 , N/A) (N/A , 0.01 , N/A)	5017.5	N/A	3.7569 [4.0000]	93.9% { 92.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 797367	(5.71 , N/A) (N/A , 0.02 , N/A)	4316.1	N/A	1.7897 [2.0000]	89.5% { 91.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 716060	(6.52 , N/A) (N/A , 0.01 , N/A)	2684.9	N/A	1.6872 [2.0000]	84.4% { 84.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 908919	(7.21 , N/A) (N/A , 0.02 , N/A)	2391.1	N/A	1.7627 [2.0000]	88.1% { 89.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 348058	(7.82 , N/A) (N/A , 0.03 , N/A)	4426058.7	N/A	0.7356 [1.0000]	73.6% { 75.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 385290	(8.39 , N/A) (N/A , 0.01 , N/A)	6025.3	N/A	0.8244 [1.0000]	82.4% { 76.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 463187	(8.80 , N/A) (N/A , 0.01 , N/A)	965.7	N/A	0.8890 [1.0000]	88.9% { 88.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

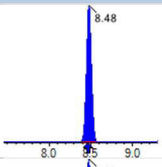
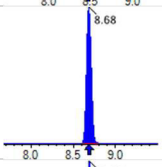
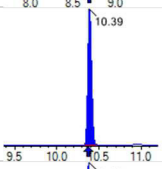
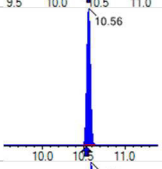
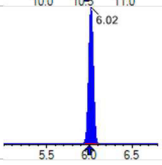
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 465466	(9.04 , N/A) (N/A , 0.00 , N/A)	8419.9	N/A	1.0219 [1.0000]	102.2% { 101.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 417100	(9.40 , N/A) (N/A , 0.00 , N/A)	1612.0	N/A	0.8683 [1.0000]	86.8% { 83.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2045070	(5.71 , N/A) (N/A , 0.02 , N/A)	4131.7	N/A	1.9932 [2.0000]	99.7% { 90.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1201286	(7.39 , N/A) (N/A , 0.03 , N/A)	3380.1	N/A	1.8028 [2.0000]	90.1% { 84.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2036595	(8.60 , N/A) (N/A , 0.01 , N/A)	1860.5	N/A	1.7486 [2.0000]	87.4% { 87.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 246626	(5.43 , N/A) (N/A , 0.02 , N/A)	1749.7	N/A	3.7894 [4.0000]	94.7% { 91.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 289642	(6.94 , N/A) (N/A , 0.02 , N/A)	2307.3	N/A	3.3897 [4.0000]	84.7% { 78.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 315826	(8.12 , N/A) (N/A , 0.02 , N/A)	1116.3	N/A	3.4117 [4.0000]	85.3% { 82.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3692427	(9.86 , N/A) (N/A , 0.01 , N/A)	4298.6	N/A	1.8535 [2.0000]	92.7% { 87.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 892287	(10.46 , N/A) (N/A , 0.02 , N/A)	2397.8	N/A	1.7506 [2.0000]	87.5% { 81.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 898022	(10.62 , N/A) (N/A , 0.02 , N/A)	4467.0	N/A	1.9356 [2.0000]	96.8% { 86.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00916-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-07A (9)
Acquired: 2023/03/07 - 17:09

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 623733	(8.48 , N/A) (N/A , 0.01 , N/A)	2634.9	N/A	3.1317 [4.0000]	78.3% { 77.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 761280	(8.68 , N/A) (N/A , 0.01 , N/A)	10745755.0	N/A	3.4107 [4.0000]	85.3% { 88.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2935780	(10.39 , N/A) (N/A , 0.02 , N/A)	1583.5	N/A	18.5095 [20.0000]	92.5% { 87.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3638490	(10.56 , N/A) (N/A , 0.02 , N/A)	1855.7	N/A	19.4359 [20.0000]	97.2% { 87.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1851667	(6.02 , N/A) (N/A , 0.02 , N/A)	3811.1	N/A	7.5261 [8.0000]	94.1% { 91.7% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC01019
Calibration: 2310010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-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	0.00633	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00840	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	0.00415	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: SC01019
Calibration: 2310010

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

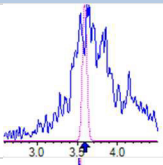
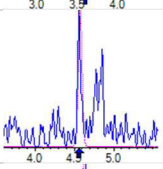
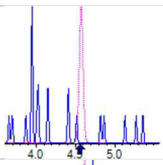
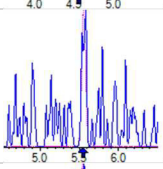
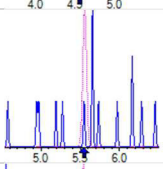
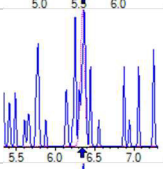
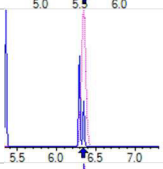
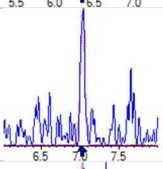
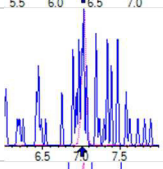
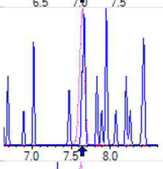
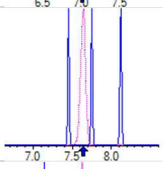
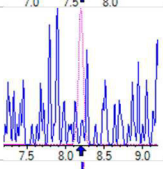
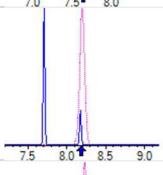
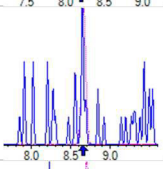
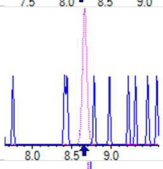
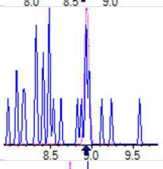
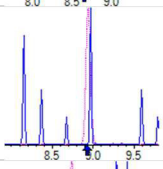
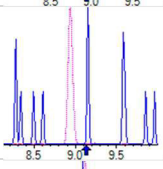
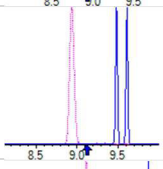
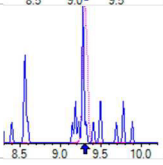
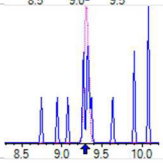
Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.19	ng/mL		
	13C5-PFPEA	3.49	ng/mL		
	13C5-PFHXA	1.82	ng/mL		
	13C4-PFHPA	1.94	ng/mL		
	13C8-PFOA	1.76	ng/mL		
	13C9-PFNA	0.833	ng/mL		
	13C6-PFDA	0.909	ng/mL		
	13C7-PFUnA	0.898	ng/mL		
	13C2-PFDOA	0.835	ng/mL		
	13C2-PFTEDA	0.744	ng/mL		
	13C3-PFBS	1.98	ng/mL		
	13C3-PFHXS	1.90	ng/mL		
	13C8-PFOS	1.71	ng/mL		
	13C2-4:2FTS	4.00	ng/mL		
	13C2-6:2FTS	3.86	ng/mL		
	13C2-8:2FTS	4.52	ng/mL		
	13C8-PFOSA	1.59	ng/mL		
	D3-NMEFOSA	1.22	ng/mL		
	D5-NETFOSA	1.23	ng/mL		
	D3-NMEFOSAA	3.28	ng/mL		
	D5-NETFOSAA	2.92	ng/mL		
	D7-NMEFOSE	14.3	ng/mL		
	D9-NETFOSE	14.7	ng/mL		
	13C3-HFPO-DA	7.75	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

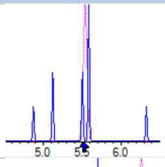
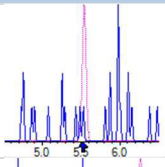
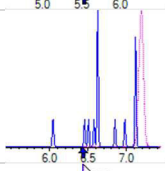
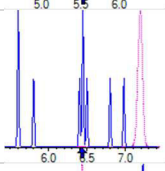
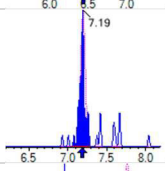
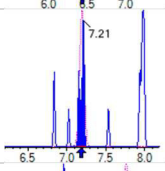
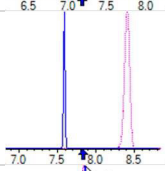
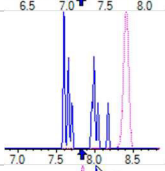
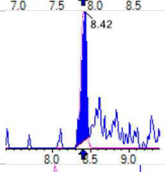
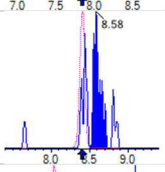
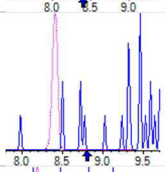
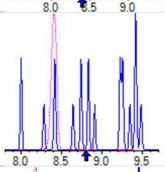
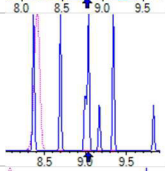
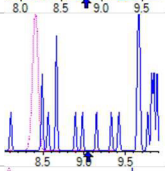
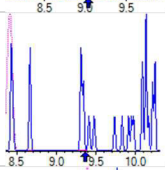
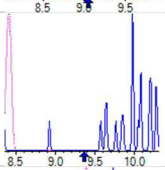
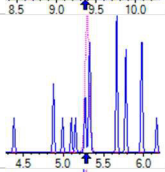
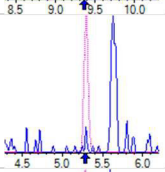
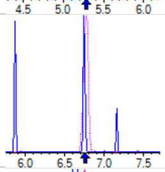
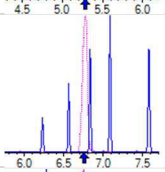
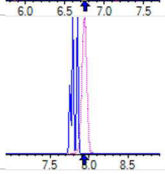
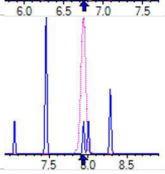
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

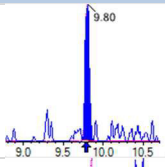
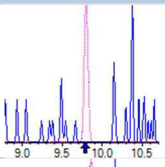
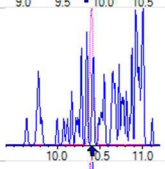
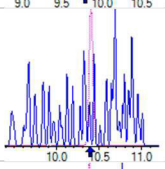
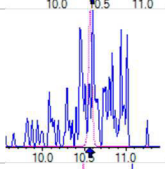
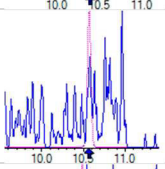
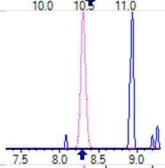
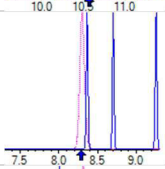
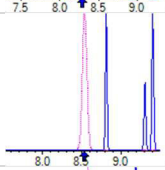
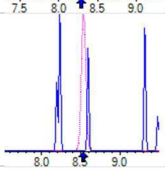
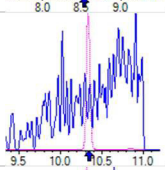
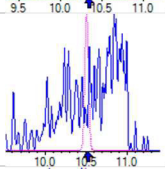
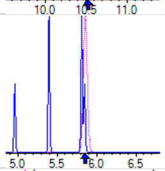
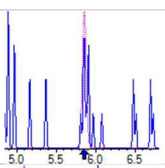
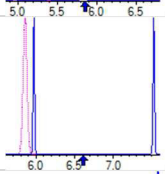
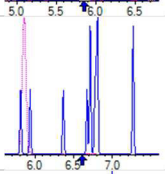
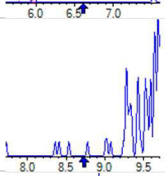
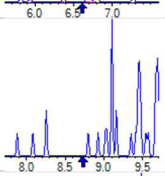
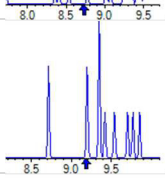
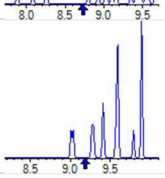
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	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) 5952 (399.0 / 99.0) 1341	(7.19 , 1.00) (0.00 , N/A , -1.0)	214.1 111.3	0.2252 65.7 66.1	0.0063	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) 12115 (499.0 / 99.0) 4468	(8.42 , 1.00) (0.01 , N/A , -9.4)	40.4 28.7	0.3688 170.4 170.0	0.0084	N/A			IR2,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

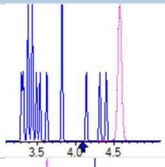
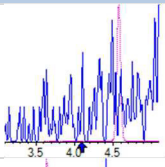
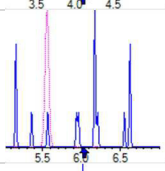
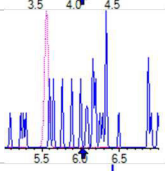
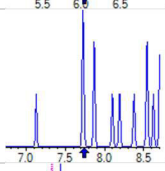
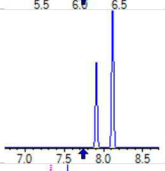
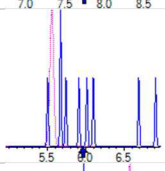
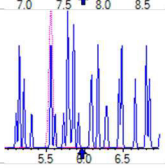
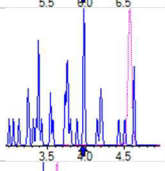
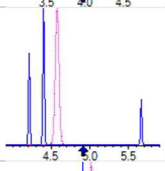
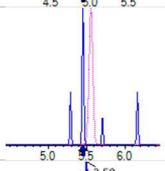
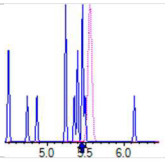
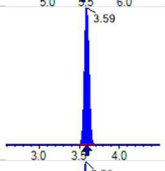
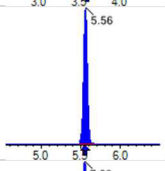
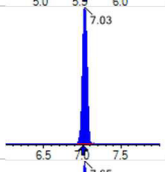
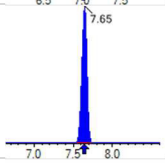
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7005 (498.0 / 478.0) N/A	(9.80 , 1.00) (0.00 , N/A , #Value!)	40.2 N/A	N/A 0.0 0.0	0.0042	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

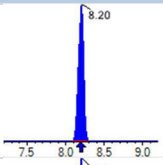
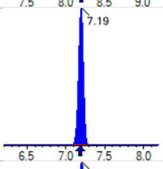
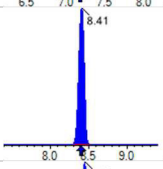
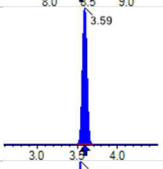
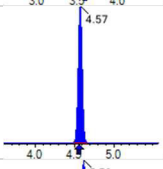
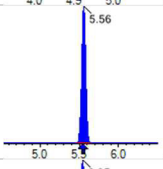
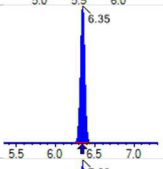
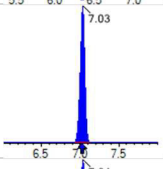
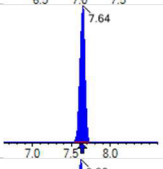
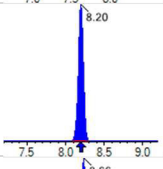
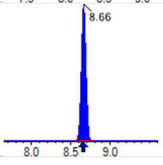
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 209071	(3.59 , N/A) (N/A , 0.00 , N/A)	2476.5	N/A	0.9760 [1.0000]	97.6% { 116.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 336451	(5.56 , N/A) (N/A , 0.01 , N/A)	394.4	N/A	1.0713 [1.0000]	107.1% { 118.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 497671	(7.03 , N/A) (N/A , 0.01 , N/A)	3457.4	N/A	1.0776 [1.0000]	107.8% { 125.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 476608	(7.65 , N/A) (N/A , 0.01 , N/A)	9252.4	N/A	1.1421 [1.0000]	114.2% { 121.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

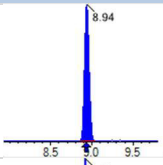
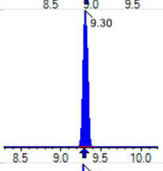
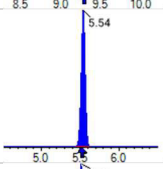
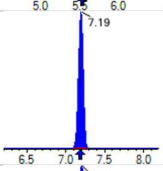
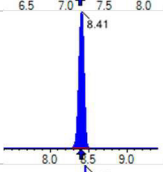
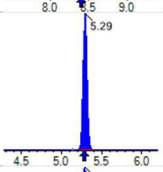
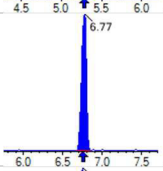
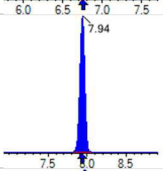
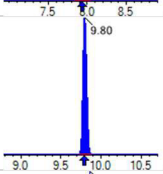
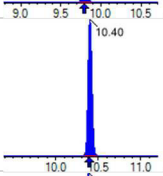
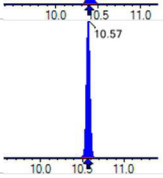
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 444731	(8.20 , N/A) (N/A , 0.01 , N/A)	291273.2	N/A	1.1074 [1.0000]	110.7% { 109.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 640888	(7.19 , N/A) (N/A , 0.01 , N/A)	2376.7	N/A	0.9440 [1.0000]	94.4% { 118.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1112170	(8.41 , N/A) (N/A , 0.01 , N/A)	2014.4	N/A	1.2961 [1.0000]	129.6% { 119.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1789206	(3.59 , N/A) (N/A , 0.01 , N/A)	6803.5	N/A	7.1911 [8.0000]	89.9% { 97.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1357398	(4.57 , N/A) (N/A , 0.01 , N/A)	3326.3	N/A	3.4924 [4.0000]	87.3% { 93.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 853208	(5.56 , N/A) (N/A , 0.01 , N/A)	3498.9	N/A	1.8194 [2.0000]	91.0% { 96.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 867457	(6.35 , N/A) (N/A , 0.01 , N/A)	725749.3	N/A	1.9418 [2.0000]	97.1% { 93.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 951950	(7.03 , N/A) (N/A , 0.02 , N/A)	3333.3	N/A	1.7607 [2.0000]	88.0% { 93.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 422019	(7.64 , N/A) (N/A , 0.01 , N/A)	279633.1	N/A	0.8333 [1.0000]	83.3% { 92.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 486677	(8.20 , N/A) (N/A , 0.01 , N/A)	3401441.6	N/A	0.9092 [1.0000]	90.9% { 98.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 535829	(8.66 , N/A) (N/A , 0.01 , N/A)	3080.6	N/A	0.8979 [1.0000]	89.8% { 102.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

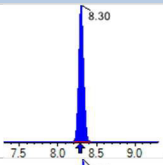
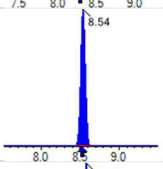
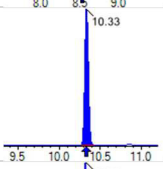
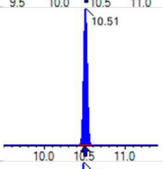
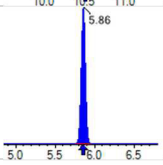
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 435555	(8.94 , N/A) (N/A , 0.01 , N/A)	1203.6	N/A	0.8349 [1.0000]	83.5% { 95.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 409469	(9.30 , N/A) (N/A , 0.01 , N/A)	1270.2	N/A	0.7442 [1.0000]	74.4% { 101.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2011409	(5.54 , N/A) (N/A , 0.01 , N/A)	4162.6	N/A	1.9810 [2.0000]	99.1% { 97.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1254182	(7.19 , N/A) (N/A , 0.02 , N/A)	2039.7	N/A	1.9021 [2.0000]	95.1% { 99.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2556216	(8.41 , N/A) (N/A , 0.01 , N/A)	2254.1	N/A	1.7143 [2.0000]	85.7% { 99.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 257909	(5.29 , N/A) (N/A , 0.01 , N/A)	1455.0	N/A	4.0046 [4.0000]	100.1% { 94.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 326791	(6.77 , N/A) (N/A , 0.02 , N/A)	1362.5	N/A	3.8647 [4.0000]	96.6% { 98.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 414484	(7.94 , N/A) (N/A , 0.01 , N/A)	13498.8	N/A	4.5247 [4.0000]	113.1% { 102.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4064448	(9.80 , N/A) (N/A , 0.01 , N/A)	4950.0	N/A	1.5936 [2.0000]	79.7% { 102.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 796591	(10.40 , N/A) (N/A , 0.01 , N/A)	3306.2	N/A	1.2207 [2.0000]	61.0% { 93.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 731244	(10.57 , N/A) (N/A , 0.01 , N/A)	3025.2	N/A	1.2311 [2.0000]	61.6% { 93.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (1)
Acquired: 2023/03/14 - 14:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 836621	(8.30 , N/A) (N/A , 0.01 , N/A)	1467.0	N/A	3.2810 [4.0000]	82.0% { 92.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 835310	(8.54 , N/A) (N/A , 0.01 , N/A)	116814.5	N/A	2.9230 [4.0000]	73.1% { 92.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2903152	(10.33 , N/A) (N/A , 0.01 , N/A)	1806.1	N/A	14.2965 [20.0000]	71.5% { 98.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3534822	(10.51 , N/A) (N/A , 0.01 , N/A)	1788.1	N/A	14.7483 [20.0000]	73.7% { 96.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2007744	(5.86 , N/A) (N/A , 0.01 , N/A)	2479.4	N/A	7.7527 [8.0000]	96.9% { 95.5% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC01019
Calibration: 2310010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-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	0.00370	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0129	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	0.00546	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: SC01019
Calibration: 2310010

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

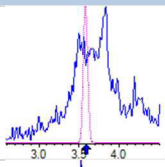
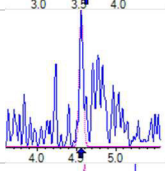
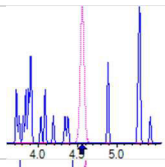
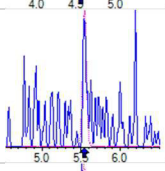
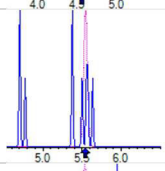
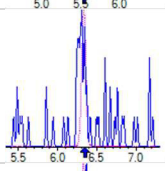
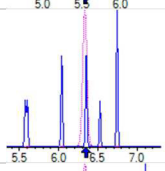
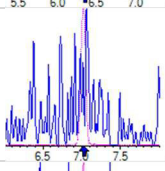
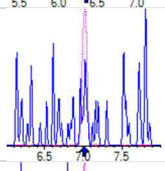
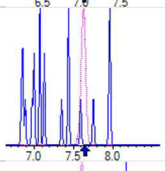
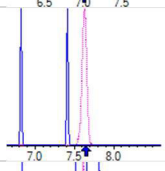
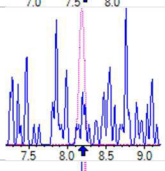
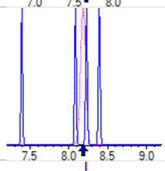
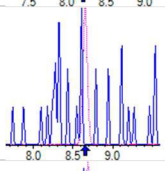
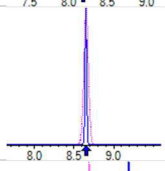
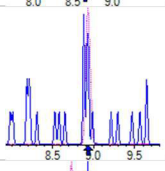
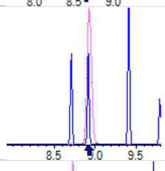
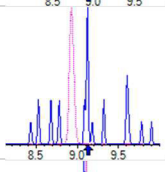
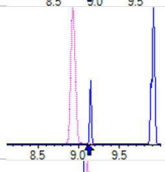
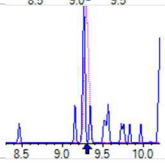
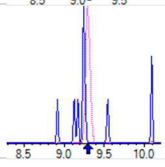
Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-CCB2	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.03	ng/mL		
	13C5-PFPEA	3.63	ng/mL		
	13C5-PFHXA	1.89	ng/mL		
	13C4-PFHPA	1.88	ng/mL		
	13C8-PFOA	1.81	ng/mL		
	13C9-PFNA	0.858	ng/mL		
	13C6-PFDA	0.866	ng/mL		
	13C7-PFUnA	0.821	ng/mL		
	13C2-PFDOA	0.850	ng/mL		
	13C2-PFTEDA	0.650	ng/mL		
	13C3-PFBS	2.06	ng/mL		
	13C3-PFHXS	1.89	ng/mL		
	13C8-PFOS	1.75	ng/mL		
	13C2-4:2FTS	4.05	ng/mL		
	13C2-6:2FTS	3.52	ng/mL		
	13C2-8:2FTS	4.54	ng/mL		
	13C8-PFOSA	1.57	ng/mL		
	D3-NMEFOSA	1.24	ng/mL		
	D5-NETFOSA	1.29	ng/mL		
	D3-NMEFOSAA	3.51	ng/mL		
	D5-NETFOSAA	2.88	ng/mL		
	D7-NMEFOSE	14.7	ng/mL		
	D9-NETFOSE	14.8	ng/mL		
	13C3-HFPO-DA	7.61	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

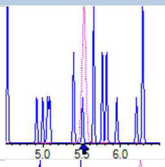
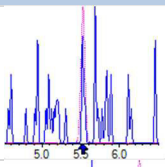
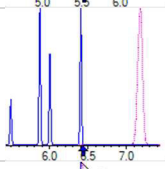
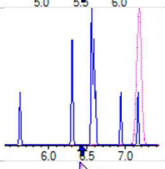
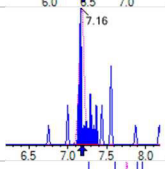
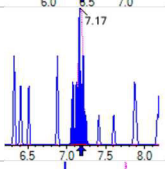
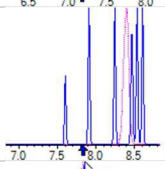
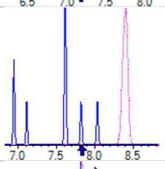
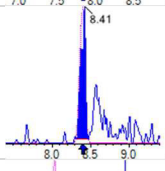
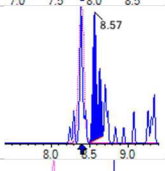
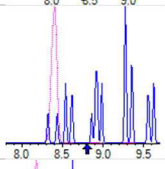
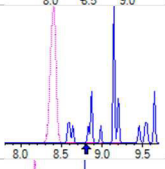
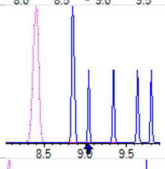
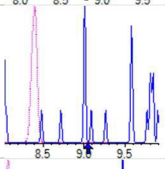
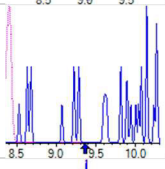
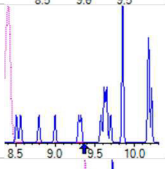
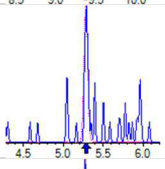
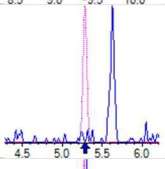
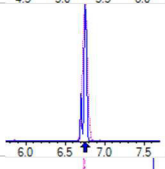
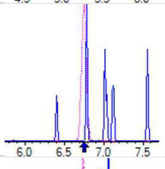
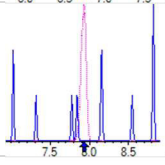
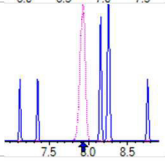
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

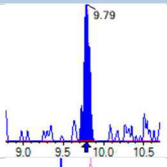
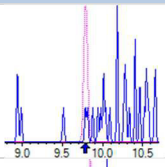
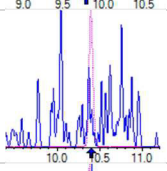
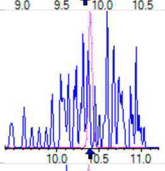
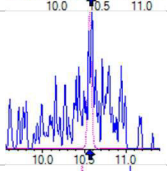
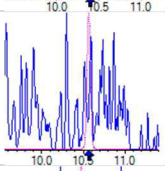
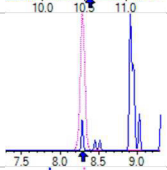
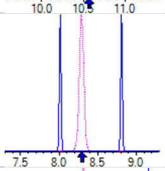
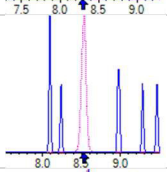
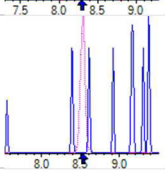
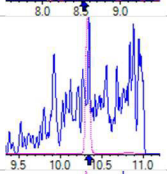
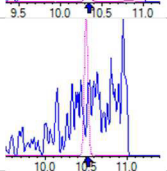
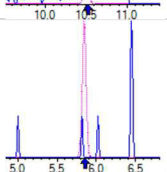
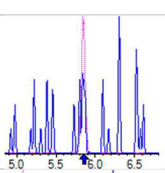
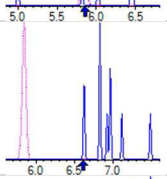
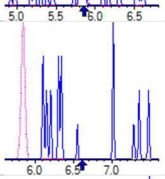
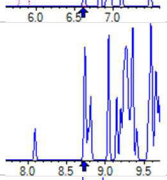
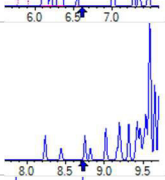
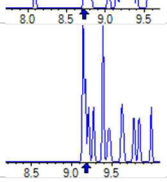
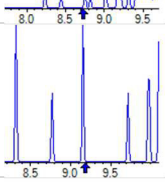
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 3342 (399.0 / 99.0) 2799	(7.16 , 1.00) (-0.01 , N/A , -0.2)	163.6 112.1	0.8375 244.3 245.6	0.0037	N/A			IR2,
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) 18409 (499.0 / 99.0) 4364	(8.41 , 1.00) (0.01 , N/A , -9.4)	52.8 17.8	0.2370 109.5 109.3	0.0129	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

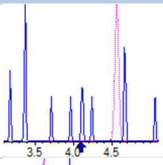
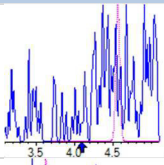
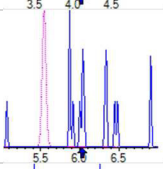
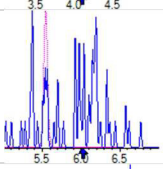
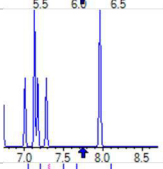
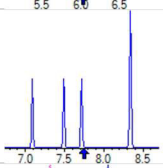
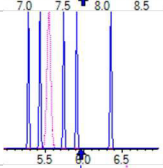
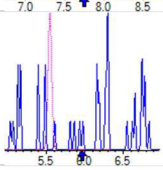
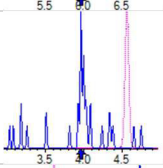
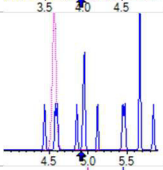
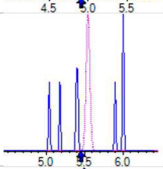
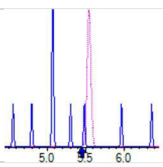
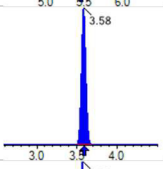
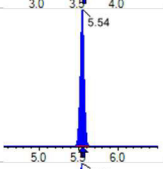
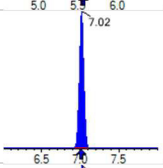
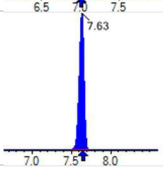
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 8779 (498.0 / 478.0) N/A	(9.79 , 1.00) (0.00 , N/A , #Value!)	37.8 N/A	N/A 0.0 0.0	0.0055	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

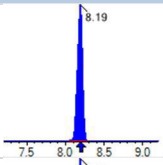
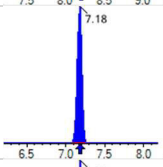
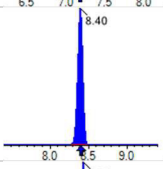
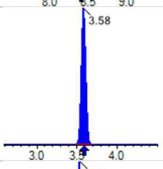
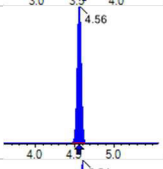
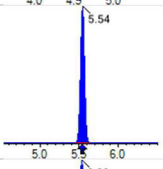
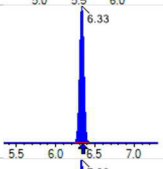
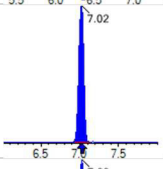
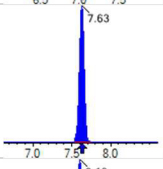
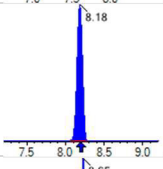
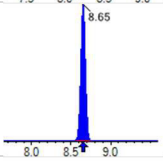
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 215726	(3.58 , N/A) (N/A , 0.00 , N/A)	2057.4	N/A	1.0071 [1.0000]	100.7% { 119.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 334809	(5.54 , N/A) (N/A , 0.00 , N/A)	4516.2	N/A	1.0660 [1.0000]	106.6% { 117.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 482720	(7.02 , N/A) (N/A , 0.00 , N/A)	4559.2	N/A	1.0453 [1.0000]	104.5% { 121.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 477607	(7.63 , N/A) (N/A , 0.00 , N/A)	7298.1	N/A	1.1445 [1.0000]	114.4% { 121.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

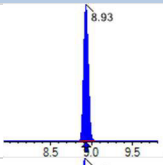
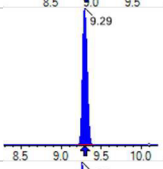
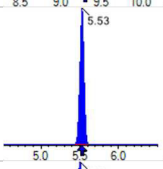
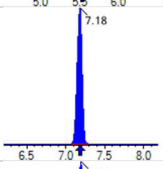
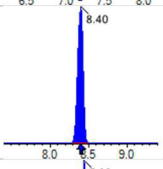
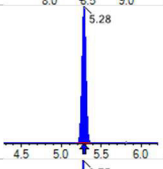
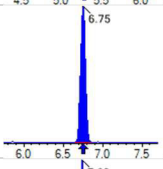
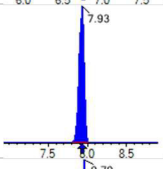
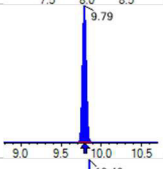
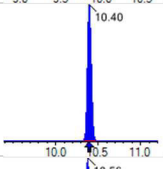
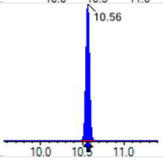
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 457968	(8.19 , N/A) (N/A , 0.00 , N/A)	3229.8	N/A	1.1403 [1.0000]	114.0% { 112.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 618813	(7.18 , N/A) (N/A , 0.00 , N/A)	2741.3	N/A	0.9115 [1.0000]	91.1% { 114.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1076691	(8.40 , N/A) (N/A , 0.00 , N/A)	2362.9	N/A	1.2548 [1.0000]	125.5% { 115.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1804366	(3.58 , N/A) (N/A , 0.00 , N/A)	7648.3	N/A	7.0283 [8.0000]	87.9% { 98.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1402145	(4.56 , N/A) (N/A , 0.00 , N/A)	4824.1	N/A	3.6253 [4.0000]	90.6% { 96.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 880466	(5.54 , N/A) (N/A , 0.00 , N/A)	2842.7	N/A	1.8867 [2.0000]	94.3% { 99.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 833604	(6.33 , N/A) (N/A , 0.00 , N/A)	4226.8	N/A	1.8752 [2.0000]	93.8% { 89.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 950741	(7.02 , N/A) (N/A , 0.00 , N/A)	5626.7	N/A	1.8129 [2.0000]	90.6% { 93.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 435587	(7.63 , N/A) (N/A , 0.00 , N/A)	6117.2	N/A	0.8583 [1.0000]	85.8% { 95.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 477246	(8.18 , N/A) (N/A , 0.00 , N/A)	4362.4	N/A	0.8659 [1.0000]	86.6% { 96.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 504454	(8.65 , N/A) (N/A , 0.00 , N/A)	2648.9	N/A	0.8209 [1.0000]	82.1% { 96.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

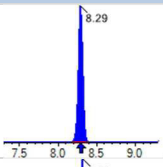
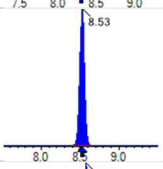
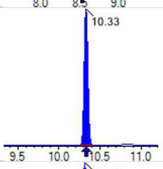
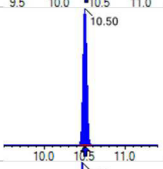
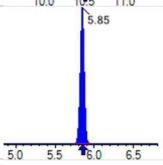
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 456699	(8.93 , N/A) (N/A , 0.00 , N/A)	55972.2	N/A	0.8502 [1.0000]	85.0% { 100.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 368546	(9.29 , N/A) (N/A , 0.00 , N/A)	2512.6	N/A	0.6505 [1.0000]	65.0% { 91.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2020512	(5.53 , N/A) (N/A , 0.00 , N/A)	4752.1	N/A	2.0610 [2.0000]	103.0% { 97.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1204355	(7.18 , N/A) (N/A , 0.00 , N/A)	2864.9	N/A	1.8917 [2.0000]	94.6% { 95.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2522317	(8.40 , N/A) (N/A , 0.00 , N/A)	3600.2	N/A	1.7473 [2.0000]	87.4% { 97.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 252071	(5.28 , N/A) (N/A , 0.00 , N/A)	1359.7	N/A	4.0535 [4.0000]	101.3% { 92.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 287361	(6.75 , N/A) (N/A , 0.00 , N/A)	1377.5	N/A	3.5197 [4.0000]	88.0% { 86.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 401273	(7.93 , N/A) (N/A , 0.00 , N/A)	1651.7	N/A	4.5368 [4.0000]	113.4% { 99.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3871688	(9.79 , N/A) (N/A , 0.00 , N/A)	4503.7	N/A	1.5680 [2.0000]	78.4% { 97.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 781209	(10.40 , N/A) (N/A , 0.00 , N/A)	2900.6	N/A	1.2366 [2.0000]	61.8% { 91.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 741305	(10.56 , N/A) (N/A , 0.00 , N/A)	2697.5	N/A	1.2891 [2.0000]	64.5% { 94.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (6)
Acquired: 2023/03/14 - 15:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 866804	(8.29 , N/A) (N/A , 0.00 , N/A)	2034.8	N/A	3.5114 [4.0000]	87.8% { 96.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 797177	(8.53 , N/A) (N/A , 0.00 , N/A)	16740.2	N/A	2.8815 [4.0000]	72.0% { 88.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2888621	(10.33 , N/A) (N/A , 0.00 , N/A)	1623.8	N/A	14.6937 [20.0000]	73.5% { 97.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3426317	(10.50 , N/A) (N/A , 0.00 , N/A)	2065.9	N/A	14.7666 [20.0000]	73.8% { 93.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1961692	(5.85 , N/A) (N/A , 0.00 , N/A)	4753.5	N/A	7.6120 [8.0000]	95.2% { 93.3% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC01019
Calibration: 2310010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-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	0.00536	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00855	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	0.00496	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: SC01019
Calibration: 2310010

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

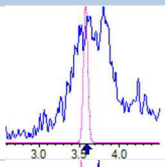
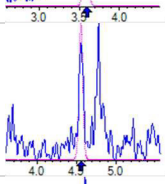
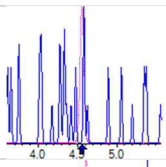
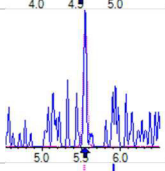
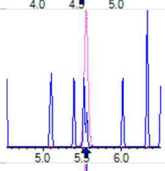
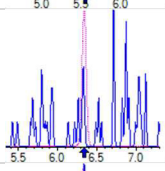
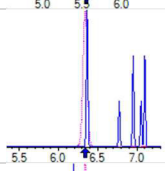
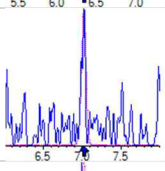
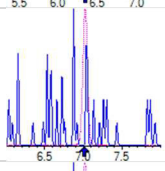
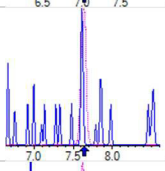
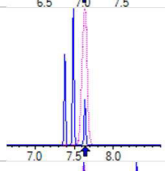
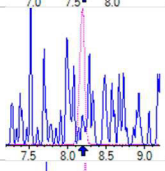
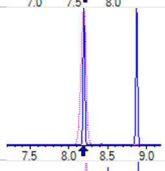
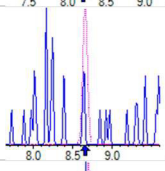
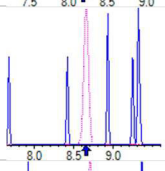
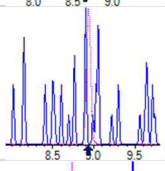
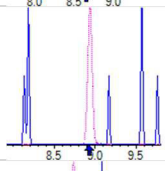
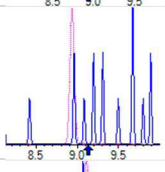
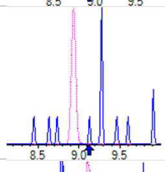
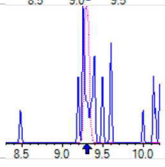
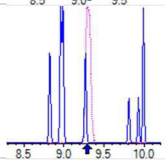
Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	6.99	ng/mL		
	13C5-PFPEA	3.43	ng/mL		
	13C5-PFHXA	1.77	ng/mL		
	13C4-PFHPA	1.88	ng/mL		
	13C8-PFOA	1.83	ng/mL		
	13C9-PFNA	0.872	ng/mL		
	13C6-PFDA	0.925	ng/mL		
	13C7-PFUnA	0.845	ng/mL		
	13C2-PFDOA	0.886	ng/mL		
	13C2-PFTEDA	0.665	ng/mL		
	13C3-PFBS	2.02	ng/mL		
	13C3-PFHXS	1.76	ng/mL		
	13C8-PFOS	1.73	ng/mL		
	13C2-4:2FTS	4.02	ng/mL		
	13C2-6:2FTS	3.58	ng/mL		
	13C2-8:2FTS	4.42	ng/mL		
	13C8-PFOSA	1.50	ng/mL		
	D3-NMEFOSA	1.15	ng/mL		
	D5-NETFOSA	1.14	ng/mL		
	D3-NMEFOSAA	3.36	ng/mL		
	D5-NETFOSAA	2.90	ng/mL		
	D7-NMEFOSE	14.7	ng/mL		
	D9-NETFOSE	15.0	ng/mL		
	13C3-HFPO-DA	7.29	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

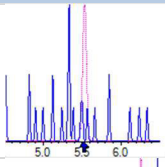
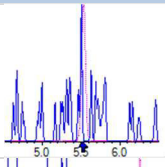
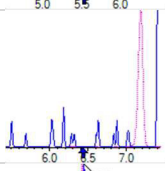
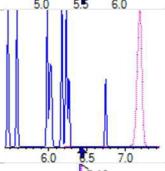
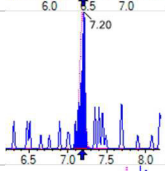
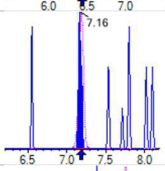
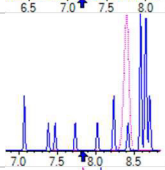
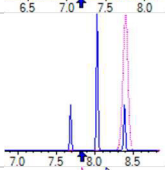
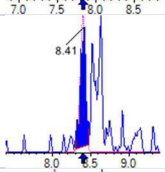
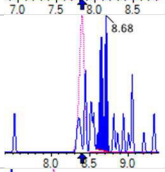
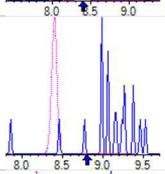
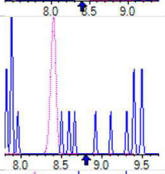
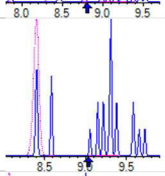
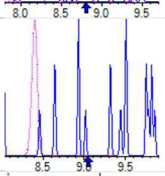
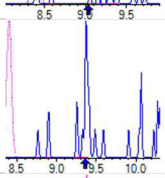
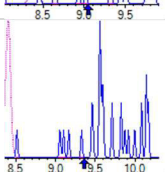
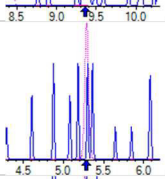
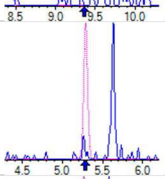
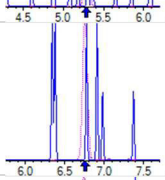
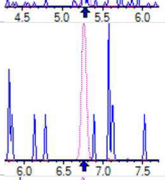
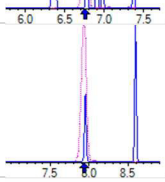
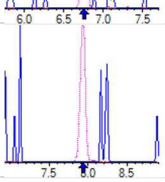
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

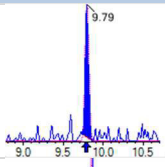
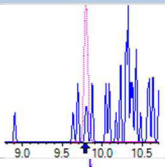
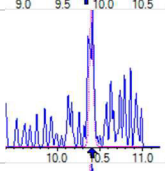
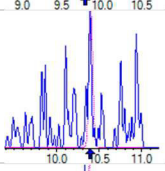
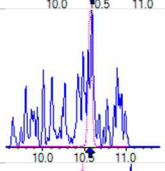
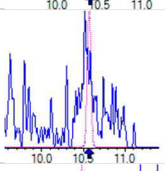
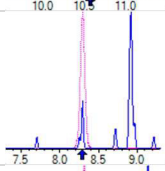
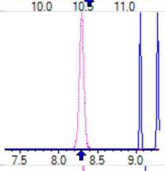
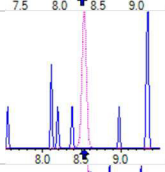
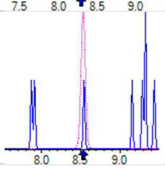
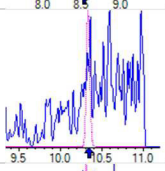
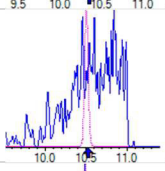
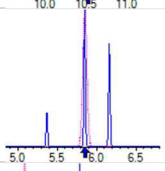
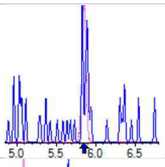
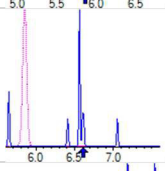
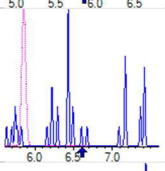
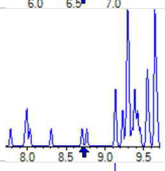
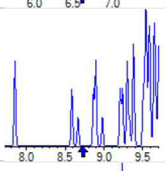
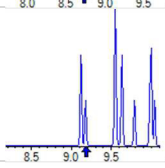
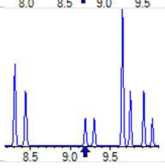
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 4820 (399.0 / 99.0) 1142	(7.20 , 1.00) (0.02 , N/A , 2.2)	1656.3 56711.8	0.2369 69.1 69.5	0.0054	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) 13017 (499.0 / 99.0) 3862	(8.41 , 1.00) (0.01 , N/A , -16.7)	33.2 14.8	0.2967 137.1 136.8	0.0085	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

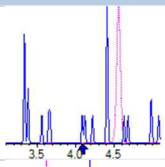
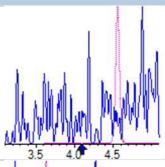
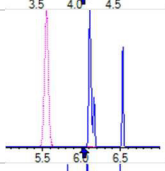
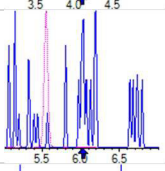
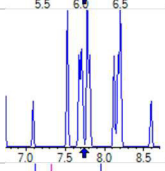
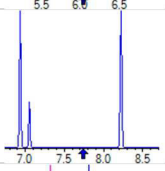
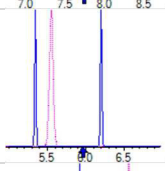
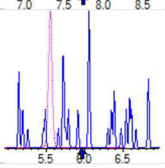
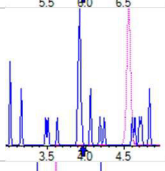
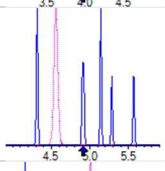
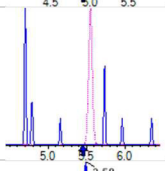
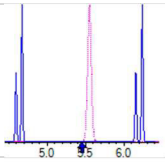
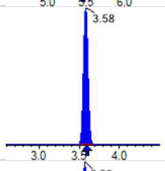
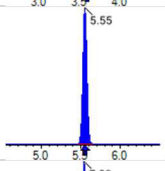
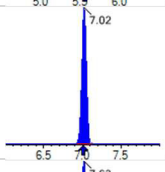
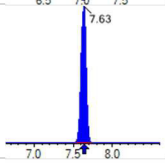
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 8271 (498.0 / 478.0) N/A	(9.79 , 1.00) (0.00 , N/A , #Value!)	43.1 N/A	N/A 0.0 0.0	0.0050	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

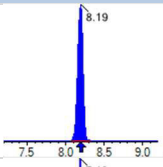
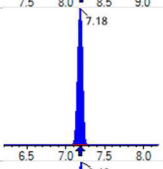
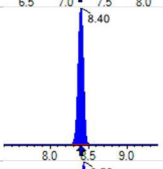
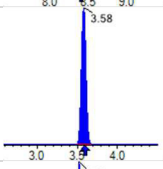
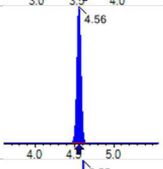
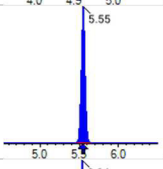
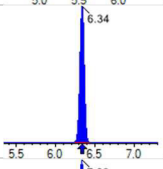
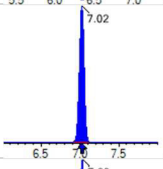
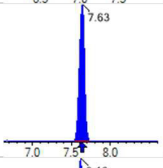
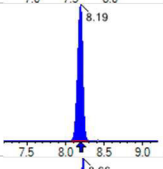
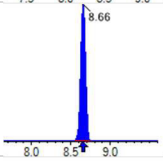
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 227600	(3.58 , N/A) (N/A , -0.01 , N/A)	2095.6	N/A	1.0625 [1.0000]	106.3% { 126.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 365579	(5.55 , N/A) (N/A , 0.00 , N/A)	8946.0	N/A	1.1640 [1.0000]	116.4% { 128.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 507394	(7.02 , N/A) (N/A , 0.00 , N/A)	3199.1	N/A	1.0987 [1.0000]	109.9% { 128.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 498362	(7.63 , N/A) (N/A , 0.00 , N/A)	3176.5	N/A	1.1942 [1.0000]	119.4% { 126.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

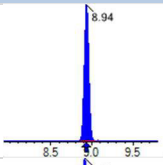
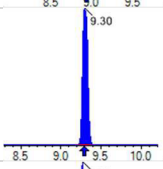
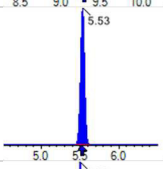
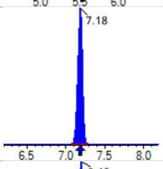
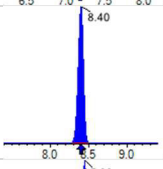
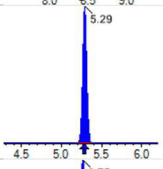
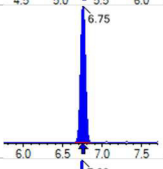
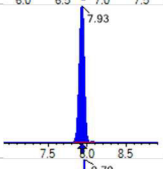
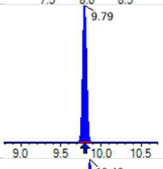
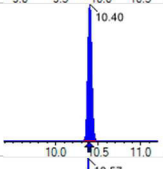
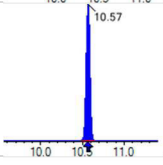
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 473637	(8.19 , N/A) (N/A , 0.00 , N/A)	7853.9	N/A	1.1793 [1.0000]	117.9% { 116.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 660832	(7.18 , N/A) (N/A , 0.00 , N/A)	6626.1	N/A	0.9734 [1.0000]	97.3% { 122.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1163238	(8.40 , N/A) (N/A , 0.00 , N/A)	1935.5	N/A	1.3557 [1.0000]	135.6% { 124.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1893040	(3.58 , N/A) (N/A , -0.01 , N/A)	9521.4	N/A	6.9890 [8.0000]	87.4% { 103.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1450084	(4.56 , N/A) (N/A , 0.00 , N/A)	5003.1	N/A	3.4336 [4.0000]	85.8% { 99.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 900524	(5.55 , N/A) (N/A , 0.01 , N/A)	5258.6	N/A	1.7673 [2.0000]	88.4% { 101.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 914067	(6.34 , N/A) (N/A , 0.01 , N/A)	3366.2	N/A	1.8831 [2.0000]	94.2% { 98.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1007349	(7.02 , N/A) (N/A , 0.01 , N/A)	7320.9	N/A	1.8274 [2.0000]	91.4% { 98.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 461527	(7.63 , N/A) (N/A , 0.01 , N/A)	1676.1	N/A	0.8716 [1.0000]	87.2% { 101.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 527441	(8.19 , N/A) (N/A , 0.00 , N/A)	3095.7	N/A	0.9253 [1.0000]	92.5% { 106.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 536782	(8.66 , N/A) (N/A , 0.00 , N/A)	2061.1	N/A	0.8446 [1.0000]	84.5% { 102.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

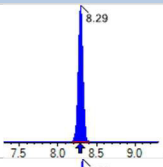
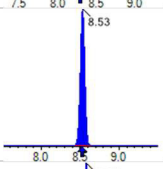
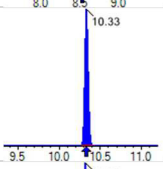
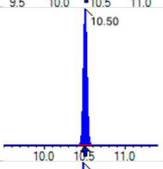
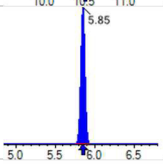
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 491988	(8.94 , N/A) (N/A , 0.00 , N/A)	4508.8	N/A	0.8855 [1.0000]	88.6% { 107.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 389696	(9.30 , N/A) (N/A , 0.01 , N/A)	2655.6	N/A	0.6651 [1.0000]	66.5% { 96.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2119433	(5.53 , N/A) (N/A , 0.01 , N/A)	4926.7	N/A	2.0244 [2.0000]	101.2% { 102.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1199784	(7.18 , N/A) (N/A , 0.01 , N/A)	2366.7	N/A	1.7646 [2.0000]	88.2% { 95.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2699480	(8.40 , N/A) (N/A , 0.00 , N/A)	3259.5	N/A	1.7309 [2.0000]	86.5% { 104.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 266816	(5.29 , N/A) (N/A , 0.01 , N/A)	2045.5	N/A	4.0178 [4.0000]	100.4% { 97.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 312152	(6.75 , N/A) (N/A , 0.00 , N/A)	1490.6	N/A	3.5802 [4.0000]	89.5% { 93.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 417539	(7.93 , N/A) (N/A , 0.00 , N/A)	135962.6	N/A	4.4205 [4.0000]	110.5% { 103.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4014618	(9.79 , N/A) (N/A , 0.01 , N/A)	4725.5	N/A	1.5049 [2.0000]	75.2% { 101.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 785825	(10.40 , N/A) (N/A , 0.00 , N/A)	2350.6	N/A	1.1514 [2.0000]	57.6% { 92.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 709913	(10.57 , N/A) (N/A , 0.01 , N/A)	2650.6	N/A	1.1427 [2.0000]	57.1% { 90.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (18)
Acquired: 2023/03/14 - 18:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 896141	(8.29 , N/A) (N/A , 0.00 , N/A)	1443.9	N/A	3.3601 [4.0000]	84.0% { 99.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 866425	(8.53 , N/A) (N/A , 0.00 , N/A)	4830.0	N/A	2.8988 [4.0000]	72.5% { 95.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3119055	(10.33 , N/A) (N/A , 0.00 , N/A)	2060.5	N/A	14.6854 [20.0000]	73.4% { 105.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3770408	(10.50 , N/A) (N/A , 0.00 , N/A)	2294.1	N/A	15.0406 [20.0000]	75.2% { 103.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2051072	(5.85 , N/A) (N/A , 0.01 , N/A)	4414.8	N/A	7.2890 [8.0000]	91.1% { 97.6% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC01019
Calibration: 2310010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-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	0.00766	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00571	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	0.00603	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	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC01019	Instrument:	Saphira
Calibration:	2310010		

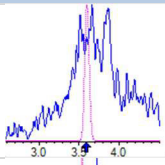
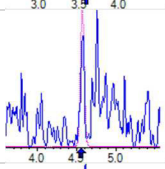
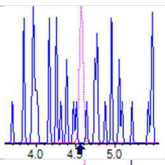
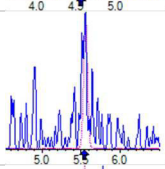
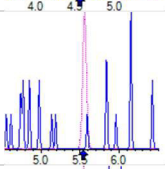
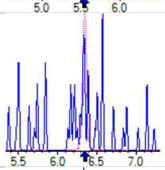
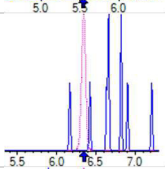
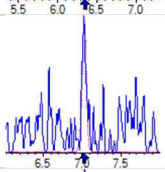
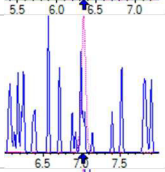
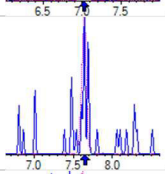
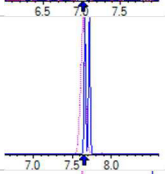
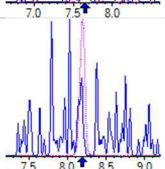
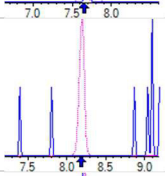
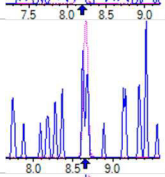
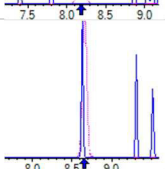
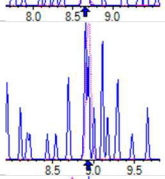
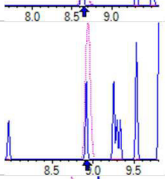
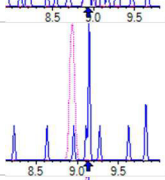
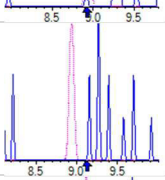
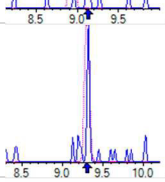
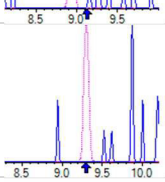
Lab Sample ID	Analyte	Found	Units	RL	C
SC01019-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.28	ng/mL		
	13C5-PFPEA	3.64	ng/mL		
	13C5-PFHXA	1.95	ng/mL		
	13C4-PFHPA	1.80	ng/mL		
	13C8-PFOA	2.06	ng/mL		
	13C9-PFNA	0.947	ng/mL		
	13C6-PFDA	0.918	ng/mL		
	13C7-PFUnA	0.854	ng/mL		
	13C2-PFDOA	0.821	ng/mL		
	13C2-PFTEDA	0.663	ng/mL		
	13C3-PFBS	1.96	ng/mL		
	13C3-PFHXS	1.74	ng/mL		
	13C8-PFOS	1.73	ng/mL		
	13C2-4:2FTS	3.82	ng/mL		
	13C2-6:2FTS	3.70	ng/mL		
	13C2-8:2FTS	4.62	ng/mL		
	13C8-PFOSA	1.52	ng/mL		
	D3-NMEFOSA	1.26	ng/mL		
	D5-NETFOSA	1.32	ng/mL		
	D3-NMEFOSAA	3.62	ng/mL		
	D5-NETFOSAA	2.86	ng/mL		
	D7-NMEFOSE	14.9	ng/mL		
	D9-NETFOSE	15.0	ng/mL		
	13C3-HFPO-DA	7.05	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

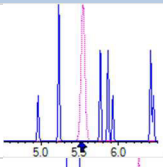
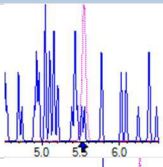
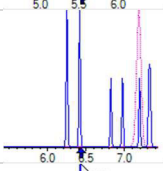
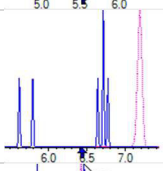
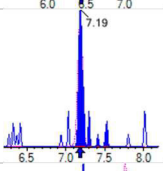
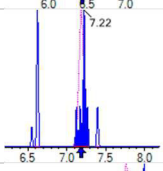
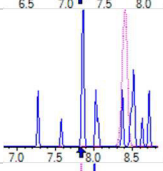
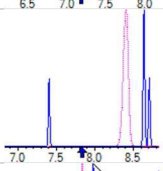
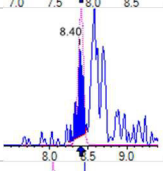
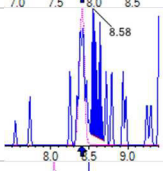
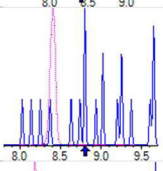
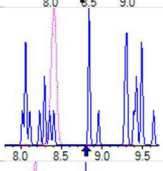
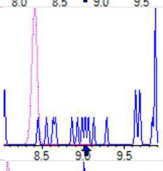
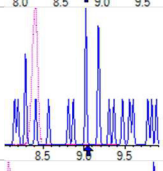
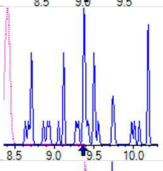
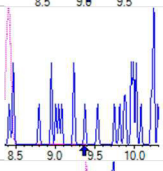
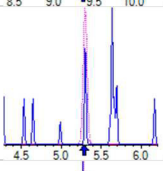
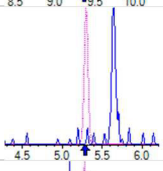
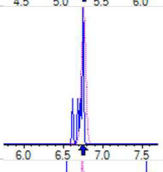
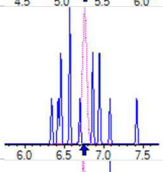
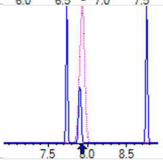
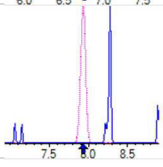
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

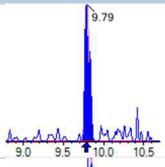
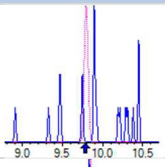
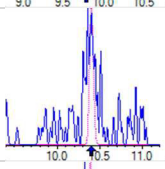
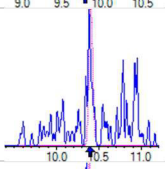
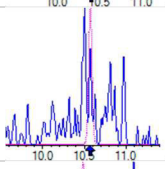
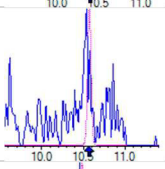
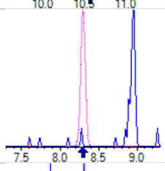
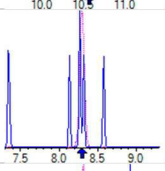
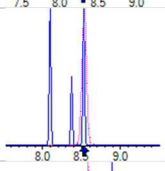
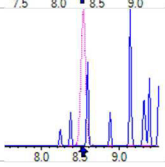
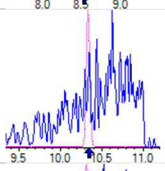
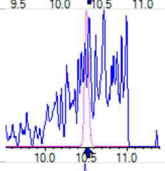
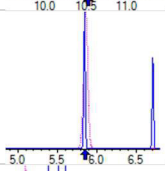
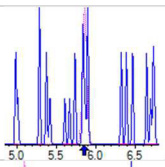
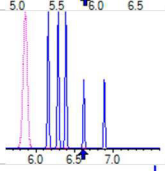
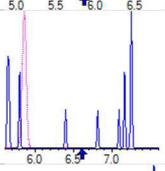
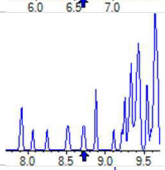
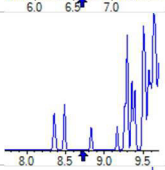
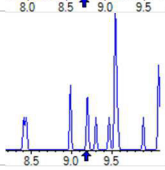
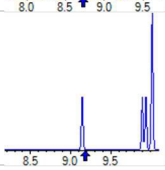
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 6770 (399.0 / 99.0) 2550	(7.19 , 1.00) (0.00 , N/A , -2.2)	299573.9 114.3	0.3767 109.9 110.5	0.0077	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) 8218 (499.0 / 99.0) 3436	(8.40 , 1.00) (0.00 , N/A , -10.5)	22.0 10.1	0.4182 193.2 192.8	0.0057	N/A			IR2,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

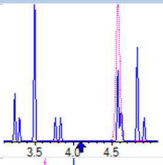
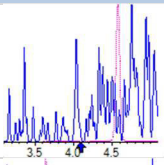
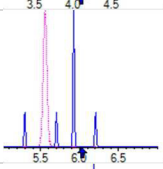
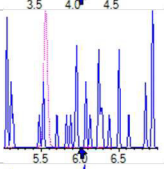
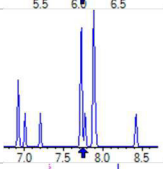
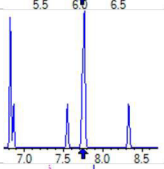
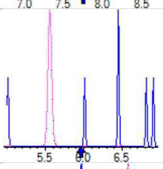
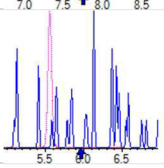
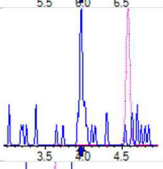
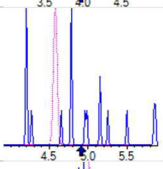
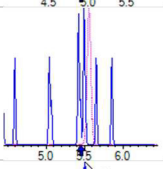
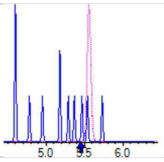
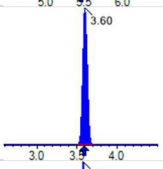
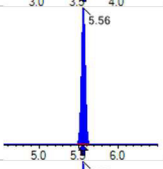
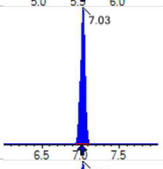
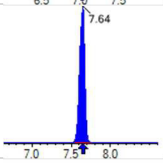
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 9623 (498.0 / 478.0) N/A	(9.79 , 1.00) (-0.01 , N/A , #Value!)	46.9 N/A	N/A 0.0 0.0	0.0060	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

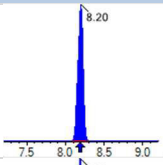
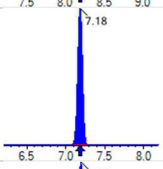
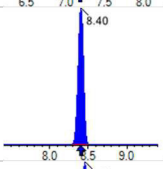
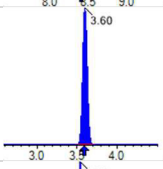
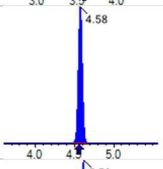
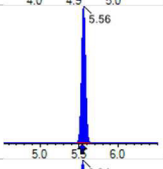
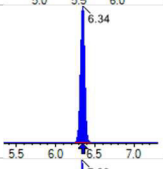
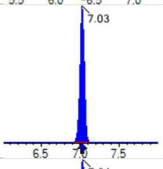
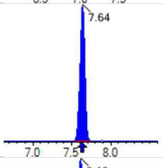
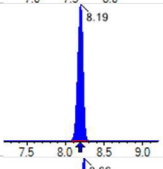
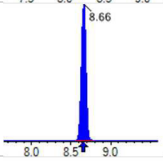
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 213138	(3.60 , N/A) (N/A , 0.01 , N/A)	2468.5	N/A	0.9950 [1.0000]	99.5% { 118.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 343110	(5.56 , N/A) (N/A , 0.01 , N/A)	4932.3	N/A	1.0925 [1.0000]	109.2% { 120.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 440002	(7.03 , N/A) (N/A , 0.01 , N/A)	3255.3	N/A	0.9528 [1.0000]	95.3% { 111.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 472011	(7.64 , N/A) (N/A , 0.01 , N/A)	2053.2	N/A	1.1311 [1.0000]	113.1% { 120.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

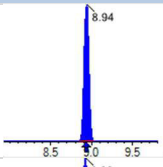
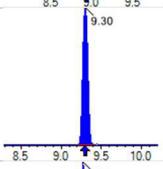
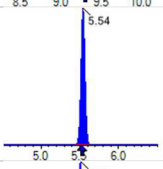
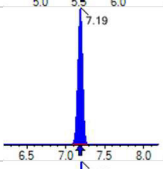
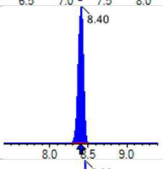
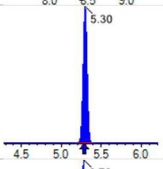
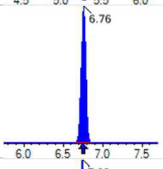
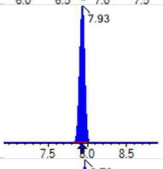
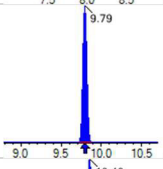
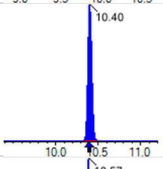
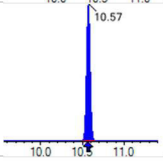
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 451825	(8.20 , N/A) (N/A , 0.01 , N/A)	39723.3	N/A	1.1250 [1.0000]	112.5% { 110.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 656392	(7.18 , N/A) (N/A , 0.01 , N/A)	2755.6	N/A	0.9668 [1.0000]	96.7% { 121.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1103302	(8.40 , N/A) (N/A , 0.00 , N/A)	2247.8	N/A	1.2858 [1.0000]	128.6% { 118.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1845299	(3.60 , N/A) (N/A , 0.01 , N/A)	5822.7	N/A	7.2750 [8.0000]	90.9% { 100.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1442385	(4.58 , N/A) (N/A , 0.01 , N/A)	4113.9	N/A	3.6391 [4.0000]	91.0% { 99.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 933545	(5.56 , N/A) (N/A , 0.01 , N/A)	4233.4	N/A	1.9521 [2.0000]	97.6% { 105.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 820954	(6.34 , N/A) (N/A , 0.01 , N/A)	2893.2	N/A	1.8021 [2.0000]	90.1% { 88.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 983896	(7.03 , N/A) (N/A , 0.01 , N/A)	3307.0	N/A	2.0583 [2.0000]	102.9% { 96.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 474835	(7.64 , N/A) (N/A , 0.01 , N/A)	3829.3	N/A	0.9468 [1.0000]	94.7% { 104.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 499357	(8.19 , N/A) (N/A , 0.01 , N/A)	1717.2	N/A	0.9183 [1.0000]	91.8% { 101.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 517784	(8.66 , N/A) (N/A , 0.01 , N/A)	1984.4	N/A	0.8540 [1.0000]	85.4% { 99.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

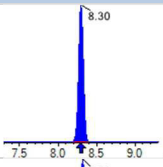
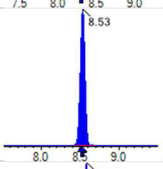
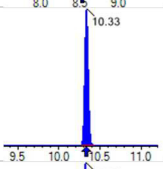
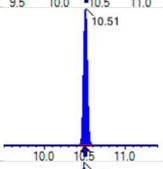
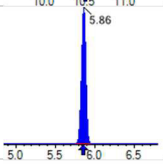
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 435265	(8.94 , N/A) (N/A , 0.00 , N/A)	2338881.8	N/A	0.8213 [1.0000]	82.1% { 95.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 370460	(9.30 , N/A) (N/A , 0.01 , N/A)	1336.6	N/A	0.6628 [1.0000]	66.3% { 91.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2037614	(5.54 , N/A) (N/A , 0.01 , N/A)	3447.0	N/A	1.9594 [2.0000]	98.0% { 98.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1178252	(7.19 , N/A) (N/A , 0.01 , N/A)	2341.5	N/A	1.7447 [2.0000]	87.2% { 93.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2553529	(8.40 , N/A) (N/A , 0.01 , N/A)	1987.2	N/A	1.7262 [2.0000]	86.3% { 99.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 251737	(5.30 , N/A) (N/A , 0.02 , N/A)	1732.0	N/A	3.8164 [4.0000]	95.4% { 92.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 320432	(6.76 , N/A) (N/A , 0.01 , N/A)	3954.6	N/A	3.7000 [4.0000]	92.5% { 96.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 433835	(7.93 , N/A) (N/A , 0.01 , N/A)	1761.6	N/A	4.6241 [4.0000]	115.6% { 107.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3845522	(9.79 , N/A) (N/A , 0.01 , N/A)	5676.1	N/A	1.5198 [2.0000]	76.0% { 97.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 814341	(10.40 , N/A) (N/A , 0.01 , N/A)	2338.4	N/A	1.2579 [2.0000]	62.9% { 95.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 779617	(10.57 , N/A) (N/A , 0.01 , N/A)	2757.7	N/A	1.3231 [2.0000]	66.2% { 99.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (27)
Acquired: 2023/03/14 - 20:27

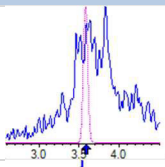
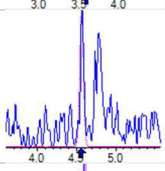
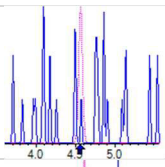
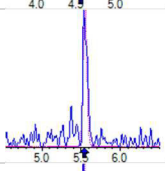
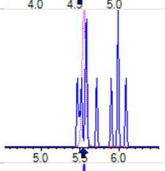
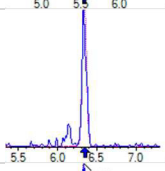
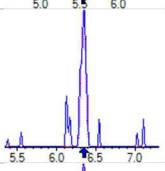
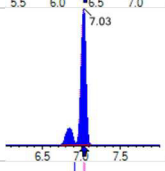
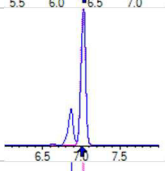
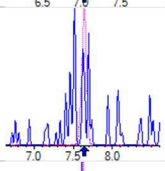
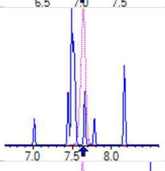
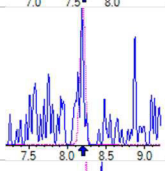
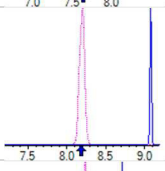
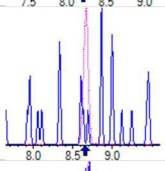
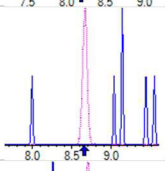
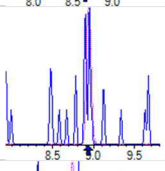
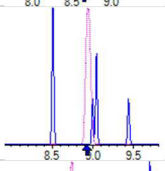
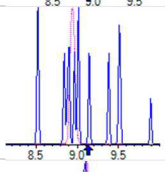
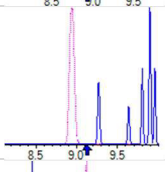
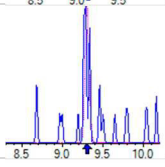
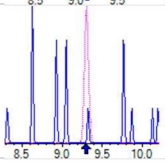
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 914439	(8.30 , N/A) (N/A , 0.01 , N/A)	2076.3	N/A	3.6150 [4.0000]	90.4% { 101.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 811236	(8.53 , N/A) (N/A , 0.01 , N/A)	15226.7	N/A	2.8616 [4.0000]	71.5% { 89.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2998166	(10.33 , N/A) (N/A , 0.01 , N/A)	2001.8	N/A	14.8831 [20.0000]	74.4% { 101.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3567731	(10.51 , N/A) (N/A , 0.01 , N/A)	1979.3	N/A	15.0052 [20.0000]	75.0% { 97.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1862030	(5.86 , N/A) (N/A , 0.01 , N/A)	3499.6	N/A	7.0505 [8.0000]	88.1% { 88.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

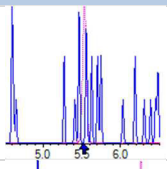
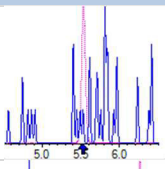
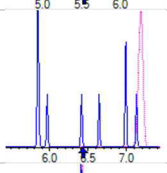
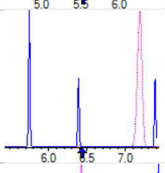
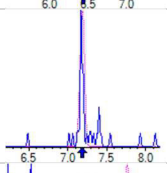
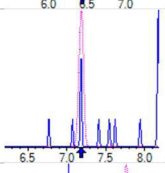
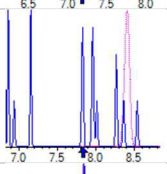
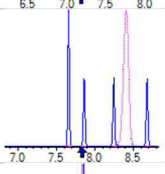
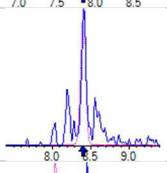
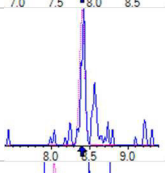
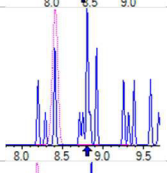
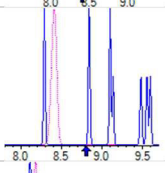
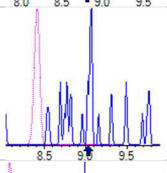
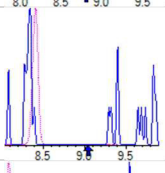
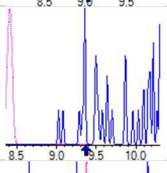
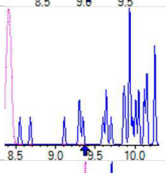
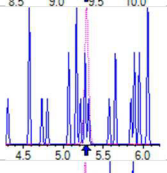
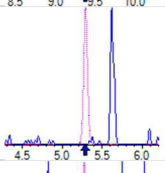
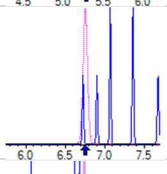
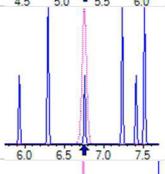
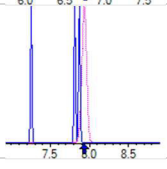
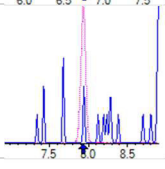
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 4346876 (413.0 / 169.0) N/A	(7.03 , 1.00) (0.00 , N/A , #Value!)	2870.0 N/A	N/A 0.0 0.0	9.7702	N/A			IR1,
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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

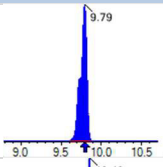
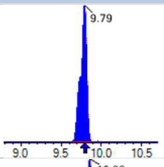
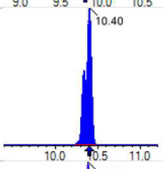
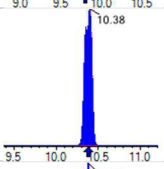
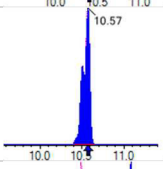
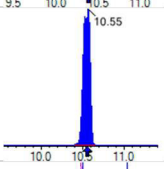
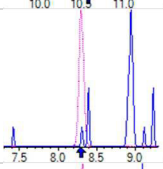
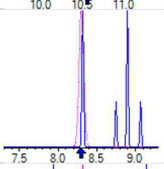
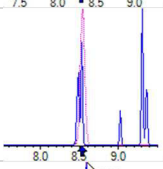
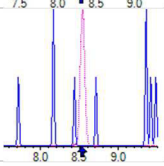
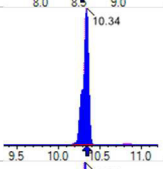
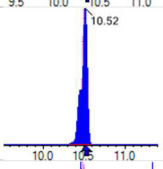
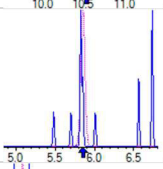
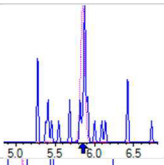
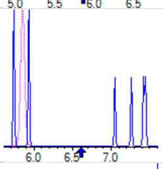
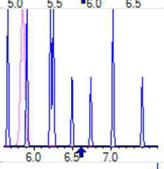
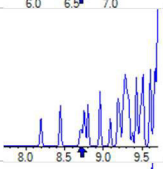
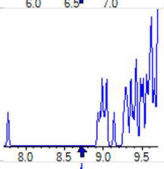
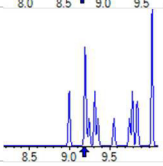
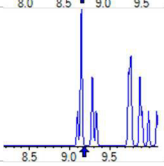
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

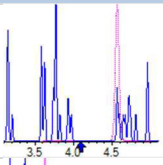
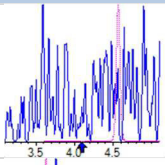
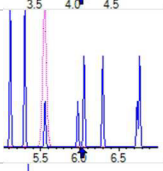
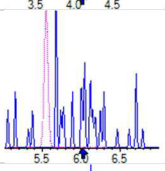
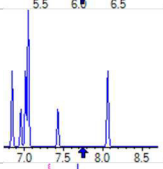
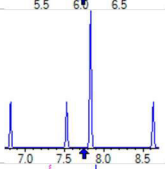
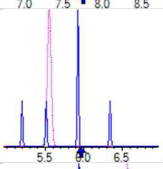
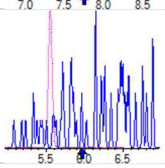
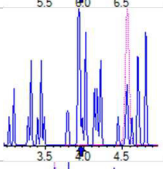
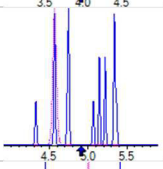
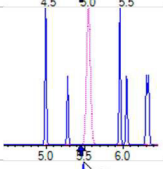
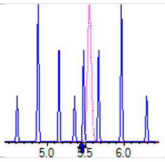
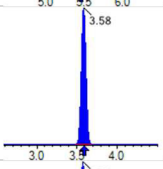
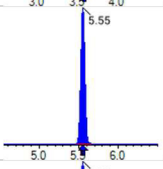
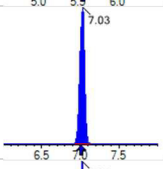
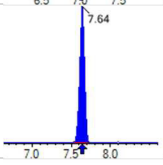
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 19021110 (498.0 / 478.0) 478094	(9.79 , 1.00) (0.00 , N/A , 0.1)	5023.5 1307.6	0.0251 113.1 100.8	11.7109	N/A			
NMeFOSA	(512.0 / 219.0) 3455304 (512.0 / 169.0) 2895084	(10.40 , 1.00) (0.00 , N/A , 1.1)	5263.2 4392.9	0.8379 100.2 99.0	10.5659	N/A			
NEtFOSA	(526.0 / 219.0) 3703667 (526.0 / 169.0) 4723129	(10.57 , 1.00) (0.00 , N/A , 1.0)	9506.1 7586.2	1.2753 99.9 101.0	10.5859	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) 1762410	(10.34 , 1.00) (0.01 , N/A , 0.0)	2248.4	N/A 0.0 0.0	11.5890	N/A			
NEtFOSE	(630.0 / 59.0) 2006993	(10.52 , 1.00) (0.01 , N/A , 0.0)	1571.1	N/A 0.0 0.0	11.1266	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

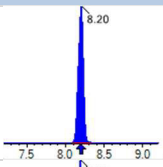
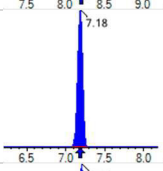
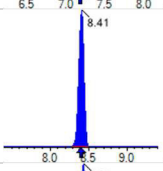
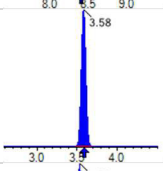
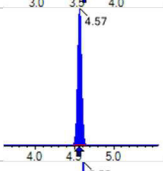
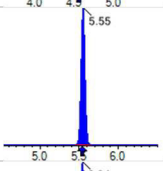
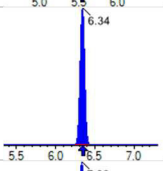
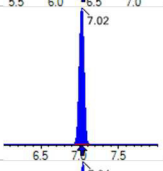
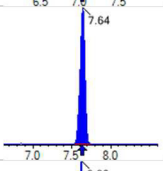
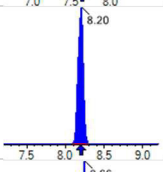
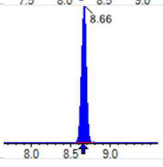
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 220676	(3.58 , N/A) (N/A , 0.00 , N/A)	2599.2	N/A	1.0302 [1.0000]	103.0% { 122.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 347274	(5.55 , N/A) (N/A , 0.01 , N/A)	2711.2	N/A	1.1057 [1.0000]	110.6% { 122.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 496535	(7.03 , N/A) (N/A , 0.01 , N/A)	2047.0	N/A	1.0752 [1.0000]	107.5% { 125.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 542024	(7.64 , N/A) (N/A , 0.01 , N/A)	1534.8	N/A	1.2988 [1.0000]	129.9% { 138.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

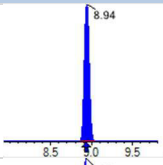
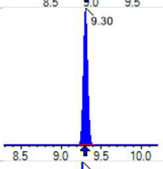
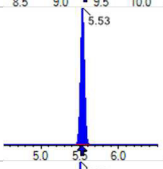
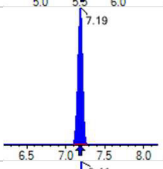
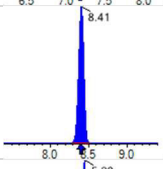
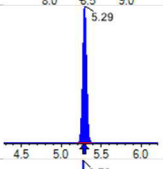
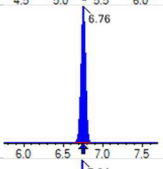
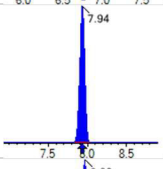
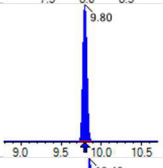
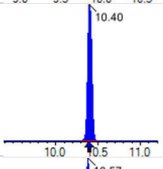
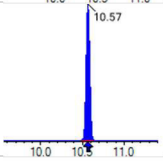
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 500827	(8.20 , N/A) (N/A , 0.01 , N/A)	3989.3	N/A	1.2470 [1.0000]	124.7% { 123.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 632897	(7.18 , N/A) (N/A , 0.01 , N/A)	2634.4	N/A	0.9322 [1.0000]	93.2% { 116.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1201381	(8.41 , N/A) (N/A , 0.01 , N/A)	1953.2	N/A	1.4001 [1.0000]	140.0% { 128.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1780384	(3.58 , N/A) (N/A , 0.00 , N/A)	7304.3	N/A	6.7793 [8.0000]	84.7% { 96.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1387652	(4.57 , N/A) (N/A , 0.00 , N/A)	4195.2	N/A	3.4590 [4.0000]	86.5% { 95.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 857585	(5.55 , N/A) (N/A , 0.01 , N/A)	3671.4	N/A	1.7717 [2.0000]	88.6% { 96.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 910178	(6.34 , N/A) (N/A , 0.01 , N/A)	7384.7	N/A	1.9740 [2.0000]	98.7% { 97.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 980345	(7.02 , N/A) (N/A , 0.01 , N/A)	4179.2	N/A	1.8173 [2.0000]	90.9% { 96.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 480273	(7.64 , N/A) (N/A , 0.01 , N/A)	5290.3	N/A	0.8339 [1.0000]	83.4% { 105.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 527956	(8.20 , N/A) (N/A , 0.01 , N/A)	29872.0	N/A	0.8759 [1.0000]	87.6% { 106.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 564414	(8.66 , N/A) (N/A , 0.01 , N/A)	3063.9	N/A	0.8398 [1.0000]	84.0% { 108.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

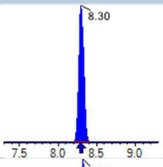
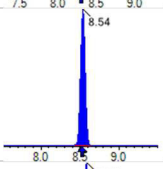
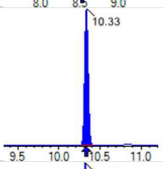
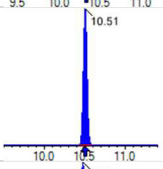
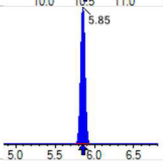
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 432460	(8.94 , N/A) (N/A , 0.01 , N/A)	11749.7	N/A	0.7361 [1.0000]	73.6% { 94.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 400032	(9.30 , N/A) (N/A , 0.01 , N/A)	1218.5	N/A	0.6456 [1.0000]	64.6% { 99.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2078874	(5.53 , N/A) (N/A , 0.01 , N/A)	3640.0	N/A	2.0733 [2.0000]	103.7% { 100.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1278607	(7.19 , N/A) (N/A , 0.01 , N/A)	2345.3	N/A	1.9636 [2.0000]	98.2% { 101.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2690102	(8.41 , N/A) (N/A , 0.01 , N/A)	2106.4	N/A	1.6701 [2.0000]	83.5% { 104.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 257811	(5.29 , N/A) (N/A , 0.01 , N/A)	1942.4	N/A	4.0536 [4.0000]	101.3% { 94.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 306721	(6.76 , N/A) (N/A , 0.01 , N/A)	3434.7	N/A	3.6732 [4.0000]	91.8% { 92.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 417424	(7.94 , N/A) (N/A , 0.01 , N/A)	2561.0	N/A	4.6143 [4.0000]	115.4% { 103.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3914054	(9.80 , N/A) (N/A , 0.01 , N/A)	4361.2	N/A	1.4206 [2.0000]	71.0% { 98.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 795426	(10.40 , N/A) (N/A , 0.01 , N/A)	3305.1	N/A	1.1284 [2.0000]	56.4% { 93.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 735055	(10.57 , N/A) (N/A , 0.01 , N/A)	3663.9	N/A	1.1456 [2.0000]	57.3% { 94.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (4)
Acquired: 2023/03/14 - 15:31

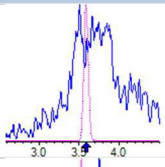
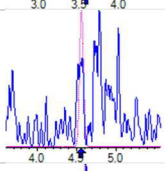
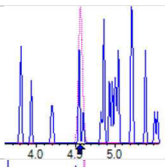
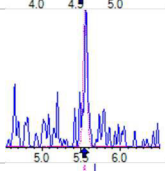
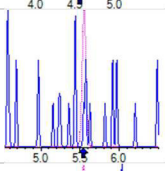
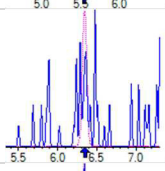
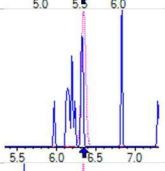
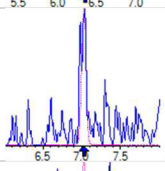
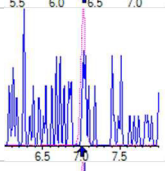
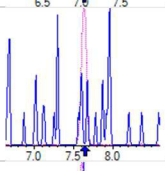
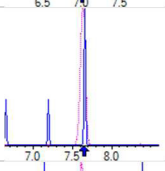
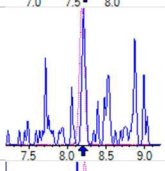
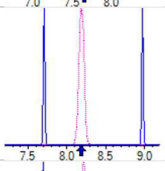
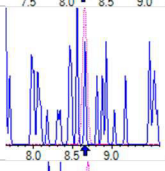
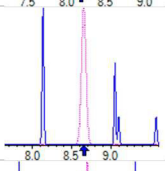
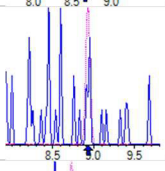
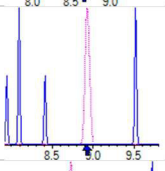
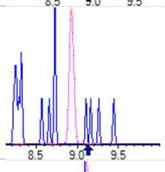
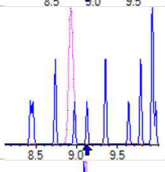
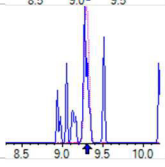
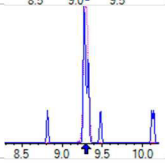
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 877298	(8.30 , N/A) (N/A , 0.01 , N/A)	2899.3	N/A	3.1850 [4.0000]	79.6% { 97.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 826325	(8.54 , N/A) (N/A , 0.01 , N/A)	6362.4	N/A	2.6769 [4.0000]	66.9% { 91.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3071027	(10.33 , N/A) (N/A , 0.01 , N/A)	2533.0	N/A	14.0002 [20.0000]	70.0% { 103.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3732354	(10.51 , N/A) (N/A , 0.01 , N/A)	1924.5	N/A	14.4161 [20.0000]	72.1% { 102.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1988239	(5.85 , N/A) (N/A , 0.01 , N/A)	3575.9	N/A	7.4381 [8.0000]	93.0% { 94.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

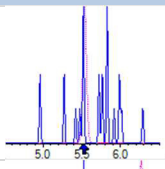
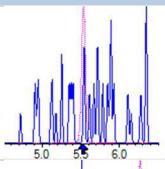
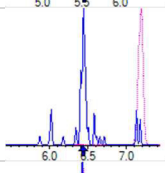
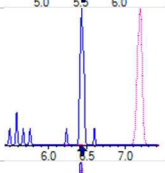
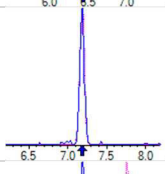
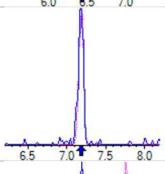
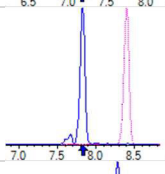
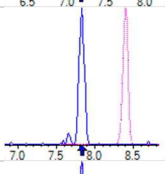
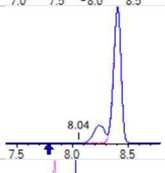
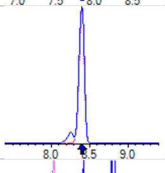
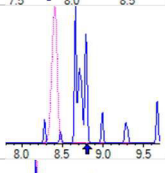
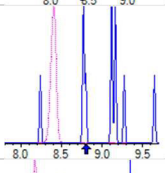
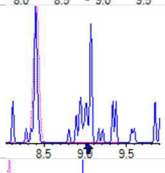
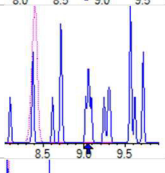
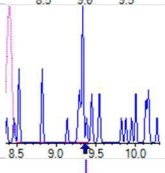
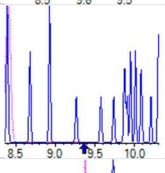
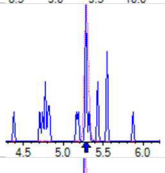
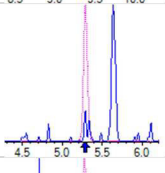
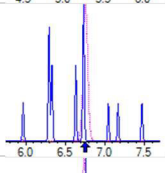
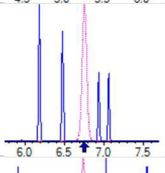
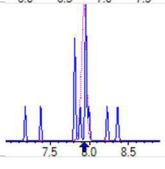
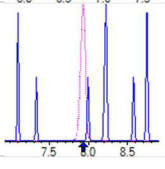
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

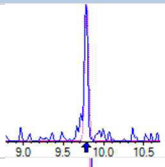
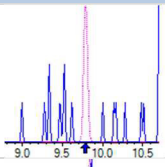
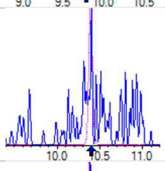
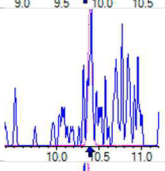
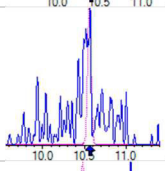
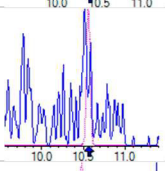
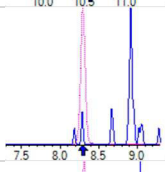
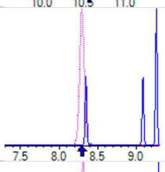
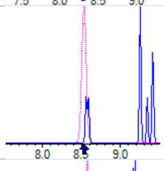
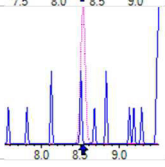
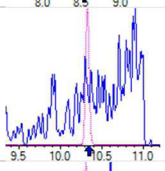
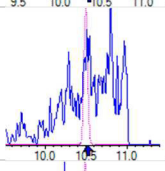
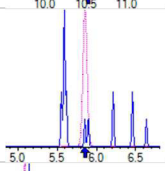
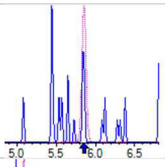
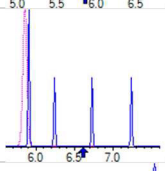
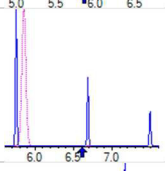
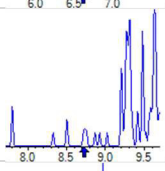
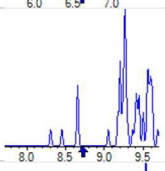
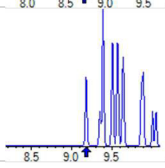
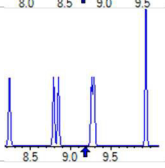
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 39117 (499.0 / 99.0) N/A	(8.04 , 0.96) (-0.36 , N/A , #Value!)	7.8 N/A	N/A 0.0 0.0	0.0237	N/A			RT,IR1,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

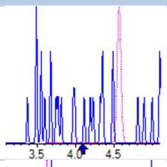
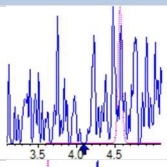
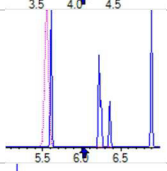
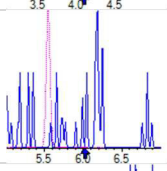
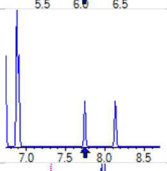
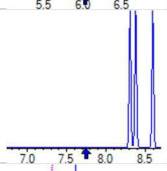
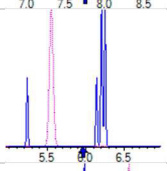
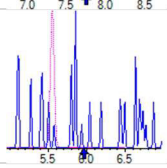
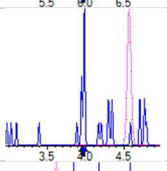
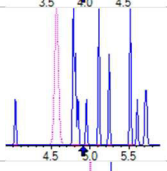
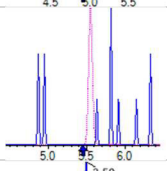
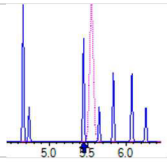
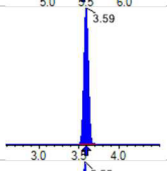
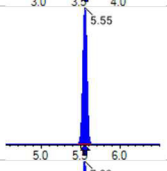
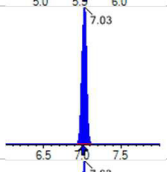
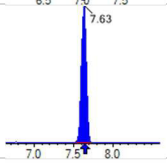
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

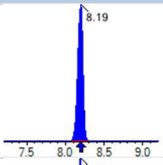
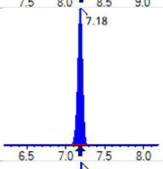
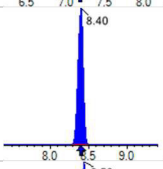
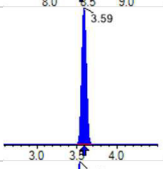
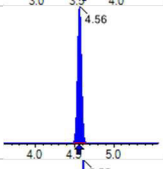
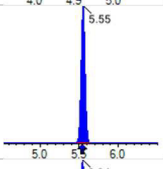
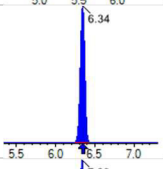
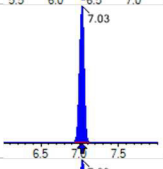
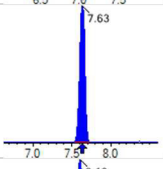
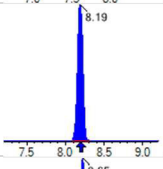
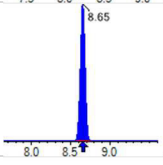
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 247335	(3.59 , N/A) (N/A , 0.00 , N/A)	2991.5	N/A	1.1547 [1.0000]	115.5% { 137.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 373761	(5.55 , N/A) (N/A , 0.01 , N/A)	3325.2	N/A	1.1901 [1.0000]	119.0% { 131.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 532162	(7.03 , N/A) (N/A , 0.01 , N/A)	2294.3	N/A	1.1523 [1.0000]	115.2% { 134.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 548081	(7.63 , N/A) (N/A , 0.00 , N/A)	1684.2	N/A	1.3133 [1.0000]	131.3% { 139.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

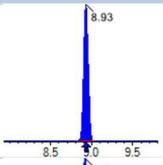
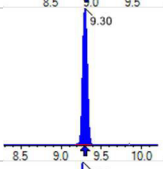
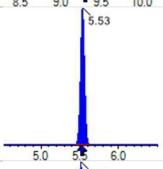
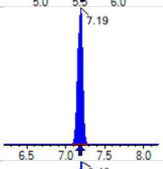
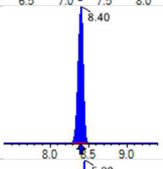
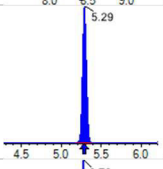
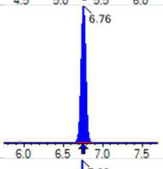
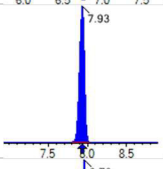
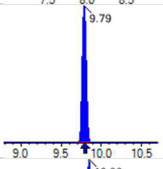
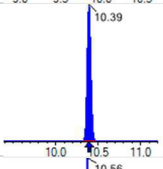
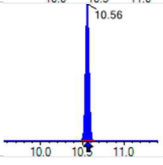
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 510162	(8.19 , N/A) (N/A , 0.00 , N/A)	1740.7	N/A	1.2703 [1.0000]	127.0% { 125.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 722292	(7.18 , N/A) (N/A , 0.01 , N/A)	15616.8	N/A	1.0639 [1.0000]	106.4% { 133.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1143654	(8.40 , N/A) (N/A , 0.00 , N/A)	1645.2	N/A	1.3328 [1.0000]	133.3% { 122.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2112637	(3.59 , N/A) (N/A , 0.00 , N/A)	8432.4	N/A	7.1774 [8.0000]	89.7% { 115.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1624855	(4.56 , N/A) (N/A , 0.00 , N/A)	4458.0	N/A	3.7633 [4.0000]	94.1% { 111.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 997922	(5.55 , N/A) (N/A , 0.01 , N/A)	3245.5	N/A	1.9155 [2.0000]	95.8% { 112.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 965621	(6.34 , N/A) (N/A , 0.01 , N/A)	3598.3	N/A	1.9458 [2.0000]	97.3% { 103.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1097719	(7.03 , N/A) (N/A , 0.01 , N/A)	3031.1	N/A	1.8987 [2.0000]	94.9% { 107.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 484056	(7.63 , N/A) (N/A , 0.01 , N/A)	3872.9	N/A	0.8312 [1.0000]	83.1% { 106.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 573165	(8.19 , N/A) (N/A , 0.00 , N/A)	3076.8	N/A	0.9335 [1.0000]	93.3% { 116.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 579760	(8.65 , N/A) (N/A , 0.00 , N/A)	46770.3	N/A	0.8469 [1.0000]	84.7% { 111.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

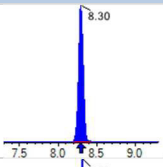
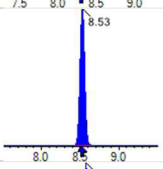
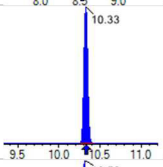
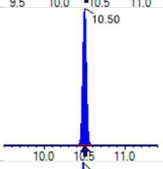
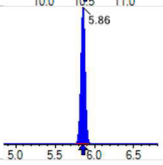
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 538767	(8.93 , N/A) (N/A , 0.00 , N/A)	61148.6	N/A	0.9003 [1.0000]	90.0% { 118.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 399679	(9.30 , N/A) (N/A , 0.00 , N/A)	9079.4	N/A	0.6333 [1.0000]	63.3% { 99.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2298512	(5.53 , N/A) (N/A , 0.01 , N/A)	5297.7	N/A	2.0087 [2.0000]	100.4% { 111.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1360984	(7.19 , N/A) (N/A , 0.01 , N/A)	3173.7	N/A	1.8314 [2.0000]	91.6% { 107.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2921616	(8.40 , N/A) (N/A , 0.00 , N/A)	2922.6	N/A	1.9054 [2.0000]	95.3% { 113.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 265482	(5.29 , N/A) (N/A , 0.01 , N/A)	1929.9	N/A	3.6576 [4.0000]	91.4% { 97.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 382447	(6.76 , N/A) (N/A , 0.01 , N/A)	1747.1	N/A	4.0132 [4.0000]	100.3% { 114.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 440167	(7.93 , N/A) (N/A , 0.00 , N/A)	1910.2	N/A	4.2635 [4.0000]	106.6% { 109.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4579252	(9.79 , N/A) (N/A , 0.00 , N/A)	4887.6	N/A	1.7460 [2.0000]	87.3% { 115.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 888449	(10.39 , N/A) (N/A , 0.00 , N/A)	3010.4	N/A	1.3240 [2.0000]	66.2% { 104.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 823283	(10.56 , N/A) (N/A , 0.00 , N/A)	4138.3	N/A	1.3479 [2.0000]	67.4% { 105.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC01019-PEM2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (5)
Acquired: 2023/03/14 - 15:43

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 971682	(8.30 , N/A) (N/A , 0.00 , N/A)	1752.7	N/A	3.7058 [4.0000]	92.6% { 107.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 895496	(8.53 , N/A) (N/A , 0.00 , N/A)	14906.8	N/A	3.0474 [4.0000]	76.2% { 99.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3290946	(10.33 , N/A) (N/A , 0.00 , N/A)	2943.9	N/A	15.7600 [20.0000]	78.8% { 111.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3979168	(10.50 , N/A) (N/A , 0.00 , N/A)	2197.1	N/A	16.1452 [20.0000]	80.7% { 109.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2264026	(5.86 , N/A) (N/A , 0.01 , N/A)	4258.4	N/A	7.8696 [8.0000]	98.4% { 107.7% }			

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QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

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Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BLK1	File ID:	S2023-03-14A (7)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.80 U	1.6	0.80	0.21	U
PFPEA	0.40 U	0.80	0.40	0.065	U
PFHXA	0.20 U	0.40	0.20	0.055	U
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.20 U	0.40	0.20	0.15	U
PFNA	0.20 U	0.40	0.20	0.082	U
PFDA	0.20 U	0.40	0.20	0.10	U
PFUnA	0.30 U	0.40	0.30	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.20 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	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				

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BLK1	File ID:	S2023-03-14A (7)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

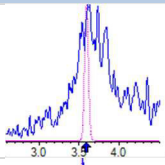
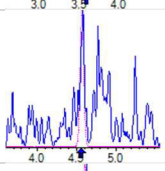
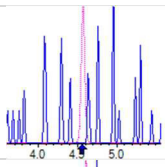
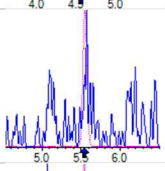
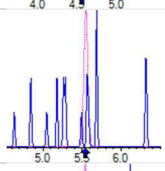
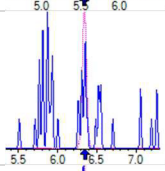
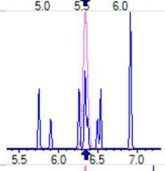
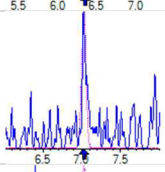
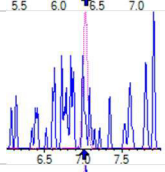
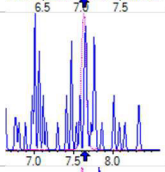
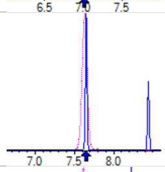
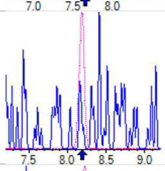
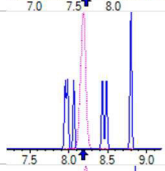
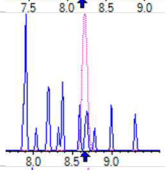
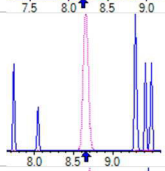
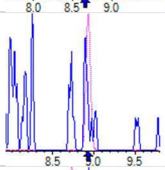
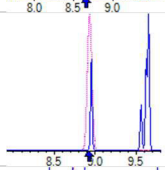
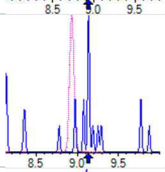
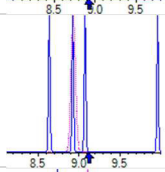
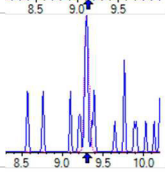
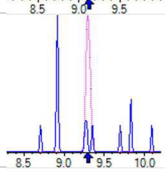
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

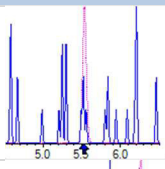
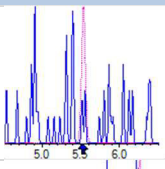
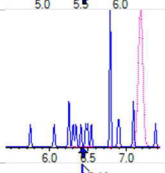
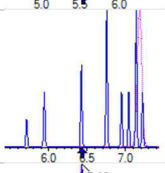
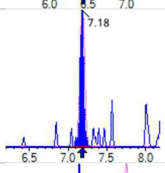
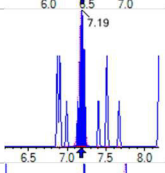
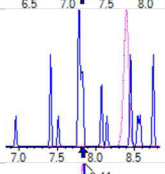
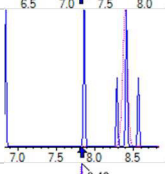
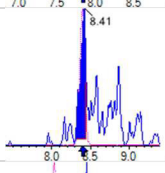
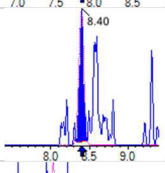
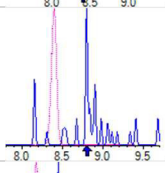
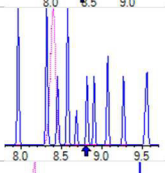
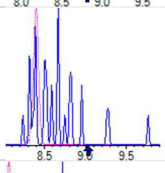
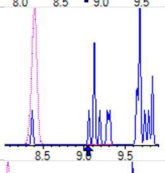
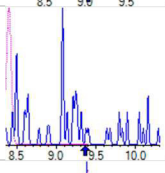
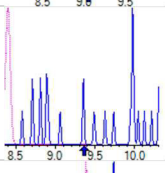
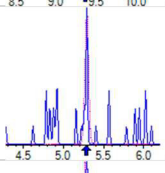
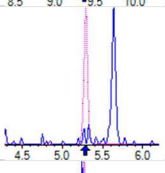
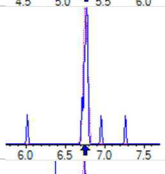
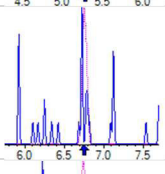
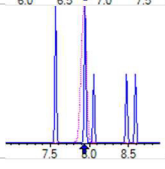
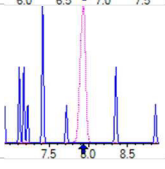
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

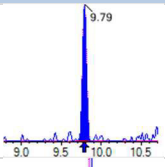
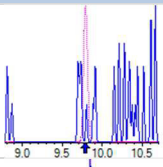
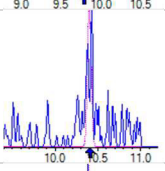
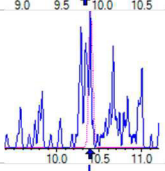
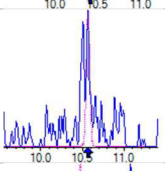
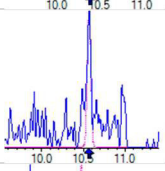
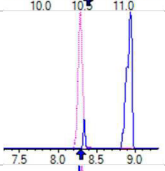
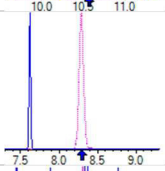
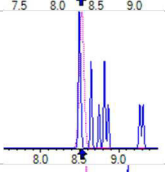
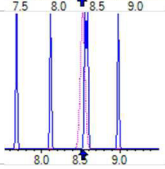
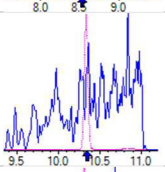
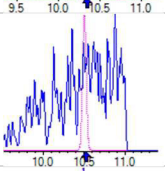
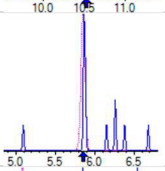
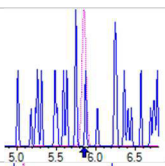
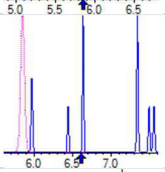
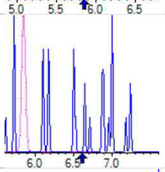
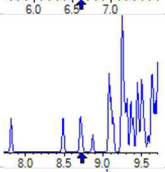
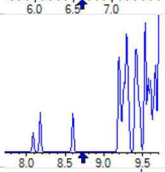
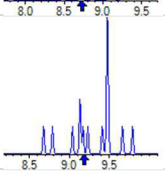
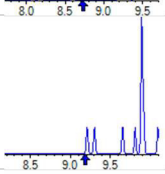
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 6061 (399.0 / 99.0) 1499	(7.18 , 1.00) (-0.01 , N/A , -1.0)	89.5 4489.3	0.2474 72.2 72.6	0.0070	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) 19304 (499.0 / 99.0) 4846	(8.41 , 1.00) (0.02 , N/A , 0.8)	34.1 21.6	0.2510 116.0 115.7	0.0131	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

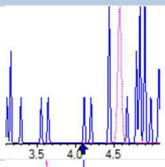
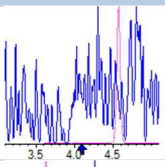
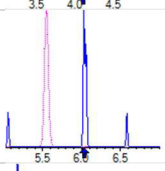
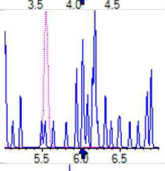
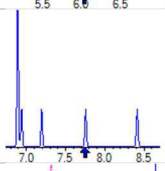
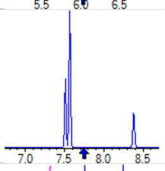
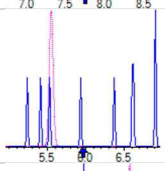
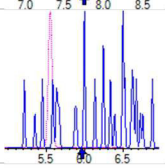
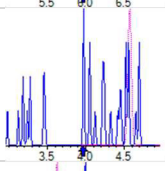
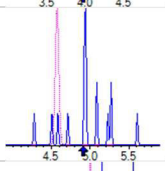
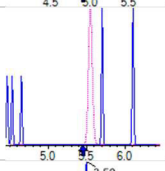
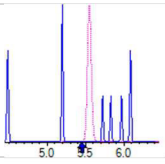
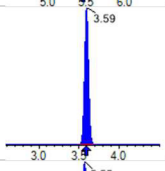
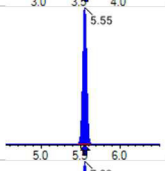
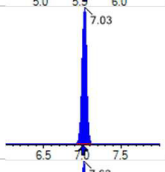
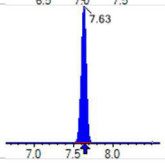
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 14937 (498.0 / 478.0) N/A	(9.79 , 1.00) (0.00 , N/A , #Value!)	94.5 N/A	N/A 0.0 0.0	0.0110	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			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

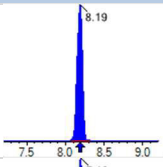
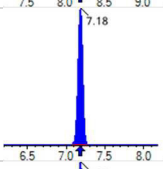
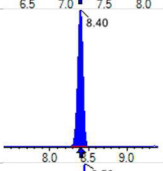
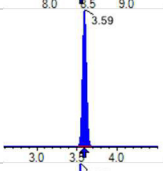
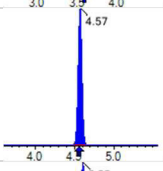
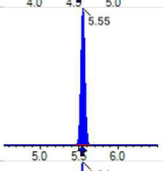
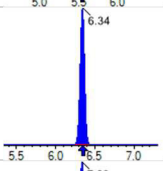
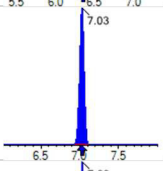
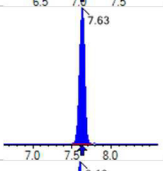
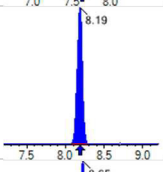
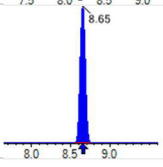
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 211156	(3.59 , N/A) (N/A , 0.01 , N/A)	2577.0	N/A	0.9858 [1.0000]	98.6% { 117.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 316928	(5.55 , N/A) (N/A , 0.01 , N/A)	23996.9	N/A	1.0091 [1.0000]	100.9% { 111.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 470961	(7.03 , N/A) (N/A , 0.01 , N/A)	2479.8	N/A	1.0198 [1.0000]	102.0% { 118.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 422144	(7.63 , N/A) (N/A , 0.00 , N/A)	2064.3	N/A	1.0116 [1.0000]	101.2% { 107.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

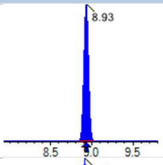
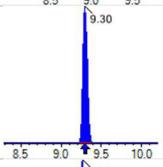
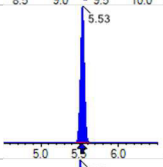
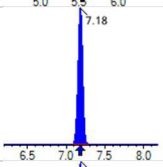
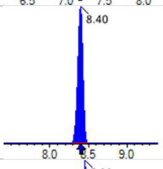
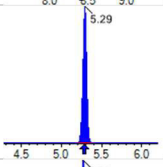
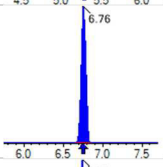
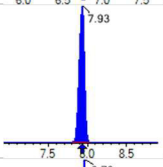
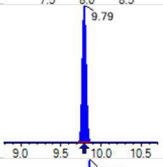
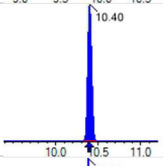
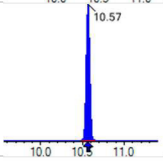
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 458466	(8.19 , N/A) (N/A , 0.00 , N/A)	9629.0	N/A	1.1416 [1.0000]	114.2% { 112.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 605426	(7.18 , N/A) (N/A , 0.00 , N/A)	2958.6	N/A	0.8917 [1.0000]	89.2% { 111.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1064215	(8.40 , N/A) (N/A , 0.00 , N/A)	1448.4	N/A	1.2403 [1.0000]	124.0% { 114.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1746124	(3.59 , N/A) (N/A , 0.01 , N/A)	7614.8	N/A	6.9486 [8.0000]	86.9% { 95.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1463210	(4.57 , N/A) (N/A , 0.01 , N/A)	4272.8	N/A	3.9966 [4.0000]	99.9% { 100.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 840504	(5.55 , N/A) (N/A , 0.00 , N/A)	2741.8	N/A	1.9027 [2.0000]	95.1% { 94.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 806066	(6.34 , N/A) (N/A , 0.01 , N/A)	5932.8	N/A	1.9156 [2.0000]	95.8% { 86.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 891327	(7.03 , N/A) (N/A , 0.01 , N/A)	2768.9	N/A	1.7420 [2.0000]	87.1% { 87.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 396870	(7.63 , N/A) (N/A , 0.01 , N/A)	2015.2	N/A	0.8848 [1.0000]	88.5% { 86.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 448527	(8.19 , N/A) (N/A , 0.00 , N/A)	10028.4	N/A	0.8129 [1.0000]	81.3% { 90.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 448458	(8.65 , N/A) (N/A , 0.00 , N/A)	4687.4	N/A	0.7290 [1.0000]	72.9% { 85.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

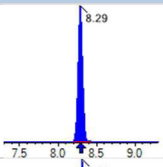
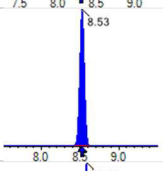
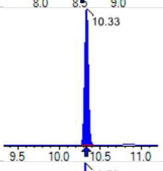
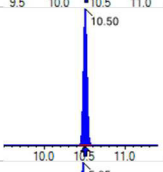
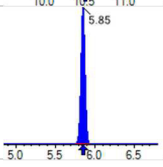
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 435889	(8.93 , N/A) (N/A , 0.00 , N/A)	438.1	N/A	0.8105 [1.0000]	81.1% { 95.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 361482	(9.30 , N/A) (N/A , 0.00 , N/A)	9016.0	N/A	0.6373 [1.0000]	63.7% { 89.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1925680	(5.53 , N/A) (N/A , 0.01 , N/A)	4911.6	N/A	2.0077 [2.0000]	100.4% { 93.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1159914	(7.18 , N/A) (N/A , 0.01 , N/A)	2615.3	N/A	1.8621 [2.0000]	93.1% { 92.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2607696	(8.40 , N/A) (N/A , 0.00 , N/A)	2490.2	N/A	1.8276 [2.0000]	91.4% { 101.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 514989	(5.29 , N/A) (N/A , 0.01 , N/A)	3120.1	N/A	8.4646 [4.0000]	211.6% { 188.7% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 318961	(6.76 , N/A) (N/A , 0.01 , N/A)	936.9	N/A	3.9931 [4.0000]	99.8% { 95.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 368207	(7.93 , N/A) (N/A , 0.00 , N/A)	2374.1	N/A	4.2550 [4.0000]	106.4% { 91.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3282722	(9.79 , N/A) (N/A , 0.00 , N/A)	4661.4	N/A	1.3451 [2.0000]	67.3% { 82.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 343842	(10.40 , N/A) (N/A , 0.00 , N/A)	1317.8	N/A	0.5507 [2.0000]	27.5% { 40.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 346837	(10.57 , N/A) (N/A , 0.00 , N/A)	2134.6	N/A	0.6102 [2.0000]	30.5% { 44.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (7)
Acquired: 2023/03/14 - 16:09

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 826839	(8.29 , N/A) (N/A , 0.00 , N/A)	1943.1	N/A	3.3888 [4.0000]	84.7% { 91.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 810206	(8.53 , N/A) (N/A , 0.00 , N/A)	11696.1	N/A	2.9629 [4.0000]	74.1% { 89.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1508106	(10.33 , N/A) (N/A , 0.01 , N/A)	1374.9	N/A	7.7613 [20.0000]	38.8% { 51.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2364811	(10.50 , N/A) (N/A , 0.00 , N/A)	2131.9	N/A	10.3113 [20.0000]	51.6% { 64.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1875002	(5.85 , N/A) (N/A , 0.00 , N/A)	2917.1	N/A	7.6861 [8.0000]	96.1% { 89.2% }			

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BS1	File ID:	S2023-03-14A (8)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:22
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	17.8	1.6	0.21	
PFPEA	9.03	0.80	0.065	
PFHXA	4.49	0.40	0.055	
PFHPA	4.59	0.40	0.041	
PFOA	4.51	0.40	0.15	
PFNA	4.27	0.40	0.082	
PFDA	4.49	0.40	0.10	
PFUnA	5.21	0.40	0.16	
PFDOA	5.21	0.40	0.11	
PFTRDA	4.39	0.40	0.20	
PFTEDA	4.47	0.40	0.20	
PFBS	4.22	0.40	0.037	
PFPES	5.16	0.40	0.063	
PFHXS	4.35	0.40	0.032	
PFHPS	3.85	0.40	0.051	
PFOS	4.10	0.40	0.064	
PFNS	4.57	0.40	0.12	
PFDS	4.18	0.40	0.15	
PFDOS	3.45	0.40	0.12	
4:2FTS	18.2	1.6	0.29	
6:2FTS	18.5	1.6	0.31	
8:2FTS	16.5	1.6	0.082	
PFOSA	4.77	0.40	0.10	
NMeFOSA	18.6	1.6	0.47	
NEtFOSA	18.3	1.6	0.41	
NMeFOSAA	3.84	0.40	0.11	
NEtFOSAA	4.46	0.40	0.11	
NMeFOSE	18.6	1.6	1.0	
NEtFOSE	17.0	1.6	1.0	
HFPO-DA	10.3	[illegible]	[illegible]	

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-BS1	File ID:	S2023-03-14A (8)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:22
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

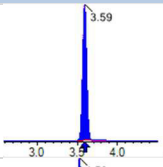
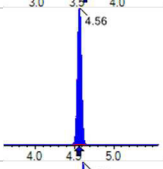
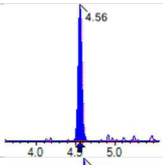
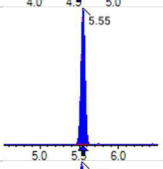
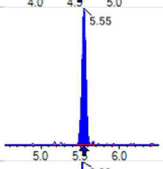
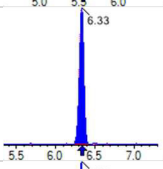
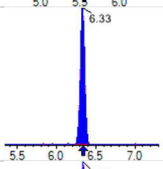
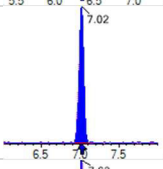
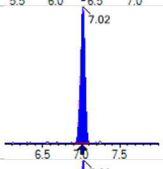
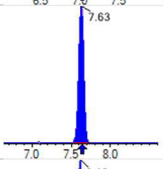
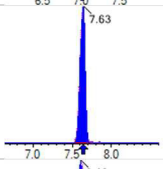
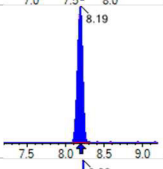
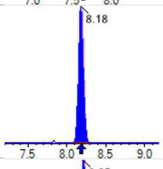
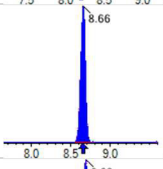
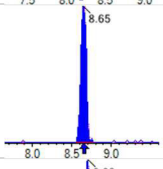
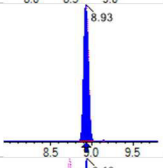
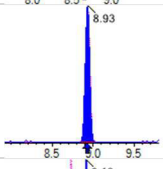
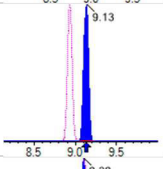
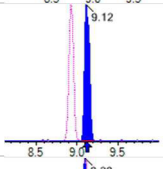
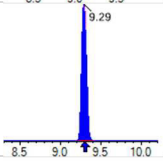
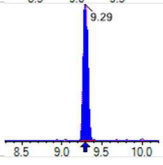
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	8.26	0.80	0.12	
PFEESA	8.57	0.80	0.11	
PFMPA	8.17	0.80	0.054	
PFMBA	7.96	0.80	0.091	
NFDHA	8.75	0.80	0.30	
9CL-PF3ONS	9.47	0.80	0.21	
11CL-PF3OUDS	8.64	0.80	0.21	
3:3FTCA	16.7	1.6	0.57	
5:3FTCA	16.5	1.6	0.44	
7:3FTCA	14.4	1.6	0.55	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

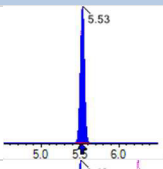
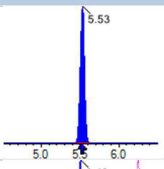
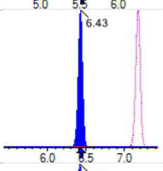
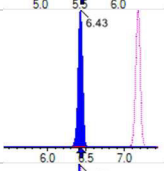
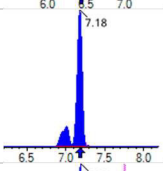
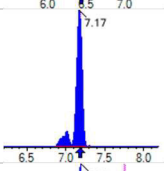
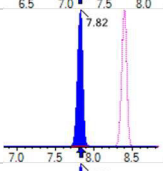
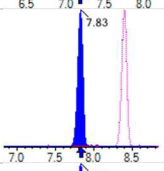
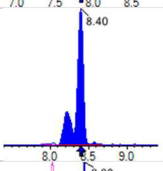
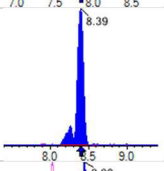
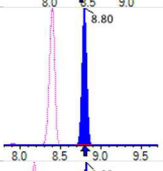
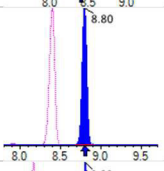
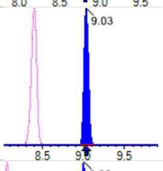
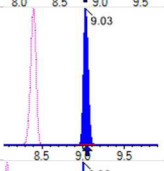
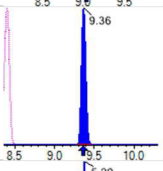
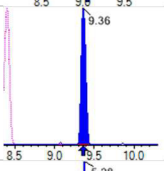
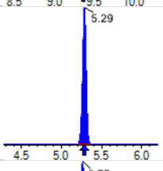
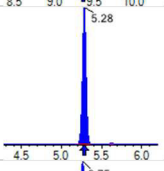
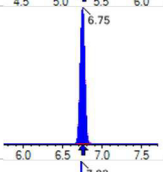
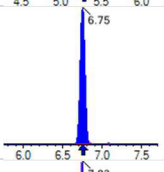
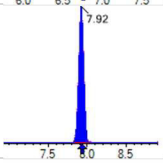
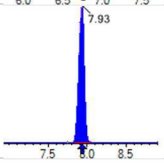
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 823725	(3.59 , 1.00) (0.00 , N/A , 0.0)	348.7	N/A 0.0 0.0	4.4573 [4.0000]	111.4%			
PFPeA	(263.0 / 219.0) 741874 (263.0 / 69.0) 8375	(4.56 , 1.00) (0.00 , N/A , 0.4)	2331.4 277.3	0.0113 99.7 104.0	2.2578 [2.0000]	112.9%			
PFHxA	(313.0 / 269.0) 414797 (313.0 / 119.0) 46003	(5.55 , 1.00) (0.00 , N/A , 0.1)	1615.9 22791.4	0.1109 105.3 116.7	1.1234 [1.0000]	112.3%			
PFHpA	(363.0 / 319.0) 384100 (363.0 / 169.0) 110986	(6.33 , 1.00) (0.00 , N/A , 0.1)	2065.0 27159.3	0.2890 88.6 96.3	1.1483 [1.0000]	114.8%			
PFOA	(413.0 / 369.0) 501728 (413.0 / 169.0) 159027	(7.02 , 1.00) (0.00 , N/A , 0.0)	844.7 6383.8	0.3170 90.9 92.9	1.1287 [1.0000]	112.9%			
PFNA	(463.0 / 419.0) 427990 (463.0 / 169.0) 110581	(7.63 , 1.00) (0.00 , N/A , -0.4)	33886.2 515.4	0.2584 110.4 114.1	1.0678 [1.0000]	106.8%			
PFDA	(513.0 / 469.0) 524007 (513.0 / 169.0) 57767	(8.19 , 1.00) (0.00 , N/A , 0.6)	906.1 419.7	0.1102 103.6 103.0	1.1231 [1.0000]	112.3%			
PFUnA	(563.0 / 519.0) 484632 (563.0 / 169.0) 46319	(8.66 , 1.00) (0.00 , N/A , 0.4)	1069.1 295.8	0.0956 79.7 78.2	1.3036 [1.0000]	130.4%			QC,
PFDoA	(613.0 / 569.0) 469785 (613.0 / 169.0) 74757	(8.93 , 1.00) (0.00 , N/A , -0.1)	1313.7 830.7	0.1591 97.8 93.5	1.3028 [1.0000]	130.3%			QC,
PFTrDA	(663.0 / 619.0) 379298 (663.0 / 169.0) 99822	(9.13 , 1.02) (N/A , 0.00 , 0.4)	1851.2 1227.0	0.2632 107.9 105.4	1.0968 [1.0000]	109.7%			
PFTeDA	(713.0 / 669.0) 368273 (713.0 / 169.0) 76801	(9.29 , 1.00) (0.00 , N/A , -0.2)	1175.6 668.8	0.2085 109.1 100.9	1.1169 [1.0000]	111.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

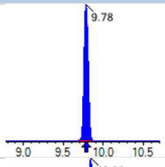
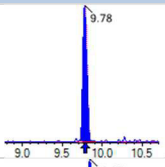
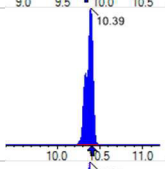
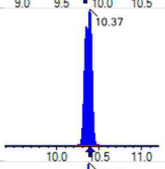
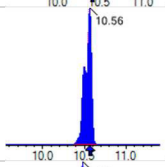
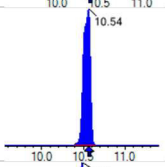
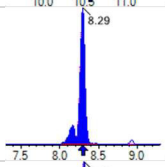
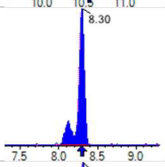
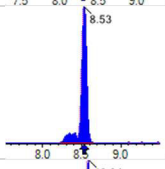
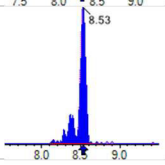
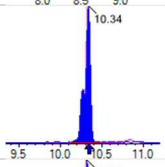
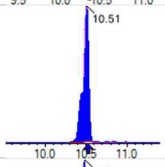
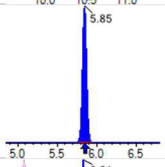
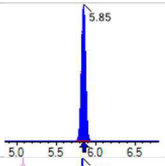
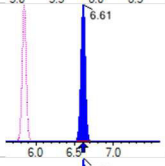
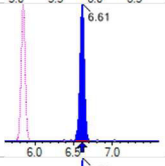
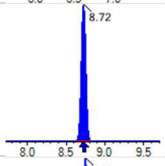
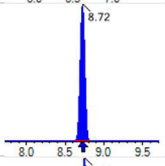
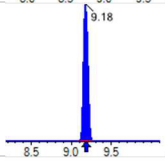
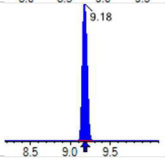
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 653366 (299.0 / 99.0) 422189	(5.53 , 1.00) (0.00 , N/A , 0.0)	2998.2 1705.4	0.6462 110.1 103.6	1.0556 [0.8847]	119.3%			
PFPeS	(349.0 / 80.0) 1234153 (349.0 / 99.0) 427787	(6.43 , 0.90) (N/A , 0.00 , 0.0)	23388.3 679091.0	0.3466 101.5 97.3	1.2891 [0.9384]	137.4%			QC,
PFHxS	(399.0 / 80.0) 946702 (399.0 / 99.0) 303911	(7.18 , 1.00) (0.00 , N/A , 0.2)	9143.3 6150.1	0.3210 93.6 94.1	1.0870 [0.9110]	119.3%			
PFHpS	(449.0 / 80.0) 1067149 (449.0 / 99.0) 281569	(7.82 , 0.93) (N/A , 0.00 , -0.2)	12335011.1 6685929.1	0.2639 92.9 95.3	0.9624 [0.9514]	101.2%			
PFOS	(499.0 / 80.0) 1414122 (499.0 / 99.0) 303799	(8.40 , 1.00) (0.00 , N/A , 0.1)	690.0 470.5	0.2148 99.3 99.0	1.0261 [0.9275]	110.6%			
PFNS	(549.0 / 80.0) 1493202 (549.0 / 99.0) 347428	(8.80 , 1.05) (N/A , 0.00 , -0.1)	190909.7 70243.9	0.2327 101.5 92.1	1.1425 [0.9599]	119.0%			
PFDS	(599.0 / 80.0) 1579658 (599.0 / 99.0) 364241	(9.03 , 1.08) (N/A , 0.00 , 0.1)	2218.7 1483.4	0.2306 101.9 99.2	1.0462 [0.9631]	108.6%			
PFDoS	(699.0 / 80.0) 1039969 (699.0 / 99.0) 250721	(9.36 , 1.12) (N/A , 0.00 , 0.1)	2051.1 877.7	0.2411 110.6 103.3	0.8617 [0.9696]	88.9%			
4:2FTS	(327.0 / 307.0) 1715099 (327.0 / 81.0) 1041183	(5.29 , 1.00) (0.00 , N/A , 0.1)	5584.1 2935.7	0.6071 98.0 96.2	4.5446 [3.7381]	121.6%			
6:2FTS	(427.0 / 407.0) 514594 (427.0 / 81.0) 379050	(6.75 , 1.00) (0.00 , N/A , 0.0)	96404.7 1278.9	0.7366 106.6 100.4	4.6372 [3.7962]	122.2%			
8:2FTS	(527.0 / 507.0) 574160 (527.0 / 81.0) 443036	(7.92 , 1.00) (0.00 , N/A , -0.4)	3636.3 1301.7	0.7716 114.3 98.2	4.1174 [3.8332]	107.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

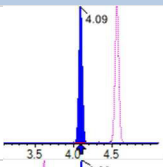
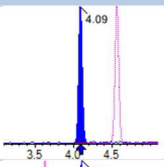
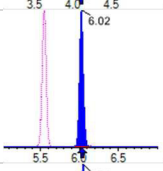
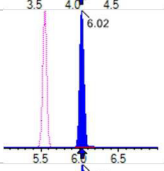
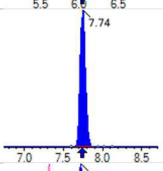
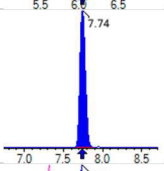
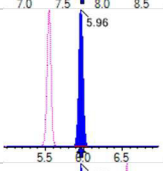
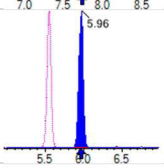
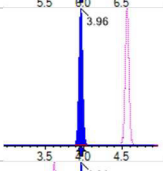
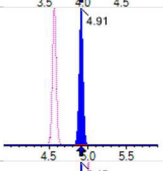
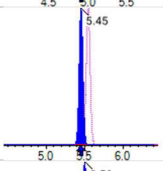
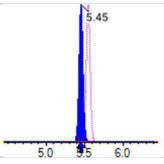
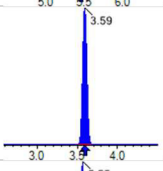
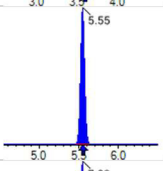
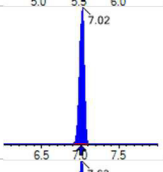
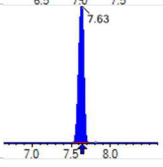
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1574769 (498.0 / 478.0) 48169	(9.78 , 1.00) (0.00 , N/A , 0.3)	2771.3 310.8	0.0306 137.7 122.6	1.1922 [1.0000]	119.2%			
NMeFOSA	(512.0 / 219.0) 842637 (512.0 / 169.0) 703534	(10.39 , 1.00) (0.00 , N/A , 1.1)	3213.9 2999.2	0.8349 99.9 98.7	4.6443 [4.0000]	116.1%			
NEtFOSA	(526.0 / 219.0) 914444 (526.0 / 169.0) 1131023	(10.56 , 1.00) (0.00 , N/A , 0.9)	4051.2 3598.4	1.2368 96.9 98.0	4.5714 [4.0000]	114.3%			
NMeFOSAA	(570.0 / 419.0) 220321 (570.0 / 483.0) 103008	(8.29 , 1.00) (0.00 , N/A , -0.3)	5641.0 364.8	0.4675 99.5 93.8	0.9612 [1.0000]	96.1%			
NEtFOSAA	(584.0 / 419.0) 198128 (584.0 / 526.0) 109320	(8.53 , 1.00) (0.01 , N/A , 0.1)	31402.2 1452.2	0.5518 86.4 90.5	1.1139 [1.0000]	111.4%			
NMeFOSE	(616.0 / 59.0) 389361	(10.34 , 1.00) (0.01 , N/A , 0.0)	802.0	N/A 0.0 0.0	4.6507 [4.0000]	116.3%			
NEtFOSE	(630.0 / 59.0) 563761	(10.51 , 1.00) (0.01 , N/A , 0.0)	859.4	N/A 0.0 0.0	4.2553 [4.0000]	106.4%			
HFPO-DA	(285.0 / 169.0) 494658 (285.0 / 185.0) 1198518	(5.85 , 1.00) (0.00 , N/A , 0.0)	2513.0 4632.1	2.4229 90.0 90.9	2.5863 [2.0000]	129.3%			
ADONA	(377.0 / 85.0) 1552779 (377.0 / 251.0) 153312	(6.61 , 1.13) (N/A , 0.00 , 0.0)	4656.5 902.2	0.0987 102.2 98.6	2.0651 [1.8854]	109.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 4799528 (533.0 / 353.0) 1500441	(8.72 , 1.49) (N/A , 0.00 , 0.1)	2647.8 1503.1	0.3126 98.0 94.3	2.3680 [1.8665]	126.9%			
11Cl-PF3OUDS	(631.0 / 451.0) 2656974 (633.0 / 453.0) 962492	(9.18 , 1.57) (N/A , 0.00 , 0.0)	3561.5 1881.5	0.3623 108.8 96.1	2.1595 [1.8864]	114.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

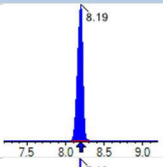
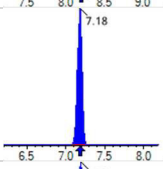
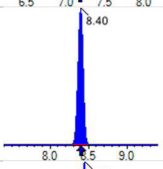
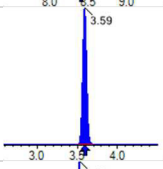
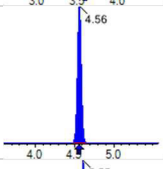
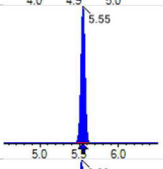
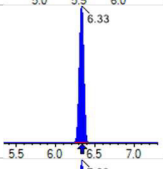
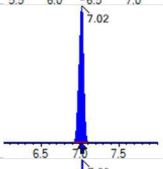
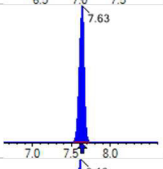
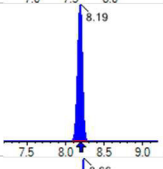
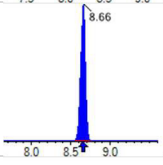
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 41210 (241.0 / 117.0) 61173	(4.09 , 0.90) (N/A , 0.00 , 0.1)	1160.8 414.0	1.4844 72.8 99.7	4.1660 [4.0000]	104.2%			
5:3FTCA	(341.0 / 236.7) 259975 (341.0 / 217.0) 455685	(6.02 , 1.09) (N/A , 0.00 , 0.0)	2440.3 1401.9	1.7528 106.4 109.8	4.1245 [4.0000]	103.1%			
7:3FTCA	(441.0 / 317.0) 381469 (441.0 / 337.0) 348658	(7.74 , 1.40) (N/A , 0.00 , 0.1)	838.5 7129.1	0.9140 106.7 105.5	3.6059 [4.0000]	90.1%			
PFEESA	(315.0 / 135.0) 986287 (315.0 / 83.0) 245438	(5.96 , 1.07) (N/A , 0.00 , -0.1)	5079.7 1097.7	0.2489 96.0 104.7	2.1416 [1.7849]	120.0%			
PFMPA	(229.0 / 85.0) 172792	(3.96 , 0.87) (N/A , 0.00 , 0.0)	2825.0	N/A 0.0 0.0	2.0429 [2.0000]	102.1%			
PFMBA	(279.0 / 85.0) 537584	(4.91 , 1.08) (N/A , 0.00 , 0.0)	4316.1	N/A 0.0 0.0	1.9900 [2.0000]	99.5%			
NFDHA	(295.0 / 201.0) 457723 (295.0 / 85.0) 435654	(5.45 , 0.98) (N/A , 0.00 , 0.0)	4530.8 4967.4	0.9518 94.8 102.4	2.1865 [2.0000]	109.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 217273	(3.59 , N/A) (N/A , 0.01 , N/A)	2290.6	N/A	1.0143 [1.0000]	101.4% { 120.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 318401	(5.55 , N/A) (N/A , 0.00 , N/A)	13115.9	N/A	1.0138 [1.0000]	101.4% { 112.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 494028	(7.02 , N/A) (N/A , 0.00 , N/A)	10800.1	N/A	1.0697 [1.0000]	107.0% { 124.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 516949	(7.63 , N/A) (N/A , 0.00 , N/A)	1677.2	N/A	1.2387 [1.0000]	123.9% { 131.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

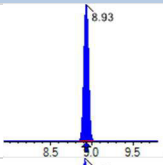
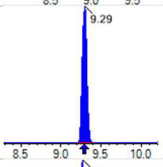
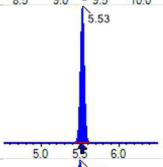
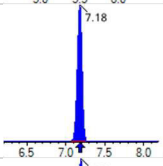
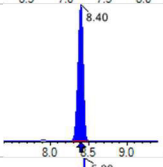
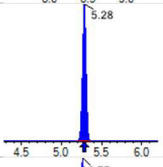
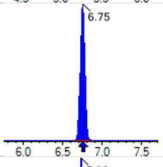
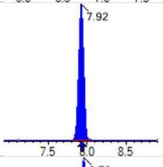
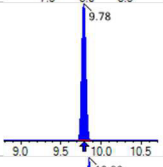
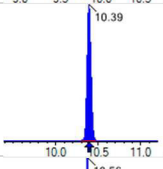
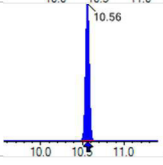
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 465140	(8.19 , N/A) (N/A , 0.00 , N/A)	2963.2	N/A	1.1582 [1.0000]	115.8% { 114.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 658164	(7.18 , N/A) (N/A , 0.00 , N/A)	2135.5	N/A	0.9694 [1.0000]	96.9% { 121.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1099124	(8.40 , N/A) (N/A , 0.00 , N/A)	1673.1	N/A	1.2809 [1.0000]	128.1% { 117.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1790318	(3.59 , N/A) (N/A , 0.00 , N/A)	7625.0	N/A	6.9239 [8.0000]	86.5% { 97.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1494207	(4.56 , N/A) (N/A , 0.00 , N/A)	4530.8	N/A	4.0624 [4.0000]	101.6% { 102.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 830700	(5.55 , N/A) (N/A , 0.00 , N/A)	2788.4	N/A	1.8718 [2.0000]	93.6% { 93.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 792872	(6.33 , N/A) (N/A , 0.00 , N/A)	3206.8	N/A	1.8755 [2.0000]	93.8% { 85.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 979440	(7.02 , N/A) (N/A , 0.00 , N/A)	5287.6	N/A	1.8249 [2.0000]	91.2% { 95.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 463192	(7.63 , N/A) (N/A , 0.01 , N/A)	4463609.8	N/A	0.8433 [1.0000]	84.3% { 101.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 494615	(8.19 , N/A) (N/A , 0.00 , N/A)	2452.1	N/A	0.8835 [1.0000]	88.4% { 100.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 465476	(8.66 , N/A) (N/A , 0.00 , N/A)	3352.7	N/A	0.7458 [1.0000]	74.6% { 89.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

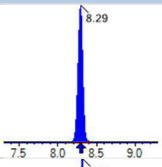
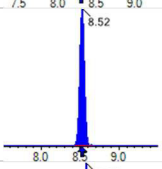
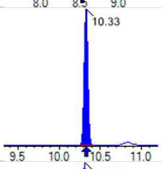
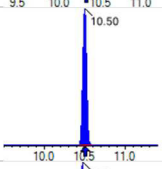
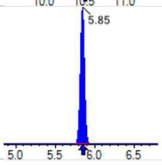
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 428649	(8.93 , N/A) (N/A , 0.00 , N/A)	1477.4	N/A	0.7856 [1.0000]	78.6% { 93.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 386192	(9.29 , N/A) (N/A , 0.00 , N/A)	1349.9	N/A	0.6711 [1.0000]	67.1% { 95.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1917603	(5.53 , N/A) (N/A , 0.00 , N/A)	4324.8	N/A	1.8391 [2.0000]	92.0% { 92.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1161053	(7.18 , N/A) (N/A , 0.00 , N/A)	3961.6	N/A	1.7146 [2.0000]	85.7% { 92.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2443247	(8.40 , N/A) (N/A , 0.00 , N/A)	1772.1	N/A	1.6580 [2.0000]	82.9% { 94.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 517556	(5.28 , N/A) (N/A , 0.00 , N/A)	4967.0	N/A	7.8252 [4.0000]	195.6% { 189.6% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 309008	(6.75 , N/A) (N/A , 0.00 , N/A)	1653.3	N/A	3.5585 [4.0000]	89.0% { 92.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 416692	(7.92 , N/A) (N/A , 0.00 , N/A)	1809.0	N/A	4.4294 [4.0000]	110.7% { 103.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3182980	(9.78 , N/A) (N/A , 0.00 , N/A)	4002.2	N/A	1.2628 [2.0000]	63.1% { 80.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 441306	(10.39 , N/A) (N/A , -0.01 , N/A)	1871.8	N/A	0.6843 [2.0000]	34.2% { 51.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 420262	(10.56 , N/A) (N/A , 0.00 , N/A)	2095.1	N/A	0.7159 [2.0000]	35.8% { 53.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (8)
Acquired: 2023/03/14 - 16:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 890201	(8.29 , N/A) (N/A , 0.00 , N/A)	1939.3	N/A	3.5326 [4.0000]	88.3% { 98.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 849131	(8.52 , N/A) (N/A , 0.00 , N/A)	3641.6	N/A	3.0067 [4.0000]	75.2% { 93.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1690668	(10.33 , N/A) (N/A , 0.00 , N/A)	1350.7	N/A	8.4245 [20.0000]	42.1% { 57.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2741352	(10.50 , N/A) (N/A , 0.00 , N/A)	2305.8	N/A	11.5735 [20.0000]	57.9% { 75.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1924680	(5.85 , N/A) (N/A , 0.00 , N/A)	2947.6	N/A	7.8532 [8.0000]	98.2% { 91.5% }			

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-MRL1	File ID:	S2023-03-14A (9)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:35
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.88	1.6	0.21	
PFPEA	0.940	0.80	0.065	
PFHXA	0.562	0.40	0.055	
PFHPA	0.504	0.40	0.041	
PFOA	0.522	0.40	0.15	
PFNA	0.464	0.40	0.082	
PFDA	0.443	0.40	0.10	
PFUnA	0.414	0.40	0.16	
PFDOA	0.488	0.40	0.11	
PFTRDA	0.485	0.40	0.20	
PFTEDA	0.426	0.40	0.20	
PFBS	0.409	0.40	0.037	
PFPES	0.476	0.40	0.063	
PFHXS	0.428	0.40	0.032	
PFHPS	0.373	0.40	0.051	J
PFOS	0.475	0.40	0.064	
PFNS	0.408	0.40	0.12	
PFDS	0.375	0.40	0.15	J
PFDOS	0.369	0.40	0.12	J
4:2FTS	1.71	1.6	0.29	
6:2FTS	2.25	1.6	0.31	
8:2FTS	1.67	1.6	0.082	
PFOSA	0.487	0.40	0.10	
NMeFOSA	1.77	1.6	0.47	
NEtFOSA	1.62	1.6	0.41	
NMeFOSAA	0.403	0.40	0.11	
NEtFOSAA	0.495	0.40	0.11	
NMeFOSE	1.90	1.6	1.0	
NEtFOSE	1.61	1.6	1.0	
HFPO-DA	1.09	[illegible]	[illegible]	

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCC0223-MRL1	File ID:	S2023-03-14A (9)
Sampled:		Prepared:	03/13/23 12:58	Analyzed:	03/14/23 16:35
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCC0223	Sequence:	SC01019	Calibration:	2310010
Instrument:	Saphira				
Column:	1				

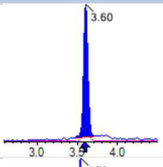
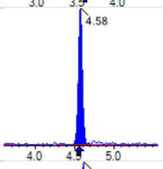
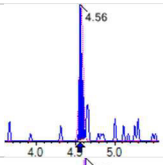
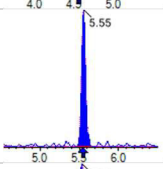
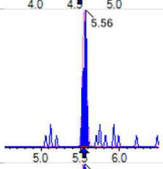
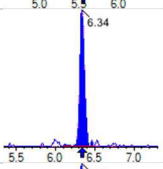
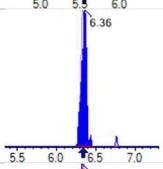
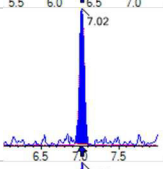
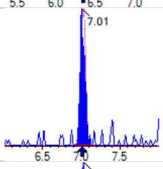
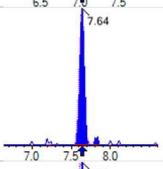
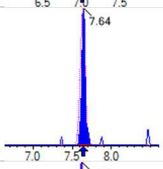
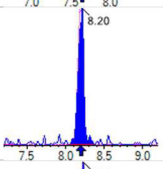
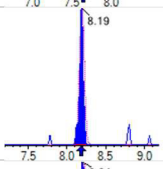
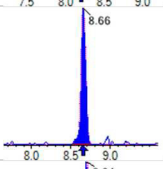
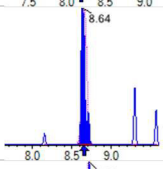
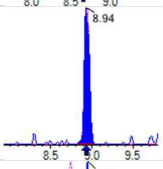
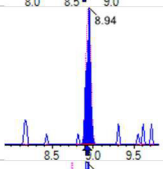
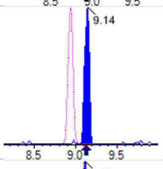
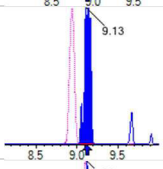
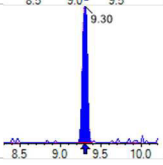
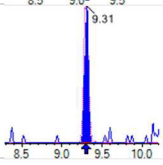
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.863	0.80	0.12	
PFEESA	0.853	0.80	0.11	
PFMPA	0.796	0.80	0.054	J
PFMBA	0.807	0.80	0.091	
NFDHA	0.839	0.80	0.30	
9CL-PF3ONS	0.957	0.80	0.21	
11CL-PF3OUDS	0.984	0.80	0.21	
3:3FTCA	1.50	1.6	0.57	J
5:3FTCA	1.56	1.6	0.44	J
7:3FTCA	1.48	1.6	0.55	J

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

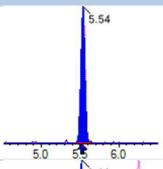
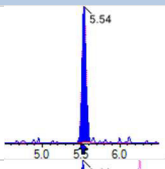
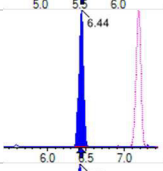
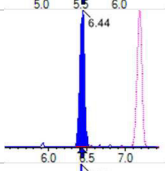
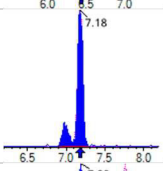
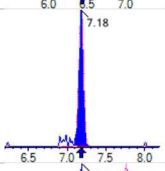
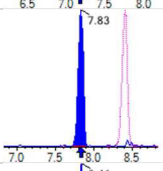
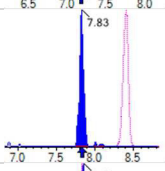
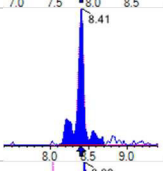
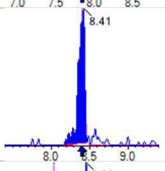
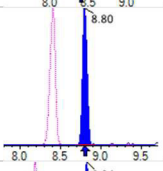
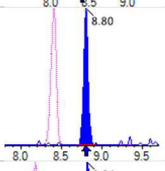
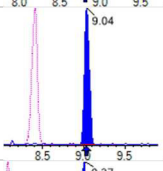
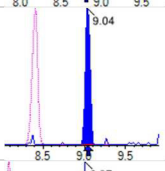
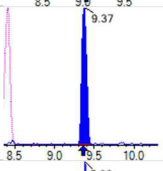
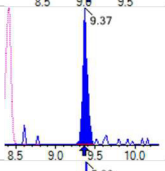
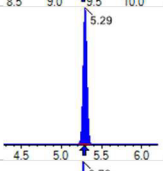
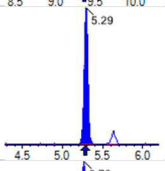
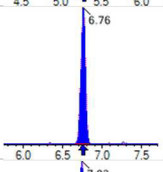
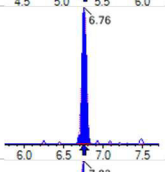
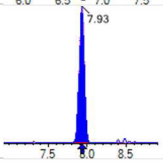
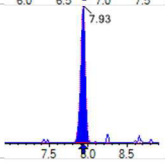
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 86590	(3.60 , 1.00) (0.00 , N/A , 0.0)	177.7	N/A 0.0 0.0	0.4695 [0.4000]	117.4%			
PFPeA	(263.0 / 219.0) 74500 (263.0 / 69.0) 1375	(4.58 , 1.00) (0.00 , N/A , 0.8)	434.9 68.1	0.0185 163.0 169.9	0.2349 [0.2000]	117.5%			
PFHxA	(313.0 / 269.0) 50683 (313.0 / 119.0) 3016	(5.55 , 1.00) (0.00 , N/A , -0.6)	269.8 356487.5	0.0595 56.5 62.6	0.1406 [0.1000]	140.6%			QC,
PFHpA	(363.0 / 319.0) 43459 (363.0 / 169.0) 13363	(6.34 , 1.00) (0.00 , N/A , -1.2)	650.0 706.3	0.3075 94.3 102.5	0.1259 [0.1000]	125.9%			
PFOA	(413.0 / 369.0) 55422 (413.0 / 169.0) 15126	(7.02 , 1.00) (0.00 , N/A , 0.8)	124.5 179.0	0.2729 78.3 80.0	0.1306 [0.1000]	130.6%			QC,
PFNA	(463.0 / 419.0) 39541 (463.0 / 169.0) 7367	(7.64 , 1.00) (0.00 , N/A , -0.3)	994636.9 40543.3	0.1863 79.6 82.3	0.1160 [0.1000]	116.0%			
PFDA	(513.0 / 469.0) 51228 (513.0 / 169.0) 6124	(8.20 , 1.00) (0.01 , N/A , 0.9)	106.8 2859.4	0.1196 112.4 111.7	0.1107 [0.1000]	110.7%			
PFUnA	(563.0 / 519.0) 40128 (563.0 / 169.0) 5724	(8.66 , 1.00) (0.00 , N/A , 1.3)	229.9 1326.2	0.1426 118.9 116.7	0.1035 [0.1000]	103.5%			
PFDoA	(613.0 / 569.0) 42667 (613.0 / 169.0) 6070	(8.94 , 1.00) (0.00 , N/A , -0.5)	152.2 94.4	0.1423 87.4 83.6	0.1221 [0.1000]	122.1%			
PFTrDA	(663.0 / 619.0) 40635 (663.0 / 169.0) 9450	(9.14 , 1.02) (N/A , 0.01 , 0.5)	465.9 2986.2	0.2326 95.3 93.1	0.1212 [0.1000]	121.2%			
PFTeDA	(713.0 / 669.0) 35283 (713.0 / 169.0) 7614	(9.30 , 1.00) (0.00 , N/A , -0.3)	216.9 98.9	0.2158 112.9 104.4	0.1066 [0.1000]	106.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

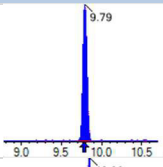
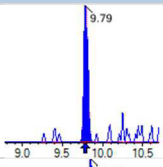
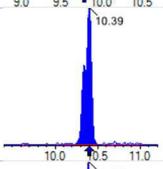
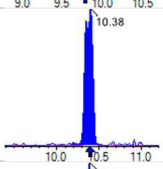
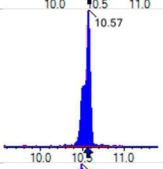
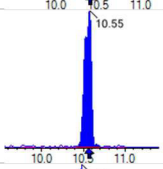
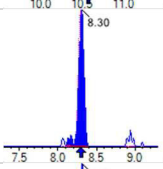
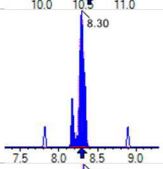
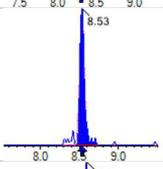
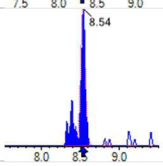
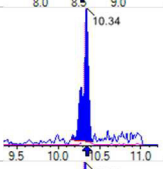
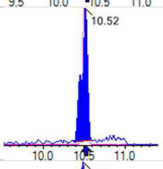
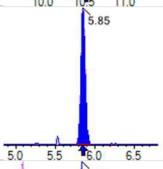
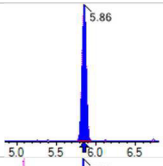
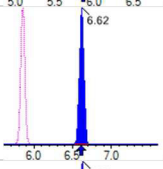
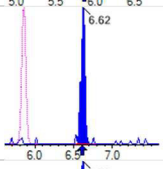
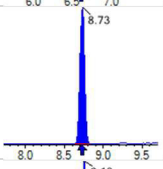
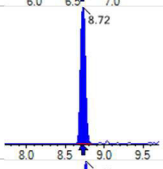
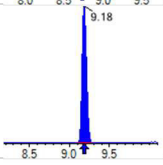
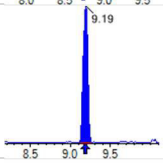
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 64228 (299.0 / 99.0) 33282	(5.54 , 1.00) (0.00 , N/A , 0.0)	714.0 182.7	0.5182 88.3 83.1	0.1022 [0.0885]	115.6%			
PFPeS	(349.0 / 80.0) 112741 (349.0 / 99.0) 40128	(6.44 , 0.90) (N/A , 0.01 , 0.1)	5741.1 81803.0	0.3559 104.2 99.9	0.1189 [0.0938]	126.7%			
PFHxS	(399.0 / 80.0) 92214 (399.0 / 99.0) 27610	(7.18 , 1.00) (0.00 , N/A , 0.1)	409.9 160.0	0.2994 87.3 87.8	0.1069 [0.0911]	117.4%			
PFHpS	(449.0 / 80.0) 103141 (449.0 / 99.0) 29172	(7.83 , 0.93) (N/A , 0.01 , 0.4)	3111579.4 94722.7	0.2828 99.5 102.1	0.0933 [0.0951]	98.1%			
PFOS	(499.0 / 80.0) 163037 (499.0 / 99.0) 32290	(8.41 , 1.00) (0.00 , N/A , 0.0)	160.5 81.6	0.1981 91.5 91.3	0.1187 [0.0927]	128.0%			
PFNS	(549.0 / 80.0) 132939 (549.0 / 99.0) 32365	(8.80 , 1.05) (N/A , 0.00 , -0.2)	3299076.7 616453.0	0.2435 106.2 96.4	0.1021 [0.0960]	106.3%			
PFDS	(599.0 / 80.0) 141004 (599.0 / 99.0) 37236	(9.04 , 1.08) (N/A , 0.00 , -0.3)	421.6 258.8	0.2641 116.7 113.6	0.0937 [0.0963]	97.3%			
PFDoS	(699.0 / 80.0) 110839 (699.0 / 99.0) 22650	(9.37 , 1.11) (N/A , 0.00 , 0.1)	462.6 115.5	0.2044 93.7 87.6	0.0922 [0.0970]	95.0%			
4:2FTS	(327.0 / 307.0) 164342 (327.0 / 81.0) 91575	(5.29 , 1.00) (0.00 , N/A , -0.1)	2032.4 735.3	0.5572 90.0 88.3	0.4281 [0.3738]	114.5%			
6:2FTS	(427.0 / 407.0) 62470 (427.0 / 81.0) 38699	(6.76 , 1.00) (0.00 , N/A , 0.2)	14530.1 473.1	0.6195 89.7 84.5	0.5618 [0.3796]	148.0%			QC,
8:2FTS	(527.0 / 507.0) 53996 (527.0 / 81.0) 38344	(7.93 , 1.00) (0.00 , N/A , -0.2)	752.3 270.9	0.7101 105.1 90.3	0.4169 [0.3833]	108.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

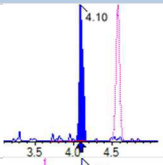
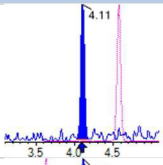
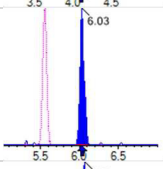
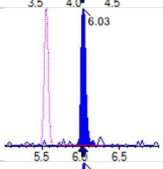
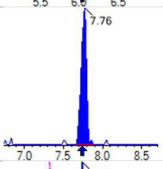
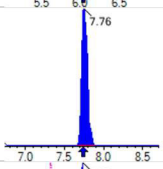
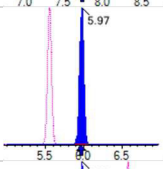
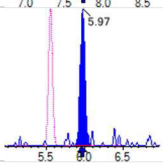
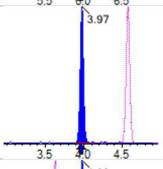
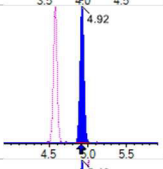
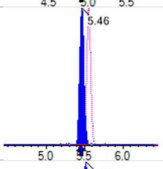
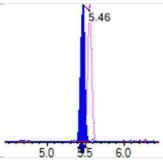
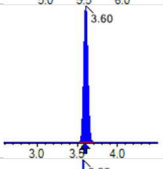
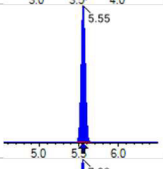
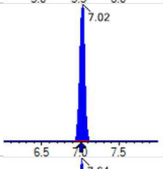
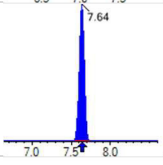
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 161808 (498.0 / 478.0) 3968	(9.79 , 1.00) (0.00 , N/A , 0.1)	683.5 52.2	0.0245 110.4 98.3	0.1217 [0.1000]	121.7%			
NMeFOSA	(512.0 / 219.0) 66163 (512.0 / 169.0) 54030	(10.39 , 1.00) (0.00 , N/A , 0.9)	424.6 320.8	0.8166 97.7 96.5	0.4428 [0.4000]	110.7%			
NEtFOSA	(526.0 / 219.0) 66859 (526.0 / 169.0) 80887	(10.57 , 1.00) (0.00 , N/A , 1.1)	582.2 504.0	1.2098 94.8 95.9	0.4059 [0.4000]	101.5%			
NMeFOSAA	(570.0 / 419.0) 21322 (570.0 / 483.0) 7974	(8.30 , 1.00) (0.01 , N/A , 0.6)	118.0 2119.3	0.3740 79.6 75.0	0.1008 [0.1000]	100.8%			
NEtFOSAA	(584.0 / 419.0) 20876 (584.0 / 526.0) 12447	(8.53 , 1.00) (0.00 , N/A , -0.4)	145.8 30248.9	0.5962 93.4 97.8	0.1237 [0.1000]	123.7%			
NMeFOSE	(616.0 / 59.0) 33704	(10.34 , 1.00) (0.01 , N/A , 0.0)	97.7	N/A 0.0 0.0	0.4745 [0.4000]	118.6%			
NEtFOSE	(630.0 / 59.0) 44591	(10.52 , 1.00) (0.01 , N/A , 0.0)	137.7	N/A 0.0 0.0	0.4027 [0.4000]	100.7%			
HFPO-DA	(285.0 / 169.0) 50044 (285.0 / 185.0) 115027	(5.85 , 1.00) (0.00 , N/A , -0.2)	1819.4 995.4	2.2985 85.4 86.3	0.2733 [0.2000]	136.7%			QC,
ADONA	(377.0 / 85.0) 155382 (377.0 / 251.0) 21099	(6.62 , 1.13) (N/A , 0.01 , -0.5)	329867.7 156.2	0.1358 140.6 135.6	0.2159 [0.1885]	114.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 464094 (533.0 / 353.0) 151683	(8.73 , 1.49) (N/A , 0.01 , 0.3)	809.5 368.5	0.3268 102.4 98.6	0.2392 [0.1867]	128.1%			
11Cl-PF3OUDS	(631.0 / 451.0) 246521 (633.0 / 453.0) 101798	(9.18 , 1.57) (N/A , 0.00 , -0.3)	1295.8 468.6	0.4129 124.0 109.6	0.2460 [0.1886]	130.4%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

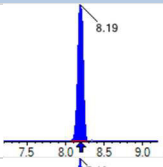
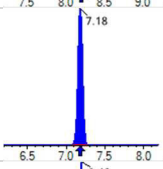
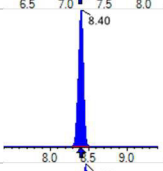
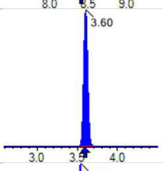
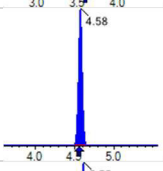
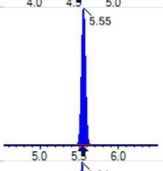
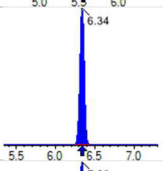
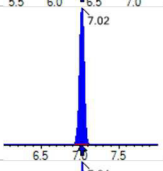
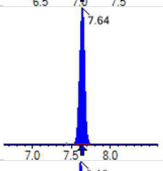
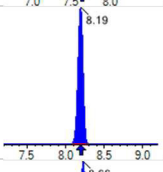
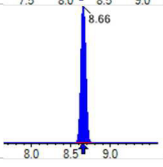
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3572 (241.0 / 117.0) 7090	(4.10 , 0.90) (N/A , 0.01 , -0.5)	163.1 57.7	1.9852 97.4 133.4	0.3741 [0.4000]	93.5%			
5:3FTCA	(341.0 / 236.7) 24060 (341.0 / 217.0) 47653	(6.03 , 1.09) (N/A , 0.01 , 0.0)	2185.8 140.5	1.9806 120.2 124.1	0.3910 [0.4000]	97.8%			
7:3FTCA	(441.0 / 317.0) 38206 (441.0 / 337.0) 37320	(7.76 , 1.40) (N/A , 0.02 , 0.4)	338.7 213.3	0.9768 114.0 112.7	0.3700 [0.4000]	92.5%			
PFEESA	(315.0 / 135.0) 95848 (315.0 / 83.0) 21216	(5.97 , 1.08) (N/A , 0.01 , 0.1)	391.1 85.8	0.2214 85.4 93.1	0.2132 [0.1785]	119.4%			
PFMPA	(229.0 / 85.0) 16240	(3.97 , 0.87) (N/A , 0.02 , 0.0)	807.8	N/A 0.0 0.0	0.1989 [0.2000]	99.5%			
PFMBA	(279.0 / 85.0) 52598	(4.92 , 1.08) (N/A , 0.01 , 0.0)	1020.8	N/A 0.0 0.0	0.2017 [0.2000]	100.9%			
NFDHA	(295.0 / 201.0) 42839 (295.0 / 85.0) 41000	(5.46 , 0.98) (N/A , 0.01 , 0.0)	1752.6 438.8	0.9571 95.3 103.0	0.2096 [0.2000]	104.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 215498	(3.60 , N/A) (N/A , 0.02 , N/A)	2591.6	N/A	1.0060 [1.0000]	100.6% { 119.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 334628	(5.55 , N/A) (N/A , 0.01 , N/A)	2097.5	N/A	1.0655 [1.0000]	106.5% { 117.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 468727	(7.02 , N/A) (N/A , 0.00 , N/A)	47968.2	N/A	1.0150 [1.0000]	101.5% { 118.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 457380	(7.64 , N/A) (N/A , 0.00 , N/A)	420.8	N/A	1.0960 [1.0000]	109.6% { 116.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

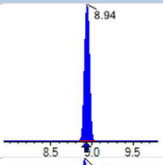
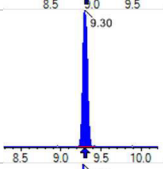
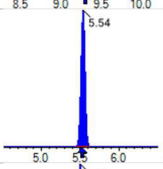
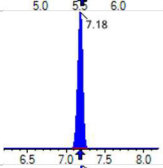
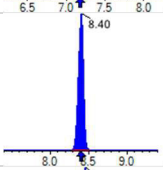
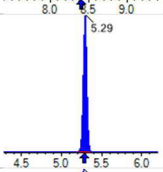
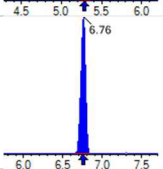
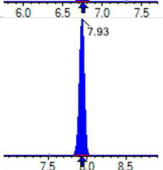
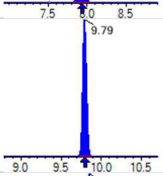
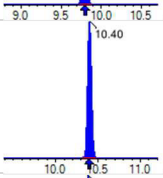
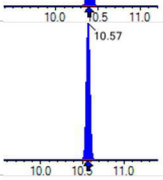
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 450636	(8.19 , N/A) (N/A , 0.00 , N/A)	2983.4	N/A	1.1221 [1.0000]	112.2% { 110.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 637425	(7.18 , N/A) (N/A , 0.00 , N/A)	7643.6	N/A	0.9389 [1.0000]	93.9% { 117.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1102955	(8.40 , N/A) (N/A , 0.00 , N/A)	1376.3	N/A	1.2854 [1.0000]	128.5% { 118.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1786866	(3.60 , N/A) (N/A , 0.02 , N/A)	7767.7	N/A	6.9675 [8.0000]	87.1% { 97.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1442220	(4.58 , N/A) (N/A , 0.01 , N/A)	4737.1	N/A	3.7309 [4.0000]	93.3% { 99.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 810904	(5.55 , N/A) (N/A , 0.01 , N/A)	4051.5	N/A	1.7386 [2.0000]	86.9% { 91.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 818244	(6.34 , N/A) (N/A , 0.01 , N/A)	1839.4	N/A	1.8416 [2.0000]	92.1% { 88.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 934933	(7.02 , N/A) (N/A , 0.01 , N/A)	2922.1	N/A	1.8360 [2.0000]	91.8% { 91.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 393961	(7.64 , N/A) (N/A , 0.01 , N/A)	2411.0	N/A	0.8106 [1.0000]	81.1% { 86.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 490639	(8.19 , N/A) (N/A , 0.00 , N/A)	6714.9	N/A	0.9046 [1.0000]	90.5% { 99.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 485324	(8.66 , N/A) (N/A , 0.00 , N/A)	1544.2	N/A	0.8026 [1.0000]	80.3% { 93.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

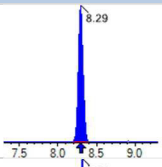
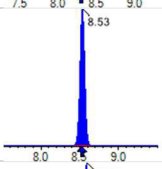
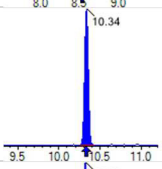
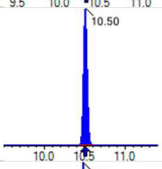
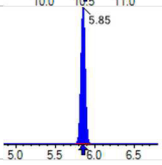
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 415473	(8.94 , N/A) (N/A , 0.01 , N/A)	3145.6	N/A	0.7860 [1.0000]	78.6% { 91.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 387812	(9.30 , N/A) (N/A , 0.01 , N/A)	2006.7	N/A	0.6956 [1.0000]	69.6% { 96.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1946243	(5.54 , N/A) (N/A , 0.01 , N/A)	4314.2	N/A	1.9273 [2.0000]	96.4% { 94.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1149725	(7.18 , N/A) (N/A , 0.01 , N/A)	2346.9	N/A	1.7531 [2.0000]	87.7% { 91.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2434782	(8.40 , N/A) (N/A , 0.01 , N/A)	2857.1	N/A	1.6465 [2.0000]	82.3% { 94.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 526521	(5.29 , N/A) (N/A , 0.01 , N/A)	3350.2	N/A	8.2198 [4.0000]	205.5% { 192.9% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 309630	(6.76 , N/A) (N/A , 0.01 , N/A)	1636.8	N/A	3.6817 [4.0000]	92.0% { 92.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 386986	(7.93 , N/A) (N/A , 0.00 , N/A)	2353.0	N/A	4.2475 [4.0000]	106.2% { 95.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3205152	(9.79 , N/A) (N/A , 0.00 , N/A)	4469.7	N/A	1.2671 [2.0000]	63.4% { 80.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 363450	(10.40 , N/A) (N/A , 0.00 , N/A)	1724.9	N/A	0.5616 [2.0000]	28.1% { 42.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 346049	(10.57 , N/A) (N/A , 0.00 , N/A)	2794.9	N/A	0.5875 [2.0000]	29.4% { 44.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HGH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCC0223-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-03-07.dam

Quant Method: 1633 - S2023-03-07A
Path: S2023-03-14A (9)
Acquired: 2023/03/14 - 16:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 821713	(8.29 , N/A) (N/A , 0.00 , N/A)	1398.4	N/A	3.2495 [4.0000]	81.2% { 91.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 805835	(8.53 , N/A) (N/A , 0.01 , N/A)	82964.5	N/A	2.8435 [4.0000]	71.1% { 89.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1434492	(10.34 , N/A) (N/A , 0.01 , N/A)	1305.6	N/A	7.1231 [20.0000]	35.6% { 48.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 2291144	(10.50 , N/A) (N/A , 0.00 , N/A)	1624.4	N/A	9.6392 [20.0000]	48.2% { 62.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1842636	(5.85 , N/A) (N/A , 0.01 , N/A)	5584.8	N/A	7.1539 [8.0000]	89.4% { 87.6% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC			Work Order:	23C0038
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Batch:	BCC0223	Batch Matrix:	Water	Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW04-WGN01LF-2303W1	23C0038-01	03/13/23 12:58	561.38	2.00
AF-RHMW06-WGN01LF-2303W1	23C0038-02	03/13/23 12:58	560.35	2.00
AF-RHMW12A-WGN01LF-2303W1	23C0038-03	03/13/23 12:58	550.71	2.00
AF-RHMW12A-WGFD01LF-2303W1	23C0038-04	03/13/23 12:58	558.73	2.00
AF-RHMW16-WGN01LF-2303W1	23C0038-05	03/13/23 12:58	542.99	2.00
Blank	BCC0223-BLK1	03/13/23 12:58	500.00	2.00
LCS	BCC0223-BS1	03/13/23 12:58	500.00	2.00
MRL Check	BCC0223-MRL1	03/13/23 12:58	500.00	2.00

PREPARATION BENCH SHEET
Organics

Print Date/Time: 03/15/2023 2:29 pm

BCC0223

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)
23C0104 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
23C0191 MPFAC-HIF-ES 20.0ng/mL

Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
23C0005-01	LF001P-EB-H2O-01	03/16/2023	03/29/2023	3/13/2023 12:58:00PM	576.54	2		200	
23C0006-01	DECON-LOC3-01	03/13/2023	03/29/2023	3/13/2023 12:58:00PM	522.47	2		200	
23C0038-01	AF-RHMW04-WGN01LF-2303W1	03/14/2023	04/03/2023	3/13/2023 12:58:00PM	561.38	2		200	"Report relevant surrogates"
23C0038-02	AF-RHMW06-WGN01LF-2303W1	03/14/2023	04/03/2023	3/13/2023 12:58:00PM	560.35	2		200	"Report relevant surrogates"
23C0038-03	AF-RHMW12A-WGN01LF-2303W 1	03/14/2023	04/03/2023	3/13/2023 12:58:00PM	550.71	2		200	"Report relevant surrogates"
23C0038-04	AF-RHMW12A-WGFD01LF-2303 W1	03/14/2023	04/03/2023	3/13/2023 12:58:00PM	558.73	2		200	"Report relevant surrogates"
23C0038-05	AF-RHMW16-WGN01LF-2303W1	03/14/2023	04/03/2023	3/13/2023 12:58:00PM	542.99	2		200	"Report relevant surrogates"
23C0041-01	GTAWB-1	03/20/2023	04/03/2023	3/13/2023 12:58:00PM	585.58	2		200	
23C0041-02	GTAWB-2	03/20/2023	04/03/2023	3/13/2023 12:58:00PM	560.94	2		200	
23C0057-01	AF-HDMW225303-WGN01LF-230 3W1	03/15/2023	04/04/2023	3/13/2023 12:58:00PM	568.29	2		200	"Report relevant surrogates"
23C0057-02	AF-RHMW10-WGN01LF-2303W1	03/15/2023	04/04/2023	3/13/2023 12:58:00PM	281.46	2		200	"Report relevant surrogates"
23C0062-01	AF-RHMW225401-WGN01B-2303 W1	03/16/2023	04/05/2023	3/13/2023 12:58:00PM	553.45	2		200	"Report relevant surrogates"
23C0092-01	AF-RHMW03-WGN01LF-2303W1	03/17/2023	04/06/2023	3/13/2023 12:58:00PM	583.96	2		200	"Report relevant surrogates"
23C0092-02	AF-RHMW02-WGN01LF-2303W1	03/17/2023	04/06/2023	3/13/2023 12:58:00PM	578.96	2		200	"Report relevant surrogates"
BCC0223-BLK1	Blank			3/13/2023 12:58:00PM	500	2	0	200	
BCC0223-BS1	LCS			3/13/2023 12:58:00PM	500	2	200	200	
BCC0223-MRL1	MRL Check			3/13/2023 12:58:00PM	500	2	20	200	

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

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PREPARATION BENCH SHEET
Organics

Print Date/Time: 03/15/2023 2:29 pm

BCC0223

(Continued)

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)
23C0104 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
23C0191 MPFAC-HIF-ES 20.0ng/mL

Start Date/Time _____

StopDate/Time _____

Reagents

Standard	Description	LotNum
22C0296	Envi-carb	122395
23B0116	Reagent -0.3M Formic Acid	M13H051
23B0607	Am. Ac. preservative	*
23C0006	Reagent - 0.05MFA wash	x
23C0130	Reagent - 1.0% Ammonia Hydroxide	219481

Batch Comments:
Spiked by: ABK 3/13/23 3:00 PM
Balance #: EB1
Cartridge: Oasis Sorbent Lot 221
Concentration: 3/14/23 10:19am - 10:50am

Spiking Witnessed By _____ Date _____

Preparation Reviewed By _____ Date _____

Extracts Received By _____ Date _____

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INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00916	Instrument:	Saphira
Calibration:	2310010		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC00916-CAL1	S2023-03-07A (1)	03/07/23 15:26
Cal Standard	SC00916-CAL2	S2023-03-07A (2)	03/07/23 15:38
Cal Standard	SC00916-CAL3	S2023-03-07A (3)	03/07/23 15:51
Cal Standard	SC00916-CAL4	S2023-03-07A (4)	03/07/23 16:04
Cal Standard	SC00916-CAL5	S2023-03-07A (5)	03/07/23 16:17
Cal Standard	SC00916-CAL6	S2023-03-07A (6)	03/07/23 16:30
Cal Standard	SC00916-CAL7	S2023-03-07A (7)	03/07/23 16:43
Cal Standard	SC00916-CAL8	S2023-03-07A (8)	03/07/23 16:56
Initial Cal Blank	SC00916-ICB1	S2023-03-07A (9)	03/07/23 17:09
Secondary Cal Check	SC00916-SCV1	S2023-03-07A (10)	03/07/23 17:22

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC01019	Instrument:	Saphira
Calibration:	2310010		

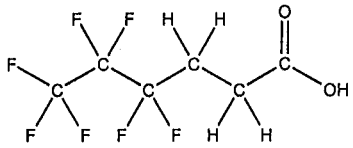
Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC01019-CCB1	S2023-03-14A (1)	03/14/23 14:52
Low Cal Check	SC01019-LCV1	S2023-03-14A (2)	03/14/23 15:05
Calibration Check	SC01019-CCV1	S2023-03-14A (3)	03/14/23 15:18
Performance Mix	SC01019-PEM1	S2023-03-14A (4)	03/14/23 15:31
Performance Mix	SC01019-PEM2	S2023-03-14A (5)	03/14/23 15:43
Calibration Blank	SC01019-CCB2	S2023-03-14A (6)	03/14/23 15:56
Blank	BCC0223-BLK1	S2023-03-14A (7)	03/14/23 16:09
LCS	BCC0223-BS1	S2023-03-14A (8)	03/14/23 16:22
MRL Check	BCC0223-MRL1	S2023-03-14A (9)	03/14/23 16:35
AF-RHMW04-WGN01LF-2303W1	23C0038-01	S2023-03-14A (12)	03/14/23 17:14
AF-RHMW06-WGN01LF-2303W1	23C0038-02	S2023-03-14A (13)	03/14/23 17:27
AF-RHMW12A-WGN01LF-2303W1	23C0038-03	S2023-03-14A (14)	03/14/23 17:39
AF-RHMW12A-WGFD01LF-2303W1	23C0038-04	S2023-03-14A (15)	03/14/23 17:52
AF-RHMW16-WGN01LF-2303W1	23C0038-05	S2023-03-14A (16)	03/14/23 18:05
Calibration Check	SC01019-CCV2	S2023-03-14A (17)	03/14/23 18:18
Calibration Blank	SC01019-CCB3	S2023-03-14A (18)	03/14/23 18:31
Calibration Check	SC01019-CCV3	S2023-03-14A (26)	03/14/23 20:14
Calibration Blank	SC01019-CCB4	S2023-03-14A (27)	03/14/23 20:27

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid
LOT NUMBER: FPrPA1020

STRUCTURE:
CAS #: 356-02-5



MOLECULAR FORMULA:	$C_6H_5F_7O_2$	**MOLECULAR WEIGHT:**	242.09
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.
- Contains <1% of the unsaturated 3:3 telomer acid ($C_6H_3F_7O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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UNCERTAINTY:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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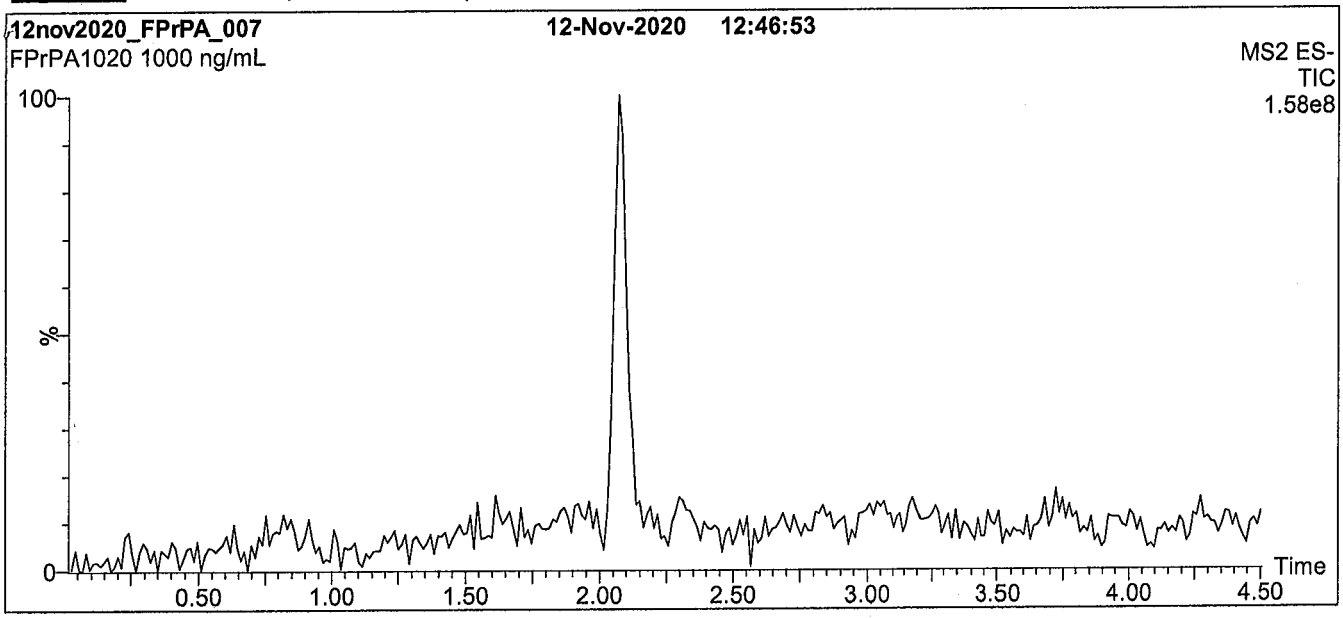
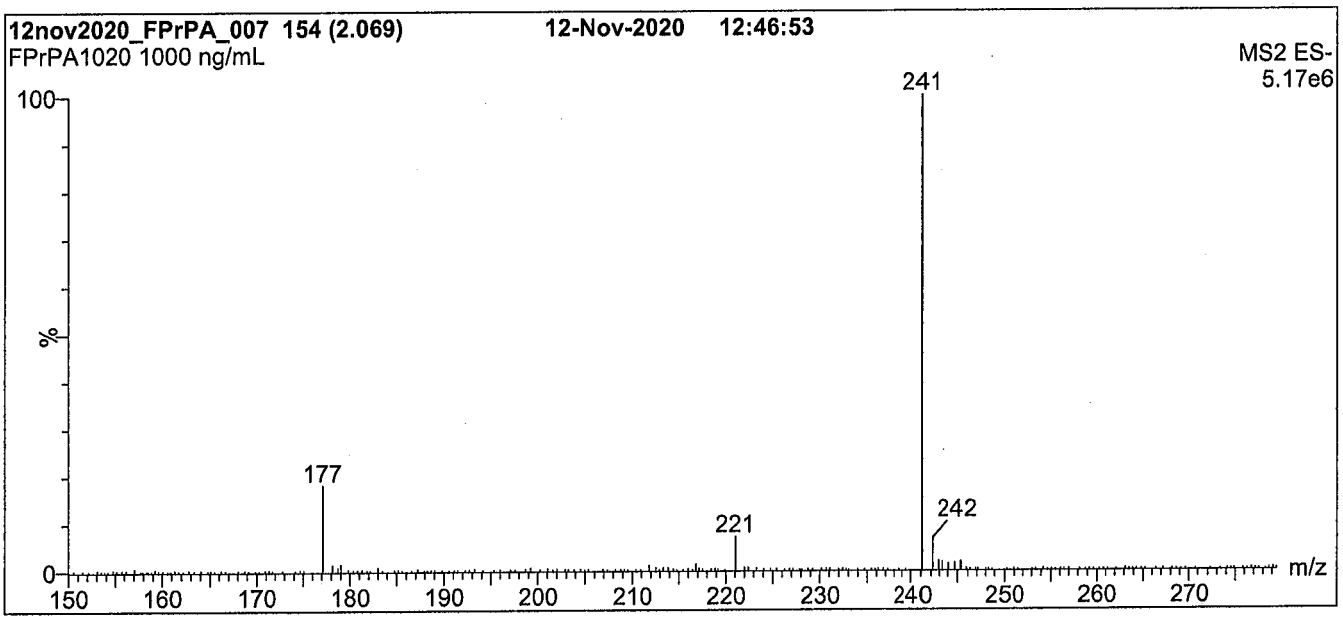
Figure 1: **FPrPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

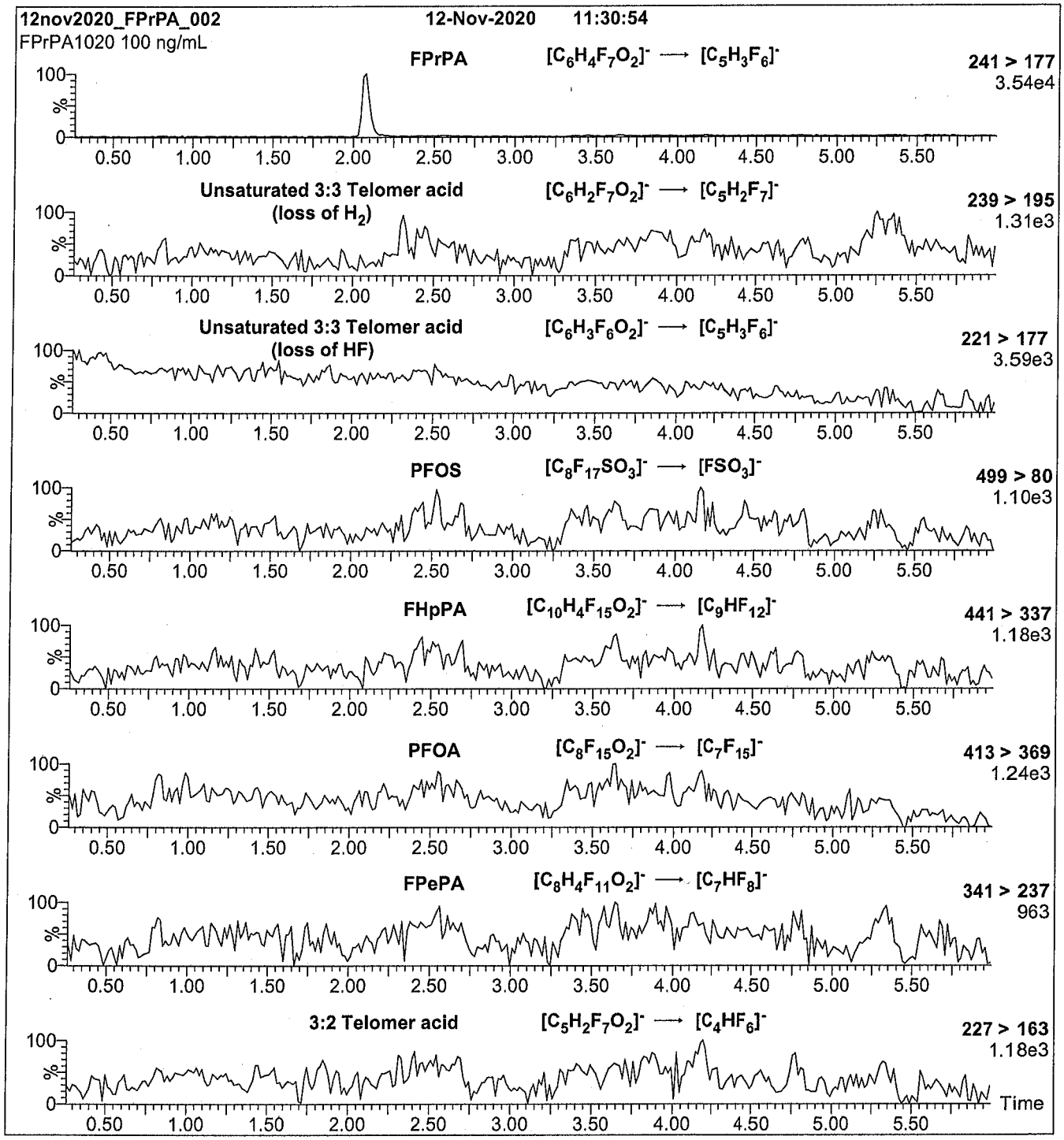
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (150 - 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: **FPrPA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/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

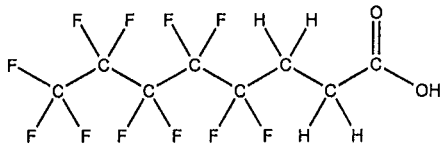
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPePA
COMPOUND: 3-Perfluoropentyl propanoic acid

LOT NUMBER: FPePA1120

STRUCTURE:

CAS #: 914637-49-3



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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B.G. Chittim, General Manager

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CALA Testing Accreditation No. A1226

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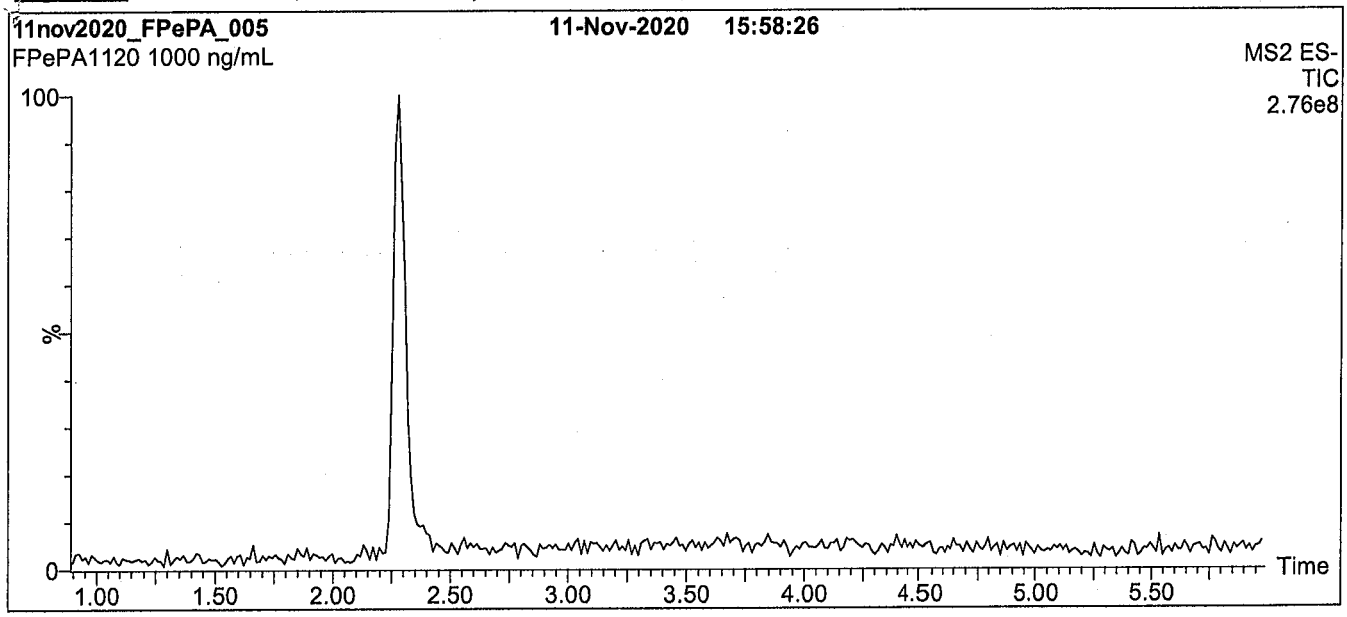
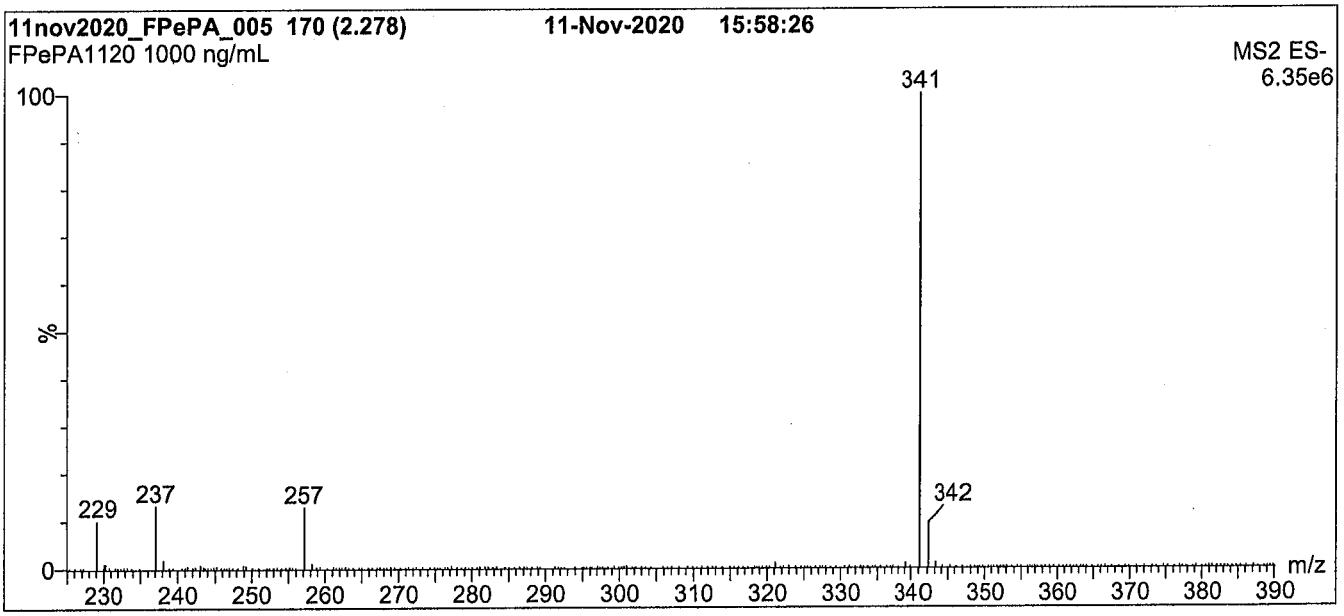
Figure 1: **FPePA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

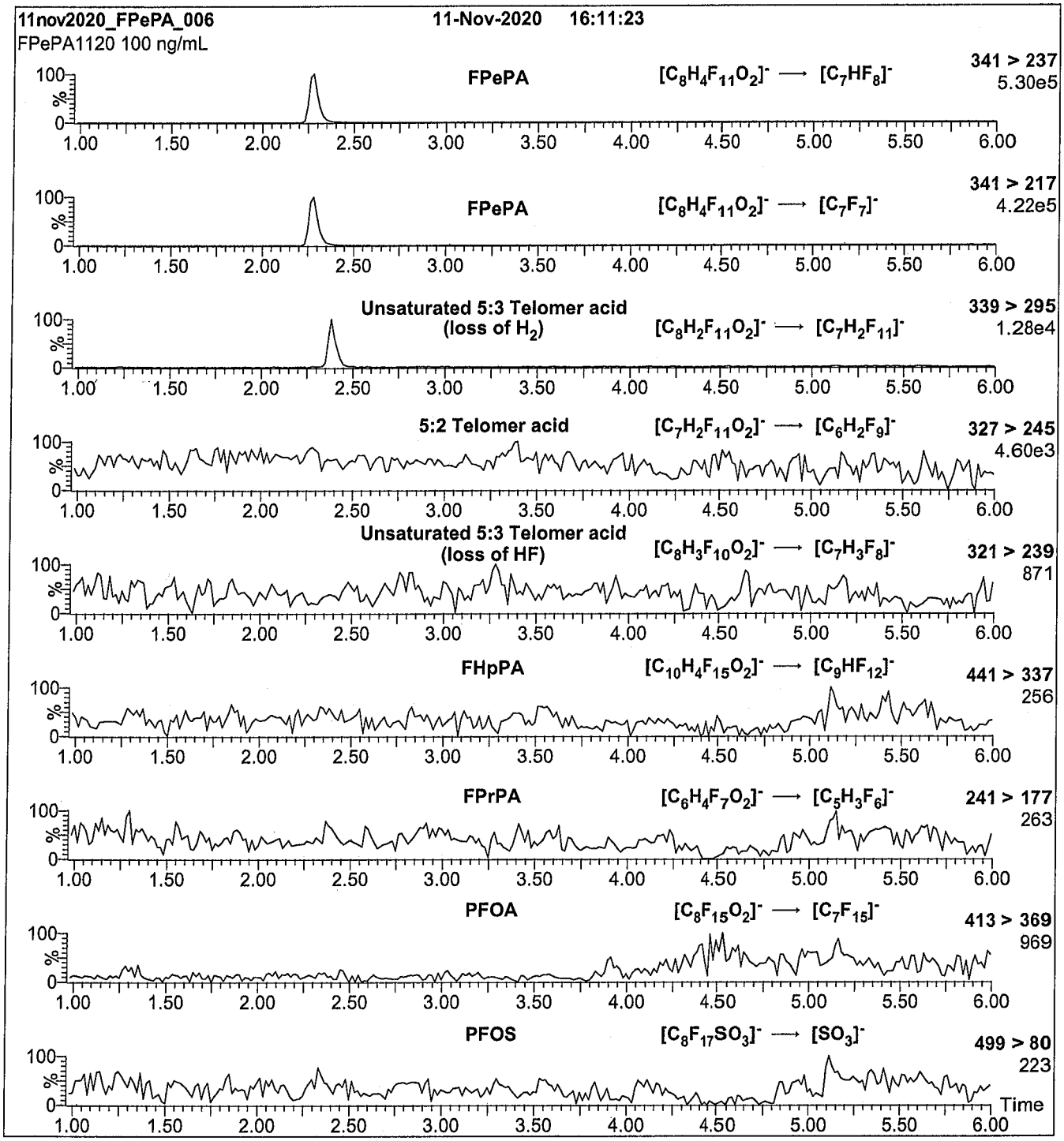
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 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 µL/min

MS Parameters:

Collision Gas (mbar) = 3.24e-3
Collision Energy (eV) = 10

Analytical Standard Record

21L0005

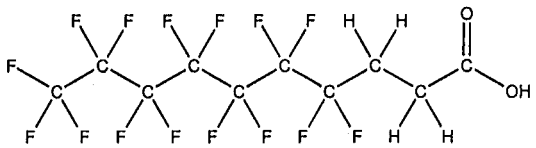
Description:	PFAS - SAS 5:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



MOLECULAR FORMULA:	$C_{10}H_5F_{15}O_2$	**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)
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ADDITIONAL INFORMATION:

- See page 2 for further details.

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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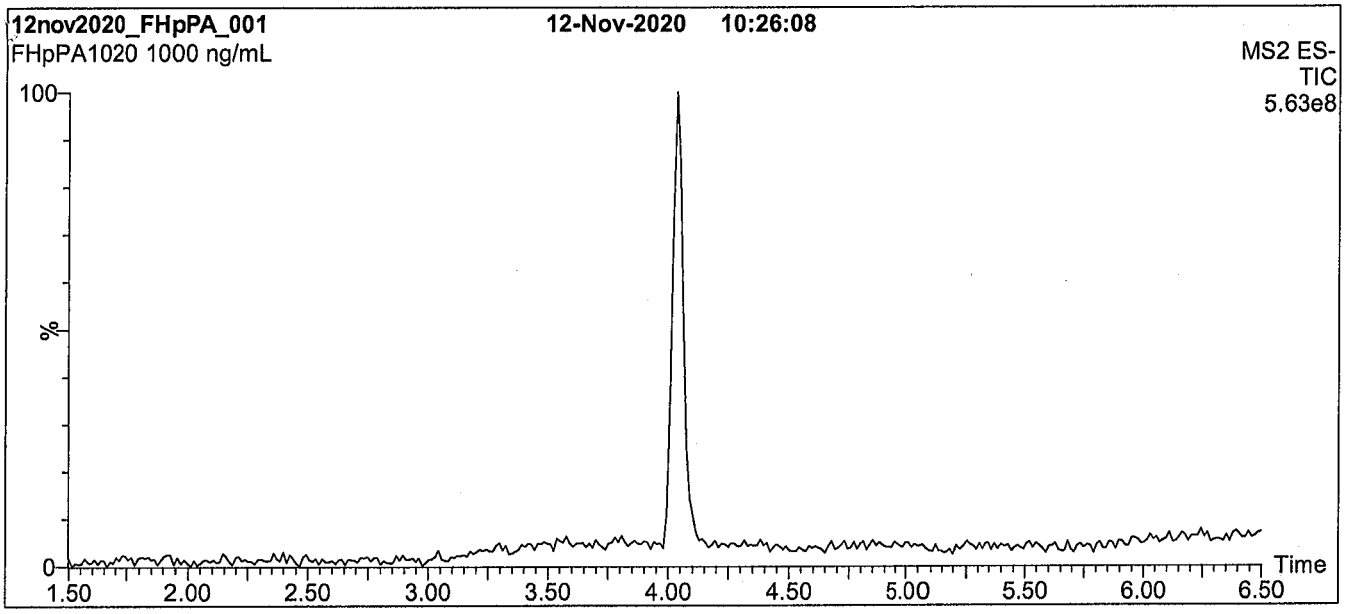

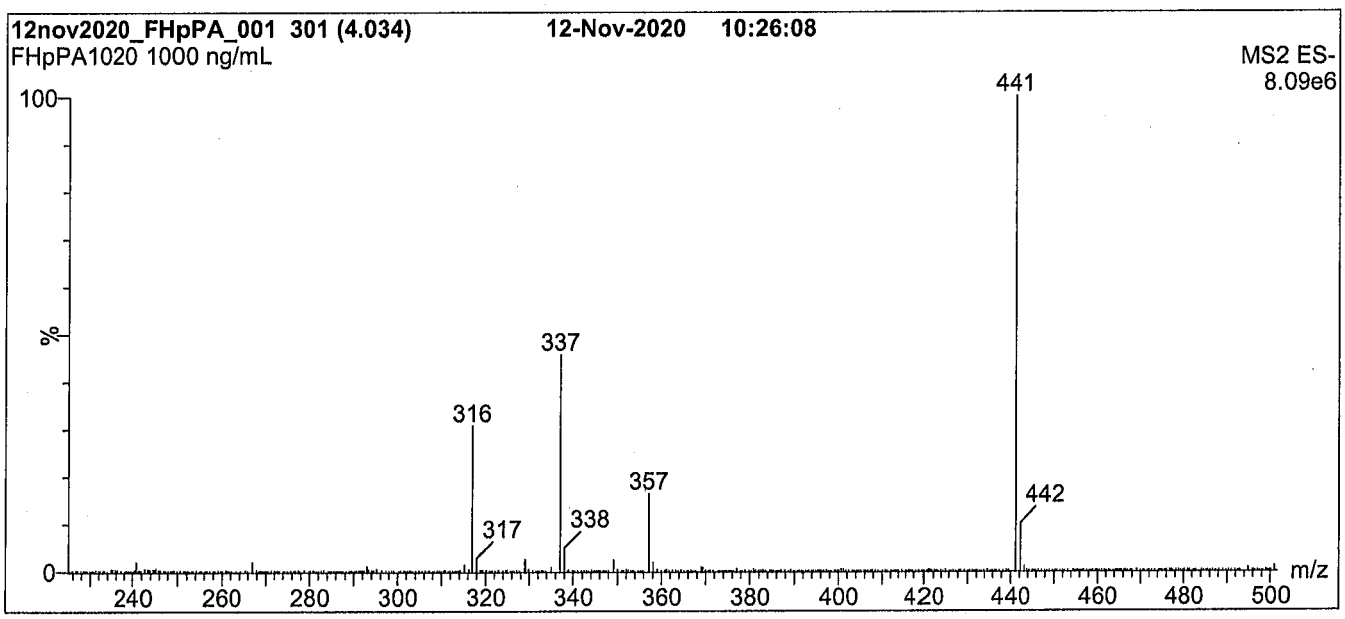

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Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

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Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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)
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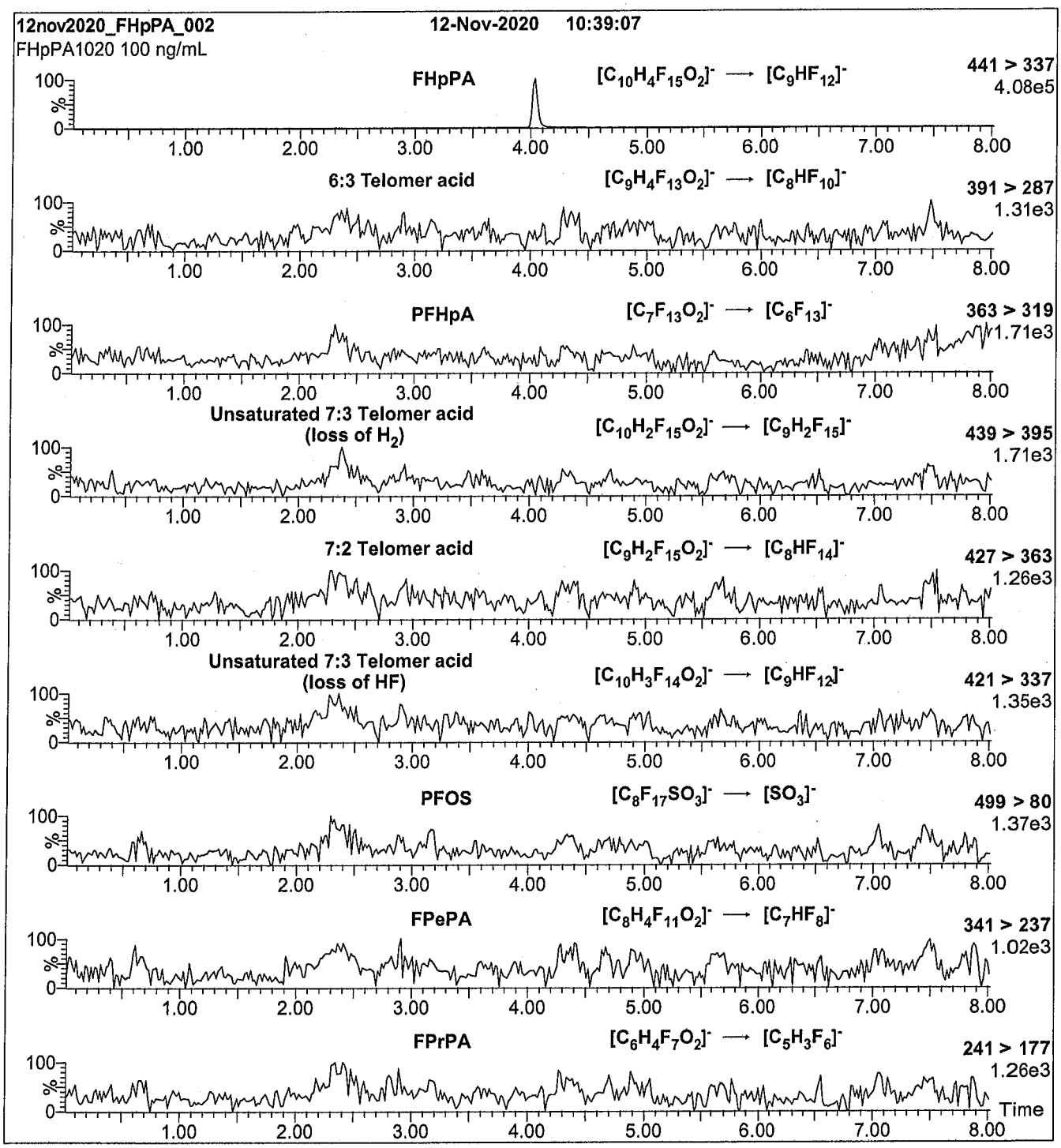
Cone Voltage (V) = 28.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

Figure 2: **FHpPA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/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

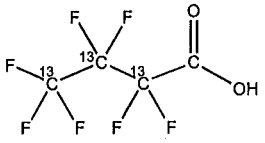
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3PFBA
COMPOUND: Perfluoro-n-(2,3,4-$^{13}C_3$)butanoic acid

LOT NUMBER: M3PFBA0721

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99%^{13}C (2,3,4-$^{13}C_3$)
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-($^{13}C_3$)propanoic acid and also contains ~1.0% of perfluoro-n-(1,2,3,4-$^{13}C_4$)butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/25/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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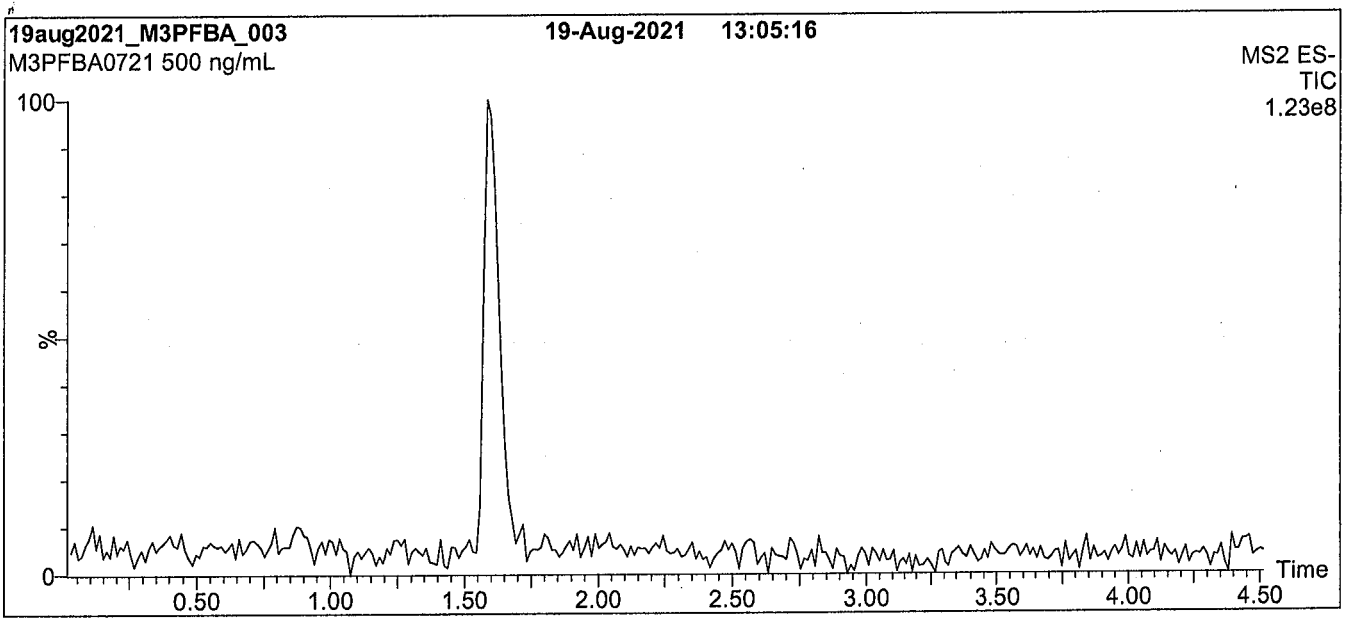
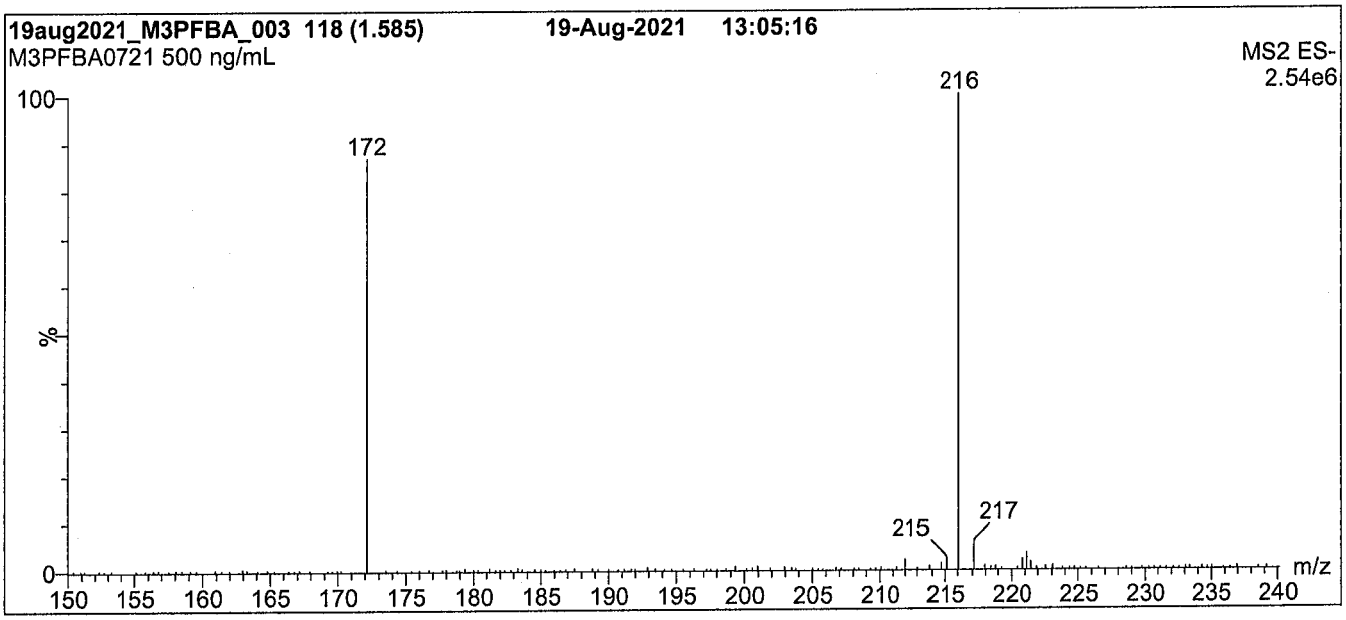
Figure 1: **M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

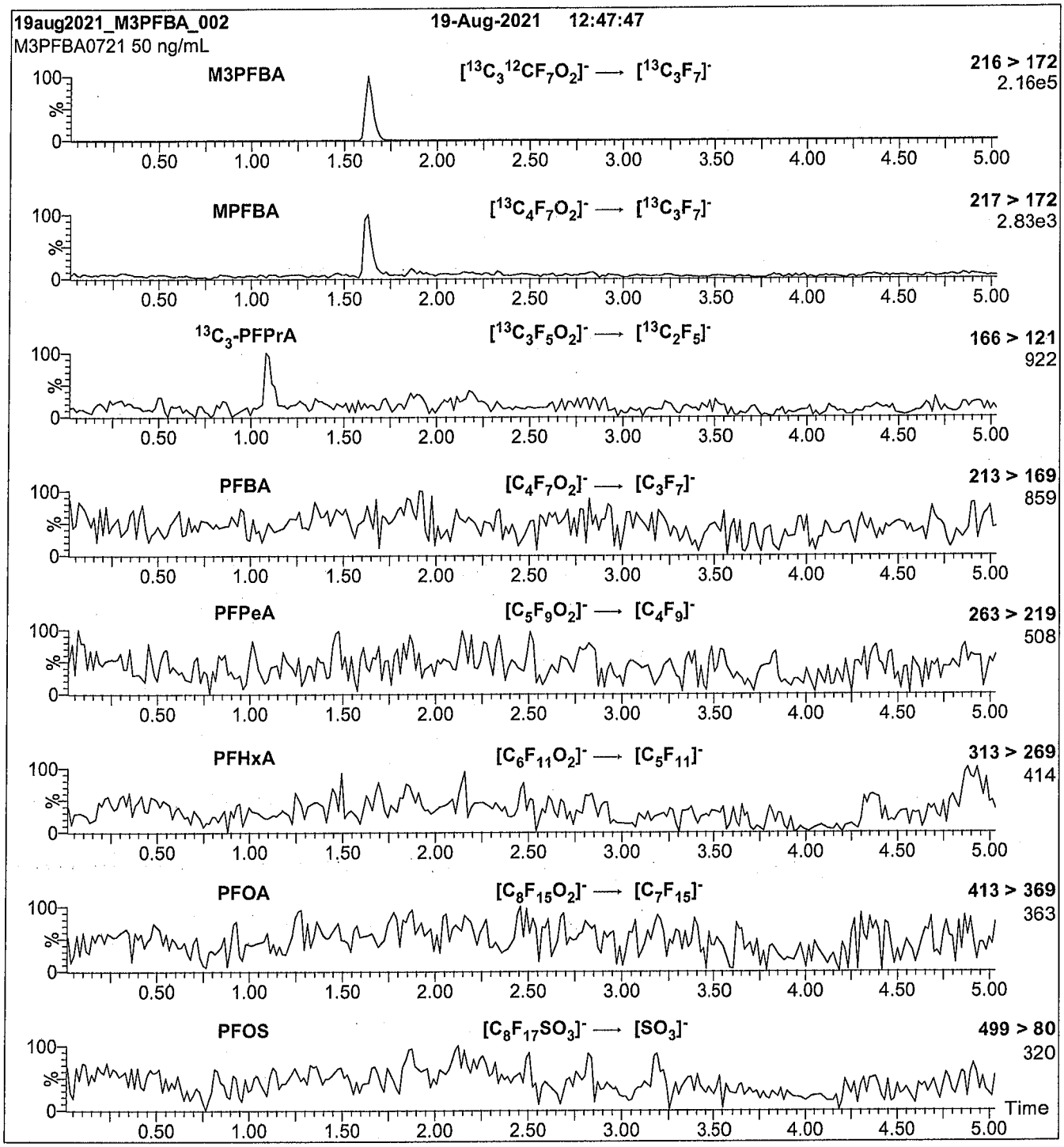
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (150 - 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: **M3PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFBA)

Mobile phase: Same as Figure 1

Flow: 300 µL/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

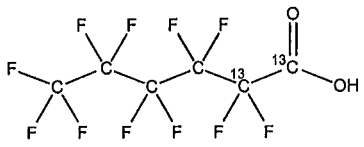
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxA
COMPOUND: Perfluoro-n-(1,2-$^{13}C_2$)hexanoic acid

LOT NUMBER: MPFHxA0921

STRUCTURE:

CAS #: 960315-47-3



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_4HF_{11}O_2$
CONCENTRATION: 50.0 ± 2.5 µg/mL

MOLECULAR WEIGHT: 316.04
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
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

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2\text{-}^{13}C_2$)

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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

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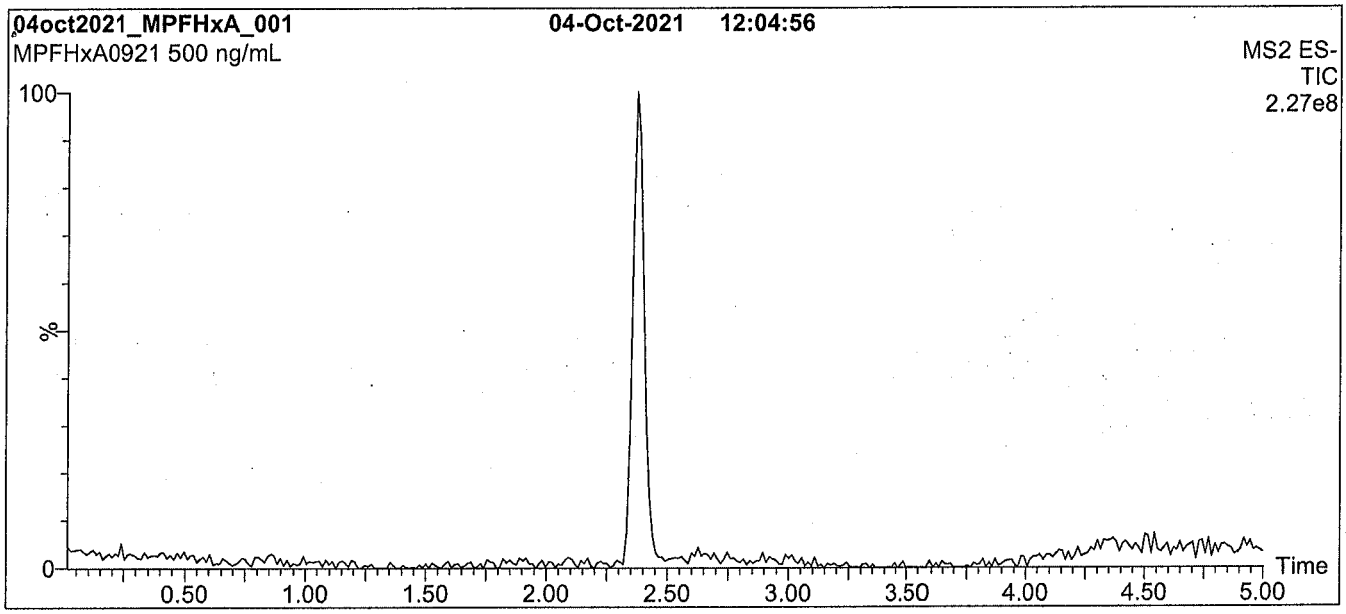
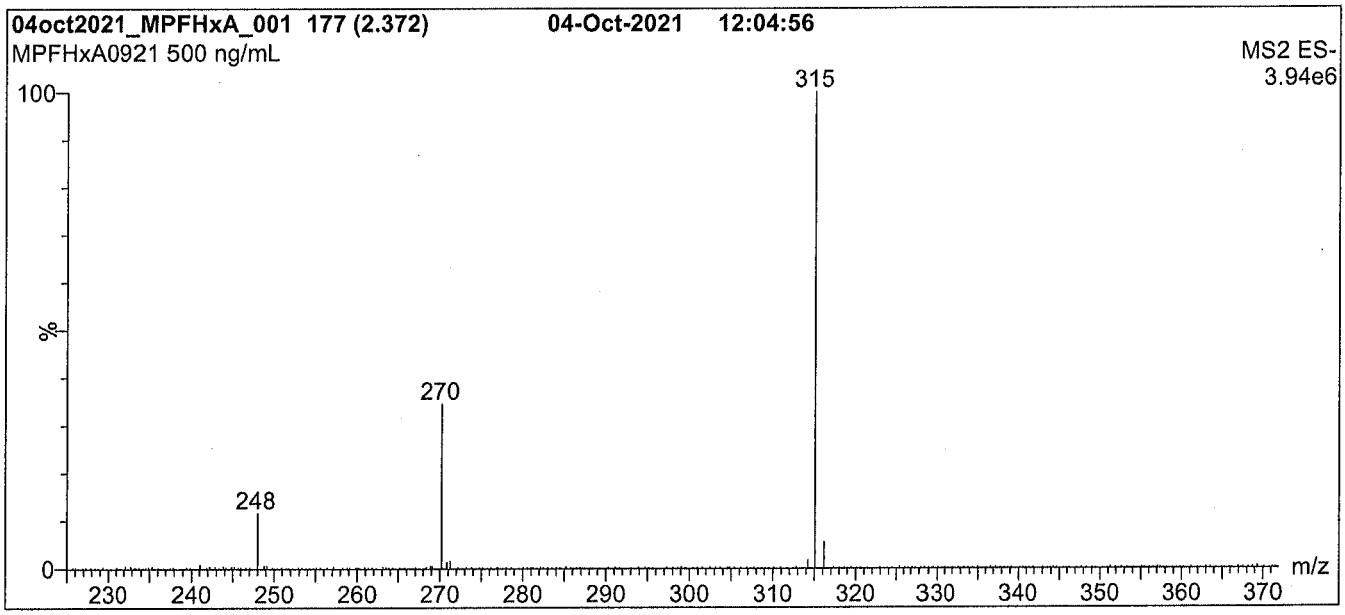




Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 12 min

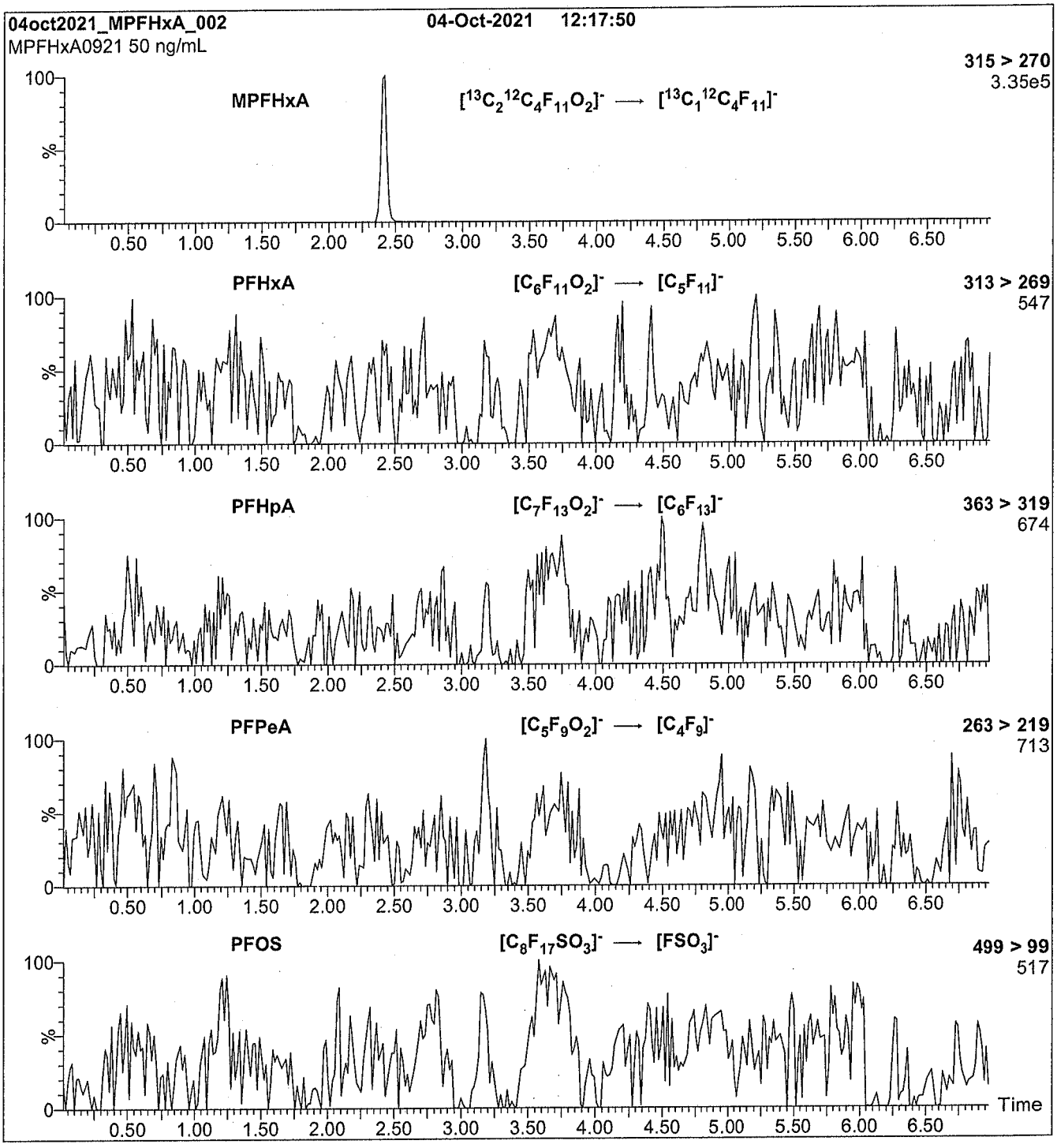
Flow: 300 µL/min

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: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 8

Analytical Standard Record

22A0117

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

Analytical Standard Record

22A0117

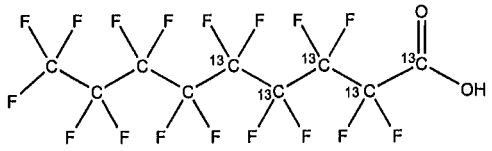
Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA1021
COMPOUND:	Perfluoro-n-(1,2,3,4,5-$^{13}C_5$)nonanoic acid		
STRUCTURE:		**CAS #:**	960315-49-5



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	10/29/2021		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2026		
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Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
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ADDITIONAL INFORMATION:

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Certified By: _____ **Date:** 11/01/2021 (mm/dd/yyyy)
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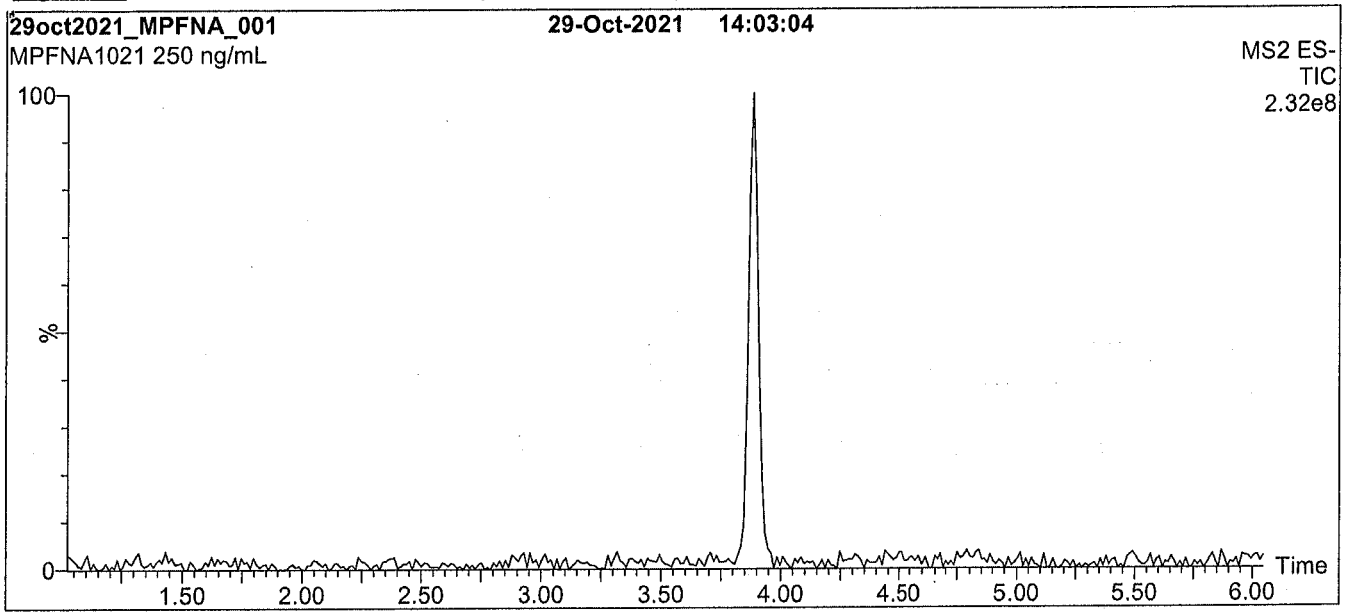

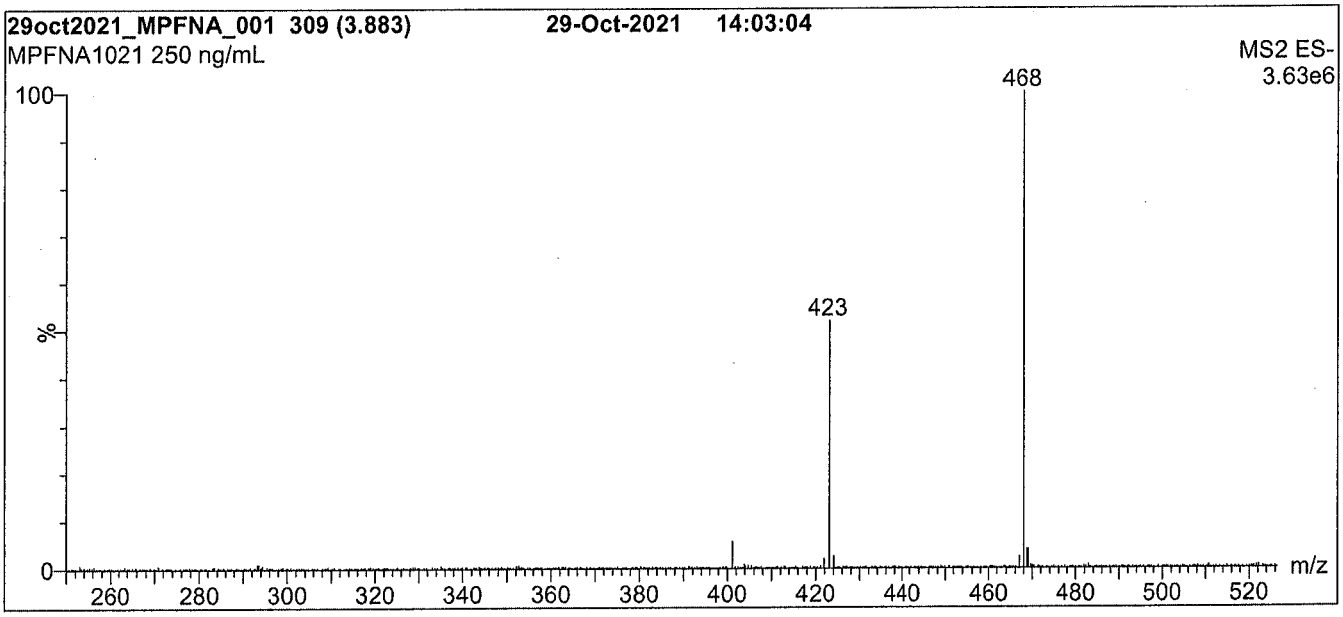

Conditions for Figure 1:

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

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1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
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(both with 10 mM NH_4OAc buffer)
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2 min before returning to initial conditions in 0.75 min.
Time: 12 min

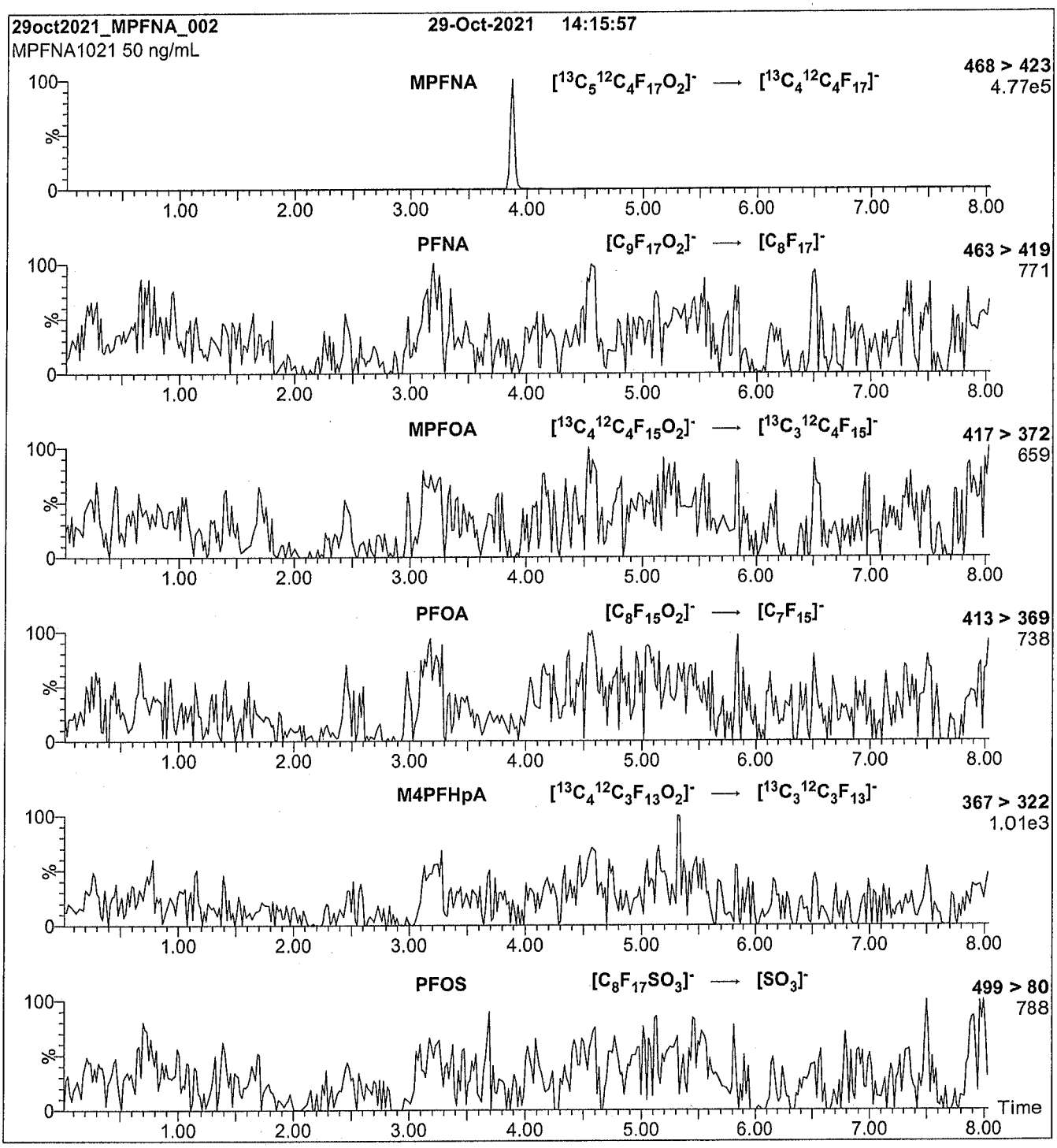
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 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 µL/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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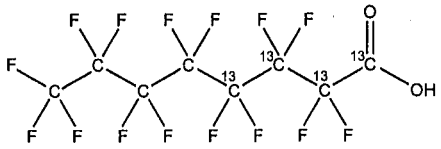
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFOA	**LOT NUMBER:**	MPFOA1121
COMPOUND:	Perfluoro-n-(1,2,3,4-$^{13}C_4$)octanoic acid		
STRUCTURE:		**CAS #:**	960315-48-4



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4HF_{15}O_2$	**MOLECULAR WEIGHT:**	418.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	12/07/2021		
EXPIRY DATE: (mm/dd/yyyy)	12/07/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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

UNCERTAINTY:

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

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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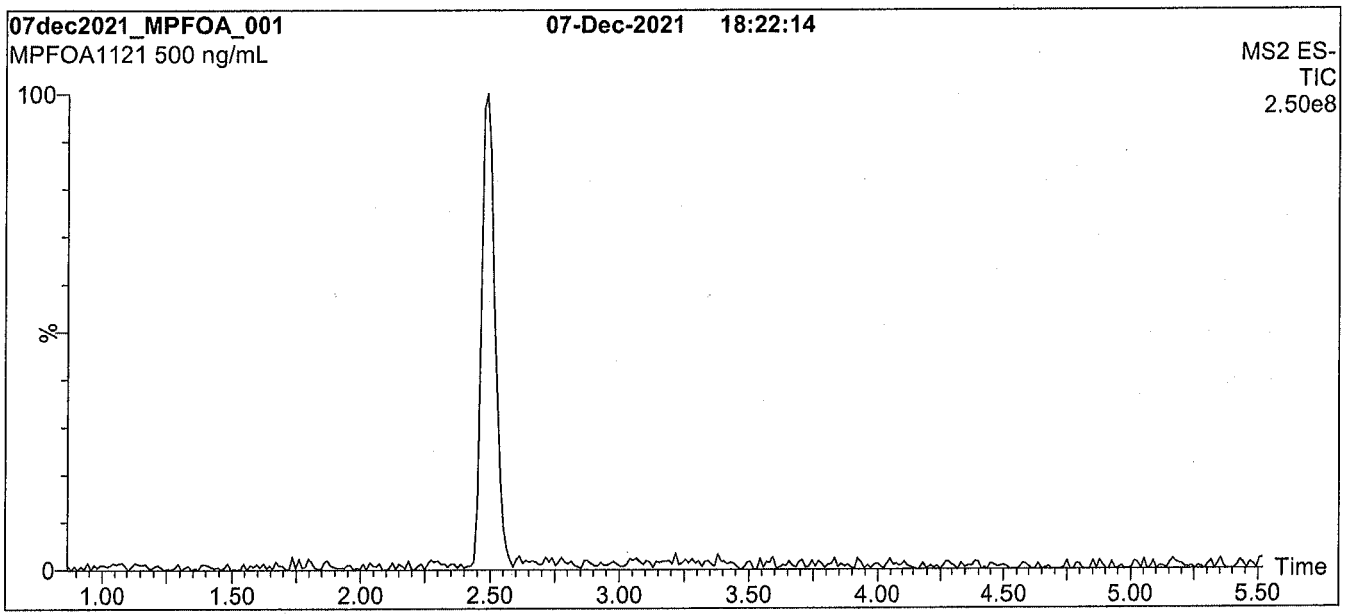
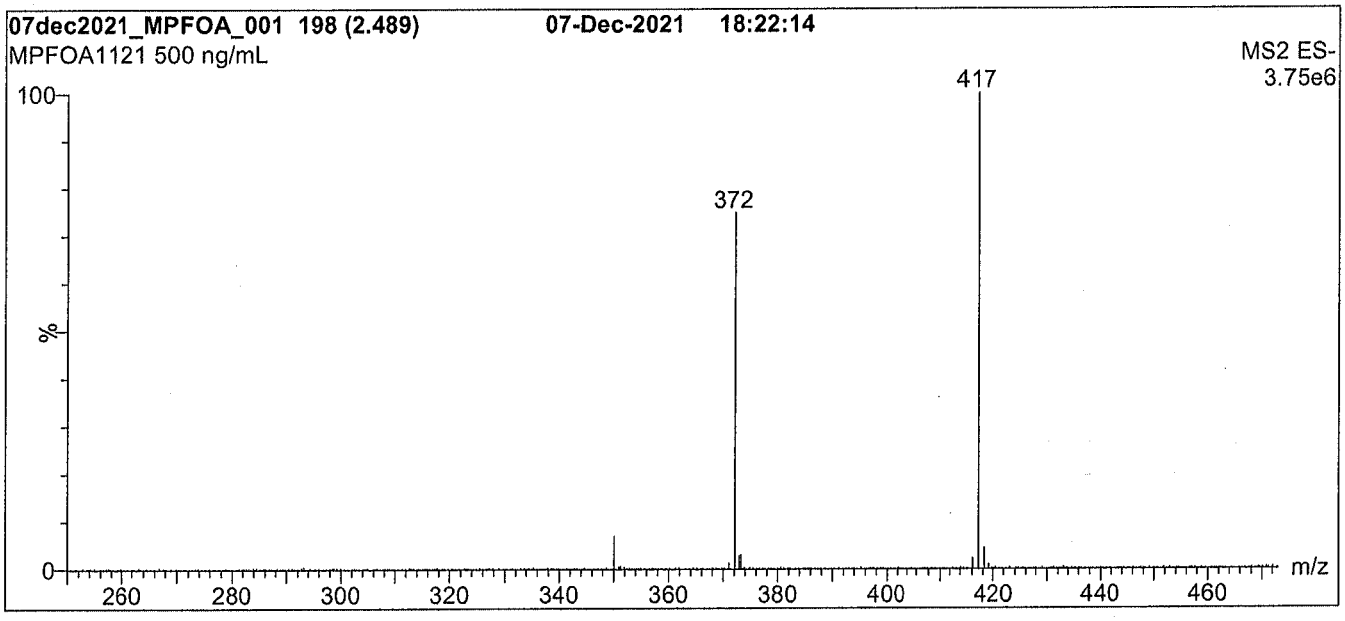
Figure 1: **MPFOA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

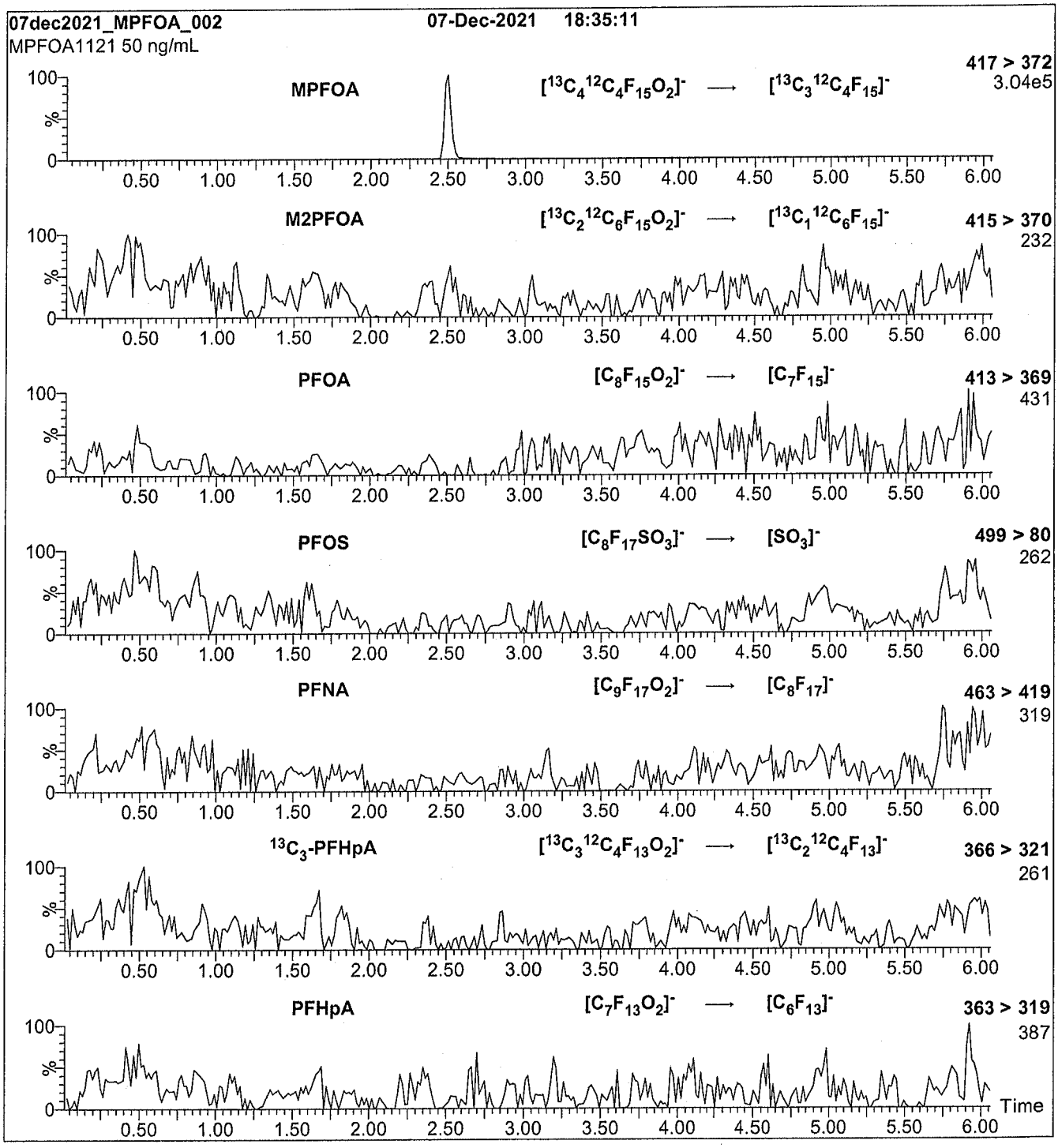
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (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 µL/min

MS Parameters:

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 8

Analytical Standard Record

22A0119

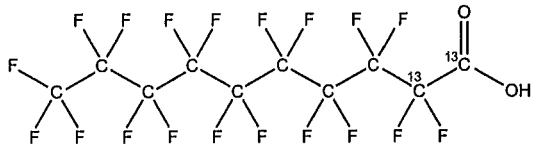
Description:	PFAS - IIS MPFOA 50ug/mL	Expires:	12/07/2026
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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-$^{13}C_2$)decanoic acid		
STRUCTURE:		**CAS #:**	960315-50-8



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
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.
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FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/13/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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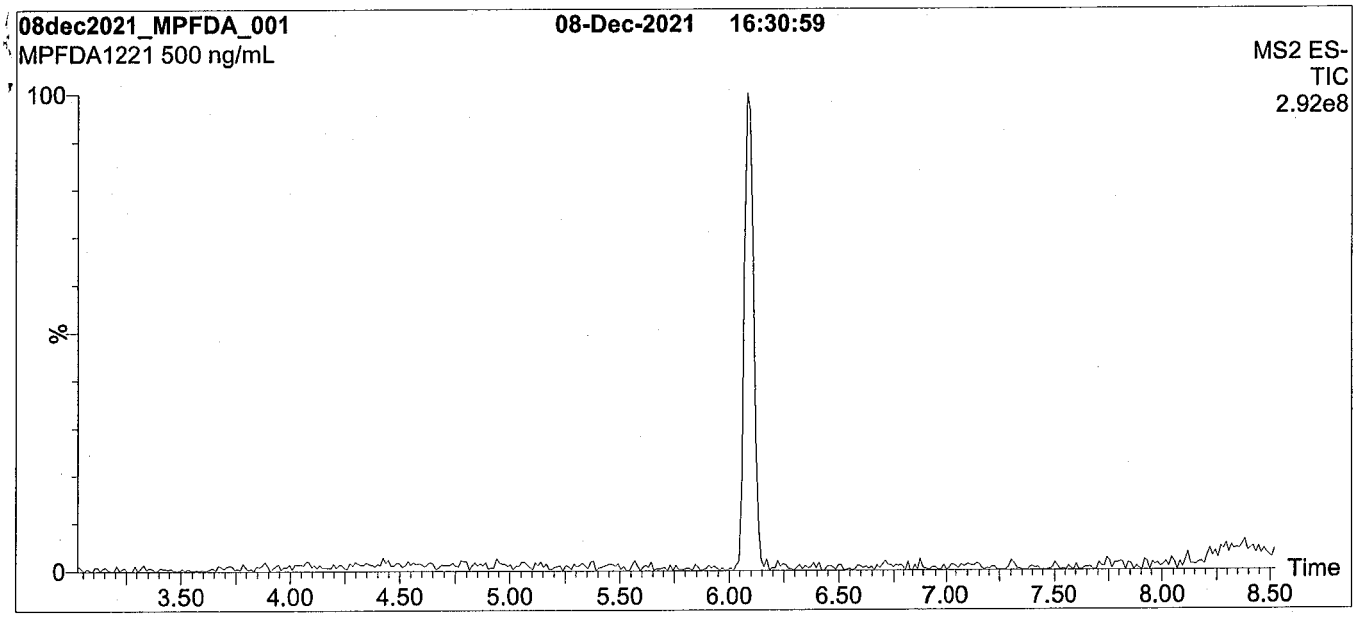
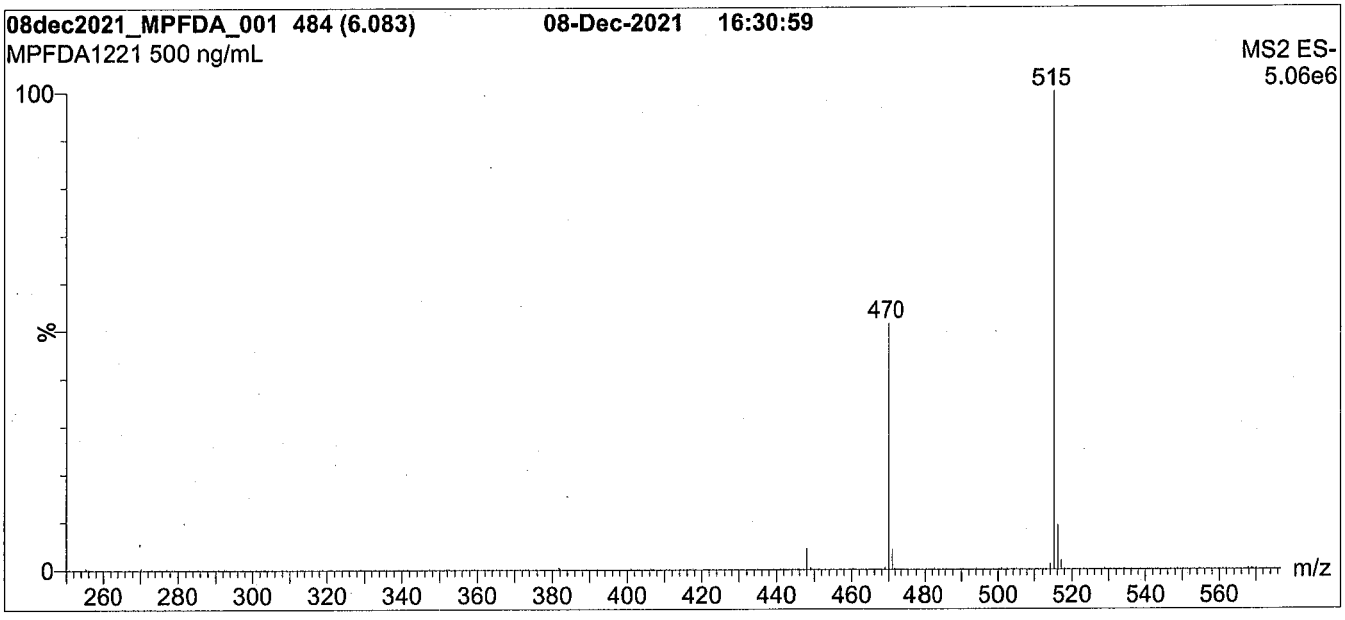
Figure 1: **MPFDA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

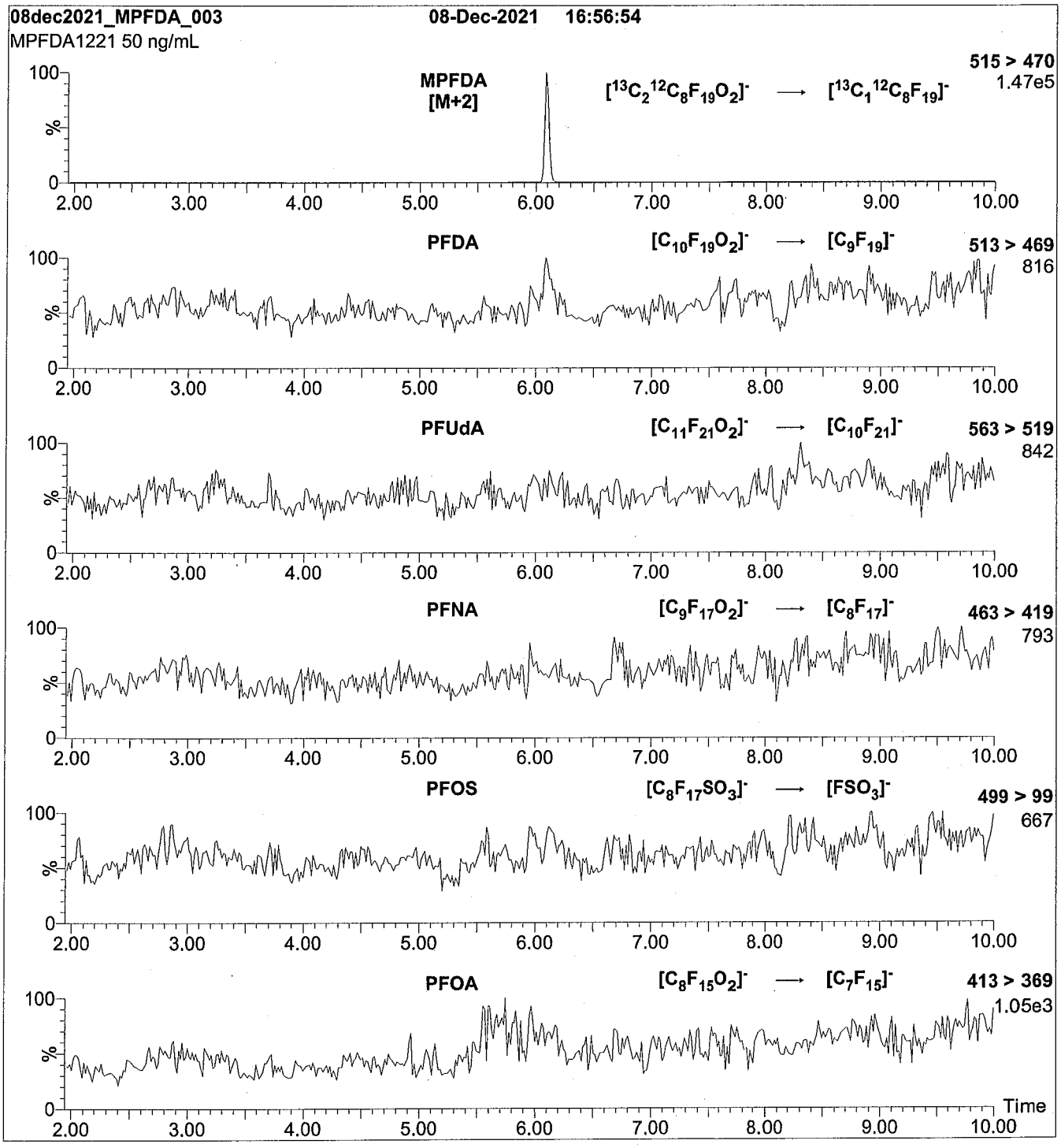
Flow: 300 µL/min

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: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

Analytical Standard Record

22A0120

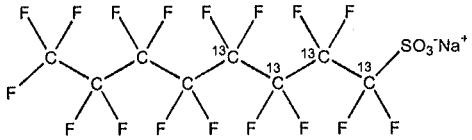
Description:	PFAS - IIS MPFDA 50ug/mL	Expires:	12/08/2026
Standard Type:	Analyte Spike	Prepared:	12/08/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

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-$^{13}C_4$)octanesulfonate		
STRUCTURE:		**CAS #:**	960315-53-1



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 47.9 ± 2.4 µg/mL (MPFOS acid) 47.8 ± 2.4 µg/mL (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	08/18/2021		
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-($^{13}C_3$)heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/19/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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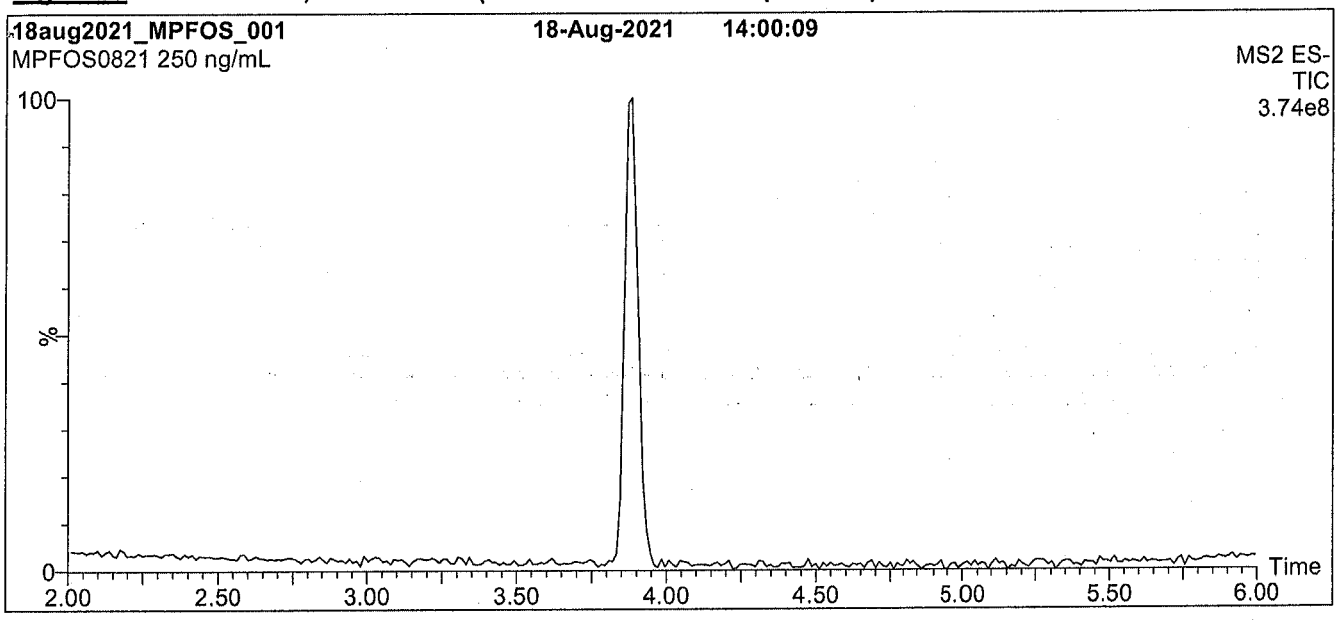
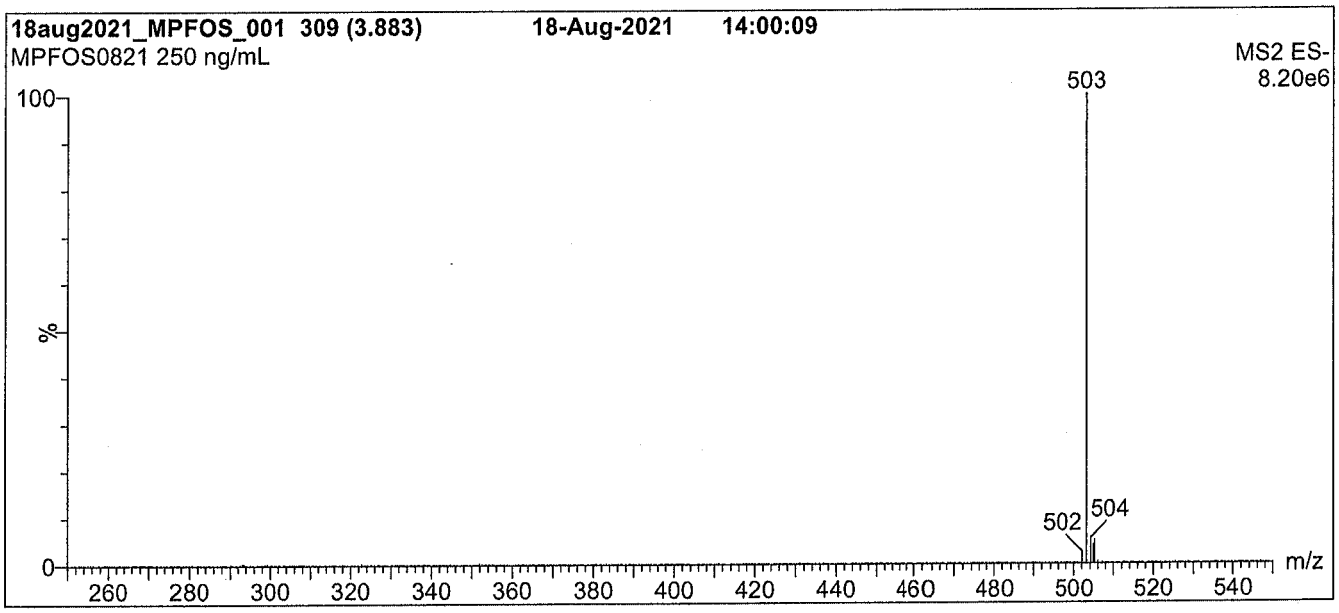




Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

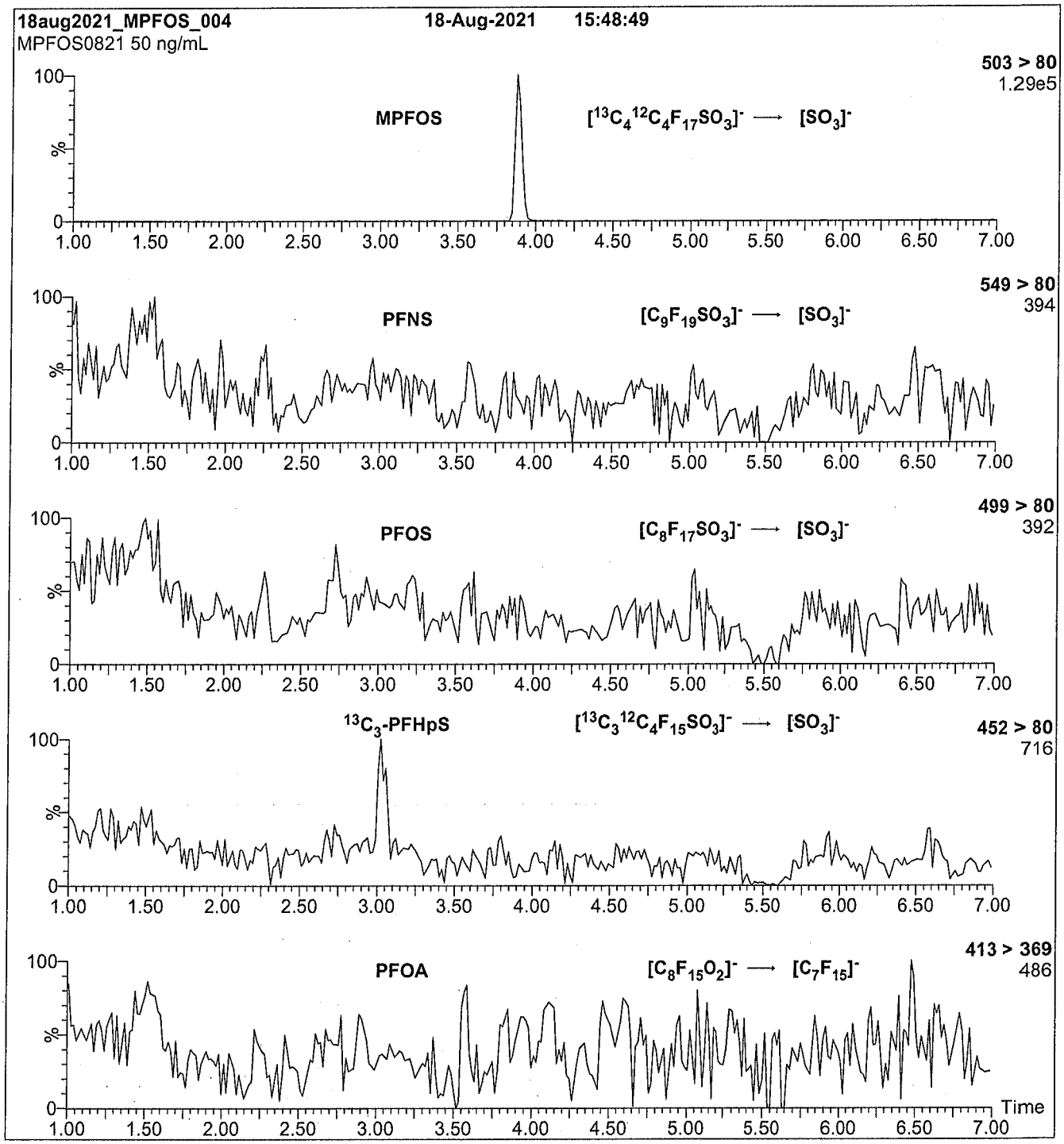
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (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 µL/min

MS Parameters:

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 42

Analytical Standard Record

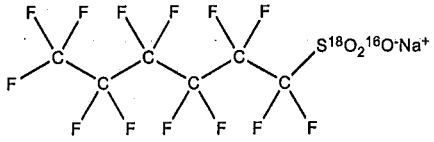
22A0121

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($^{18}O_2$)sulfonate		
STRUCTURE:		**CAS #:**	1585941-14-5
MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 47.4 ± 2.4 µg/mL (MPFHxS acid) 47.3 ± 2.4 µg/mL (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	10/29/2021		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~0.6% of sodium perfluoro-1-octane($^{18}O_2$)sulfonate ($^{18}O_2$-PFOS) and ~0.3% of sodium perfluoro-1-heptane($^{18}O_2$)sulfonate ($^{18}O_2$-PFHpS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >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: _____ **Date:** 11/05/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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,...x_n on which it depends is:

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

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 ±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:

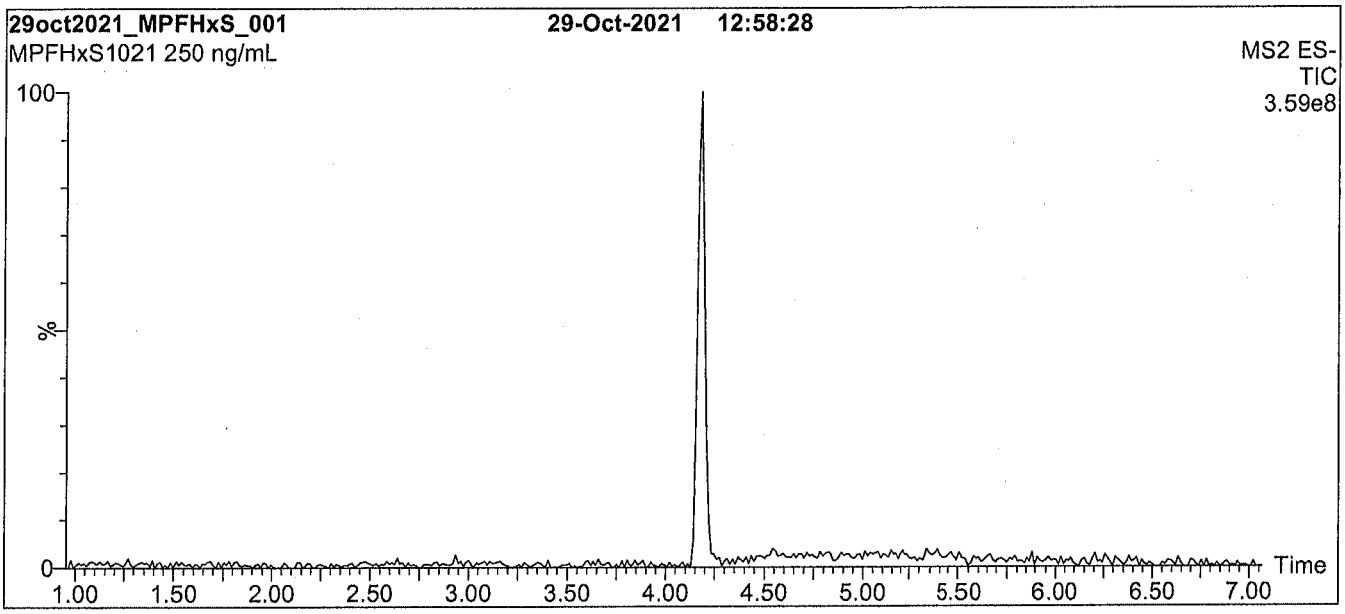
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

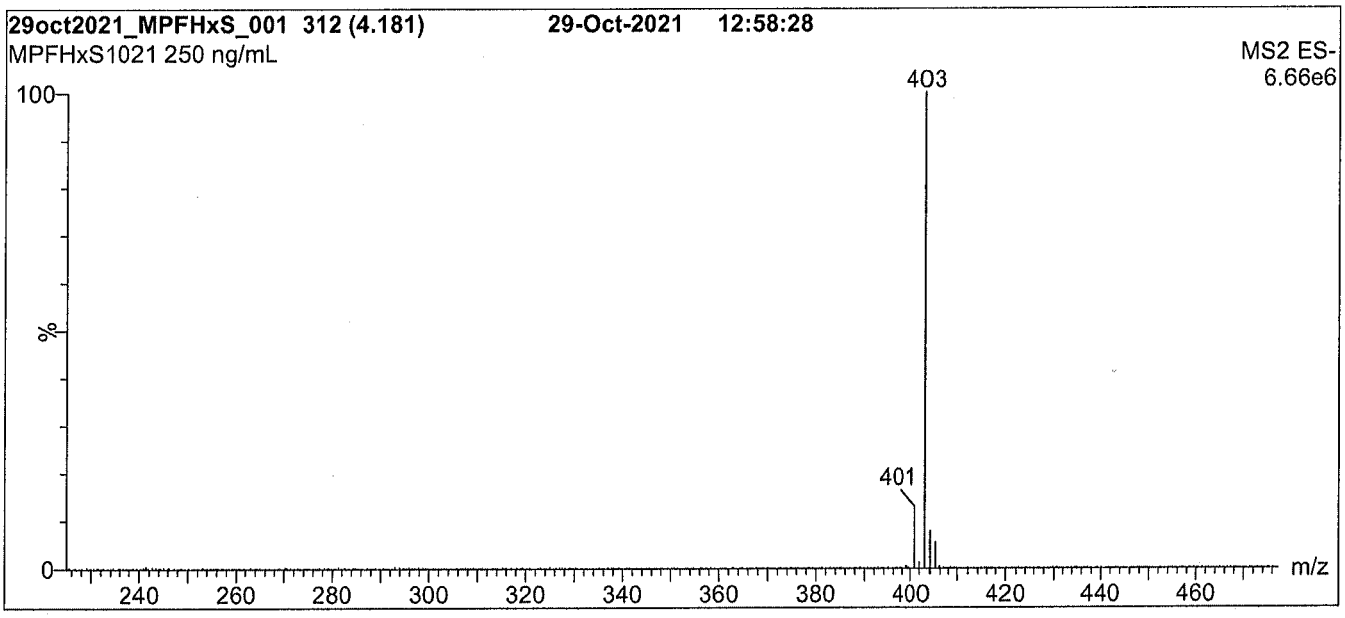
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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 RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

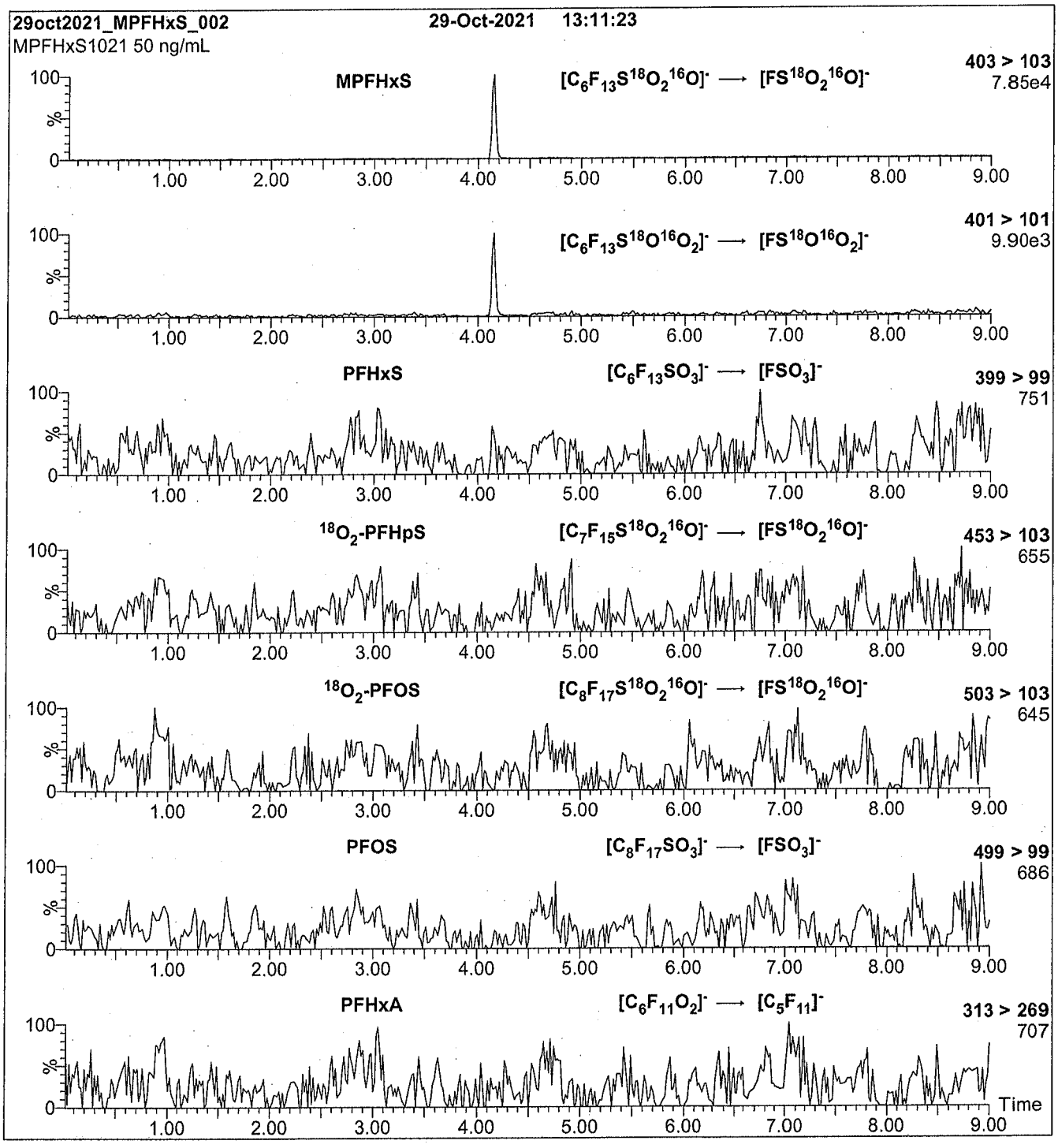
Flow: 300 µL/min

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: **MPFHxS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxS)

Mobile phase: Same as Figure 1

Flow: 300 µL/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
18O2-PFHXS		18O2-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
18O2-PFHXS		18O2-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:	$C_{26}H_{44}NO_6S \cdot Na$
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_2O (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

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

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

Technical Support All Other Countries - Contact Your Local Office

FOR RESEARCH USE ONLY.

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 (mls):	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		(mls)
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 (mls):	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		(mls)
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 (mls):	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

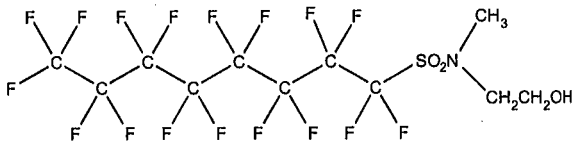
Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
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 22C0307
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
STRUCTURE:
CAS #: 24448-09-7



MOLECULAR FORMULA: $C_{11}H_8F_{17}NO_3S$
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: _____ **Date:** 09/28/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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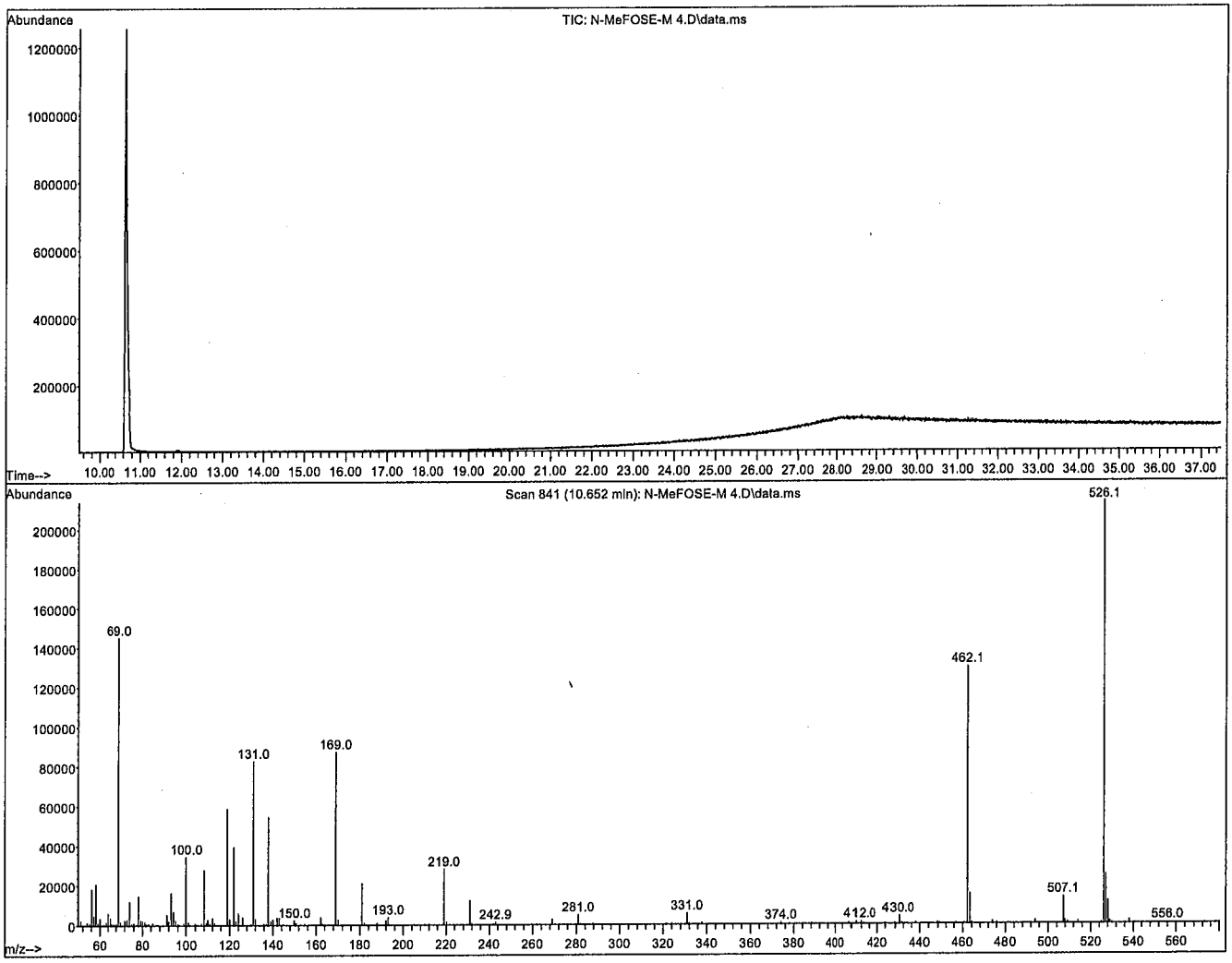
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

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)**



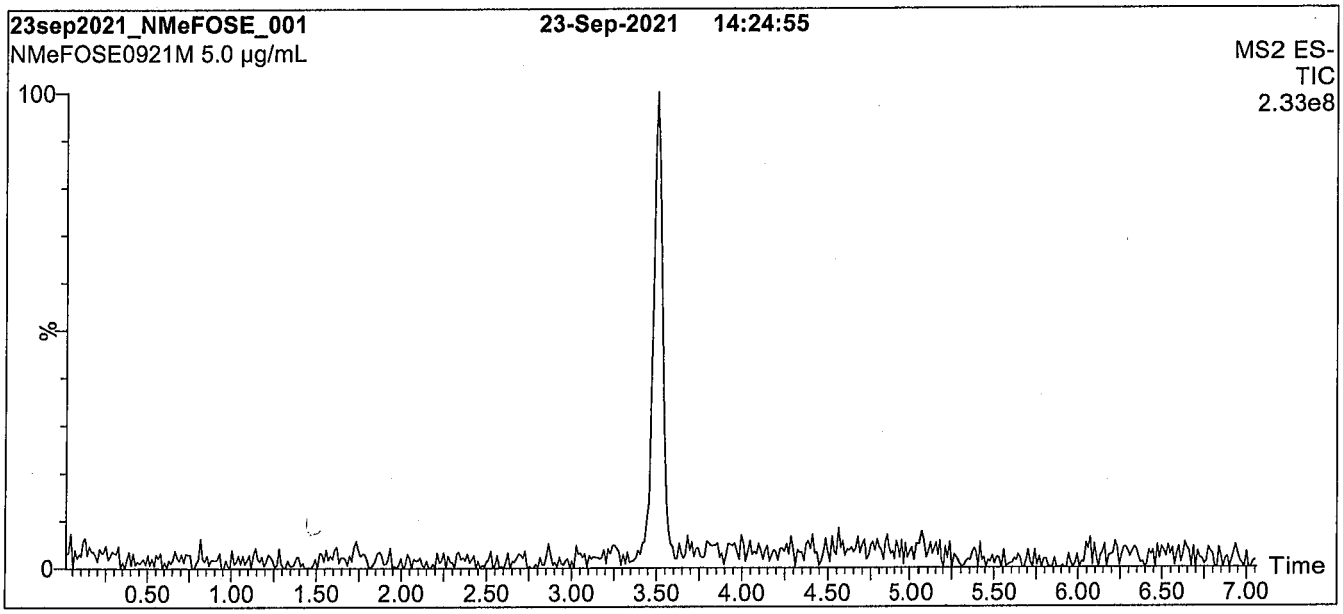
Conditions for Figure 1:

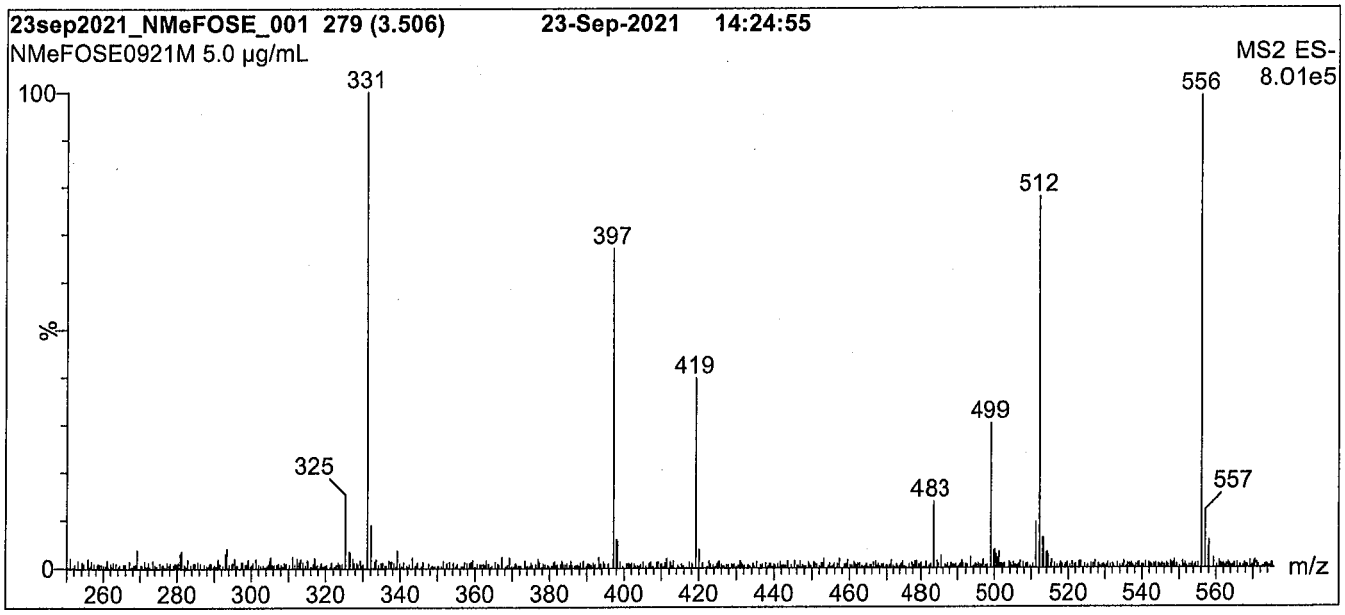
Agilent 7890A HRGC
Agilent 5975C MSD

Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Flow:	Constant at 1 mL/min
Injector:	250°C (Splitless Injection)
Oven:	100°C (5 min)
	10°C/min to 310°C
	310°C (10 min)
Ionization:	EI+
Detector:	230°C
	Full Scan (50-1000 amu)

Figure 2: **N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 2:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% H_2O / 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

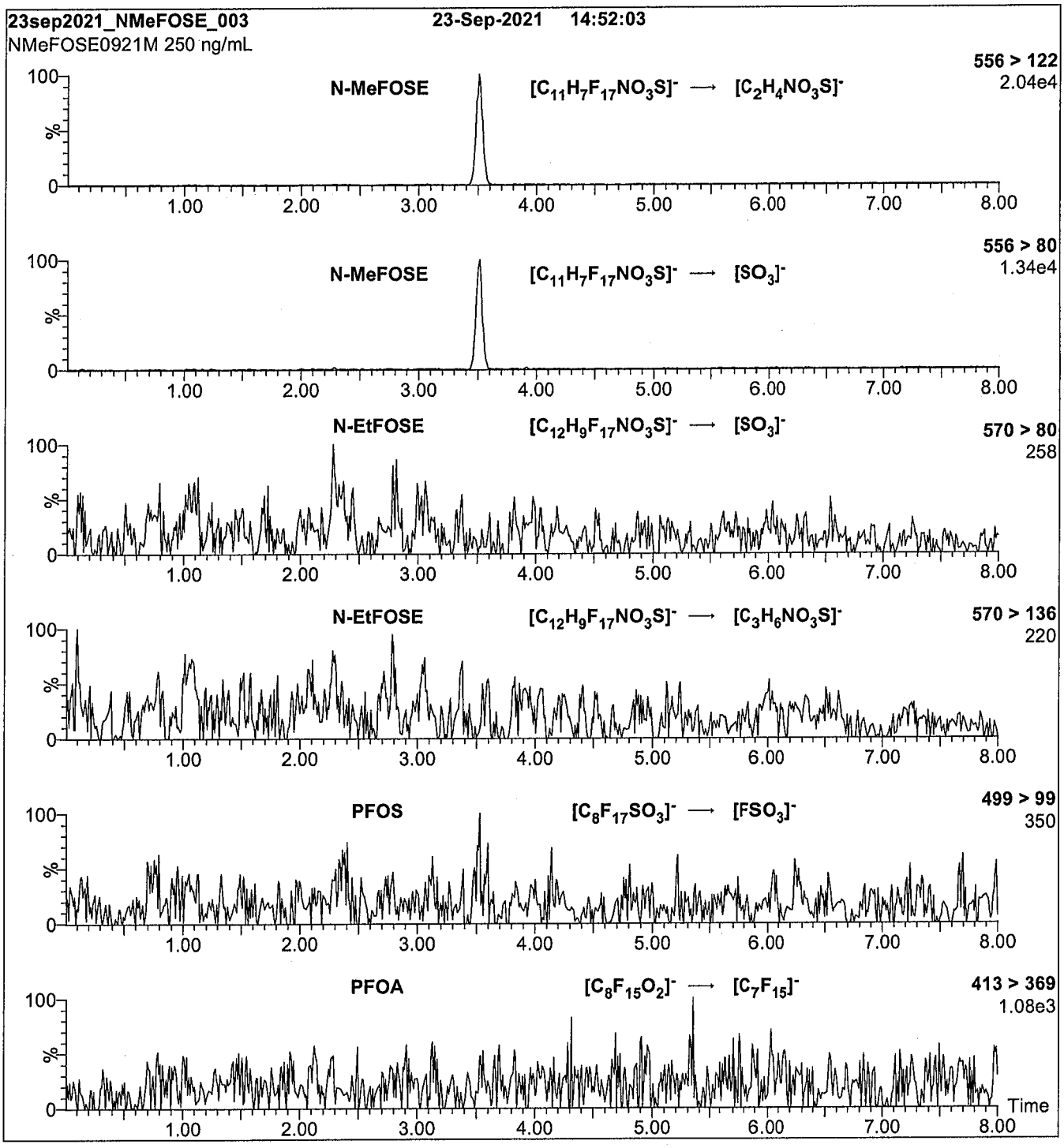
Flow: 300 µL/min

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 µL/min

MS Parameters:

Collision Gas (mbar) = 3.14e-3
Collision Energy (eV) = 36

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

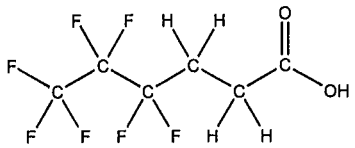
Reviewed By

Date

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 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/03/2022		
EXPIRY DATE: (mm/dd/yyyy)	02/03/2027		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/04/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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:

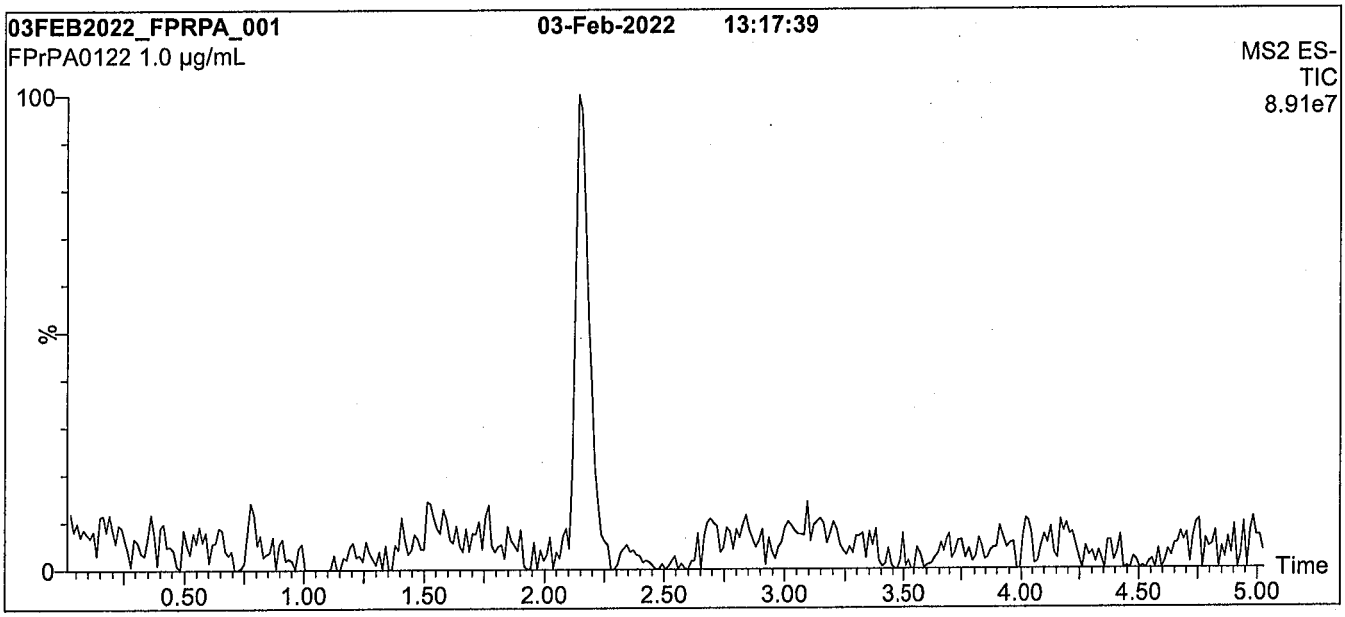
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

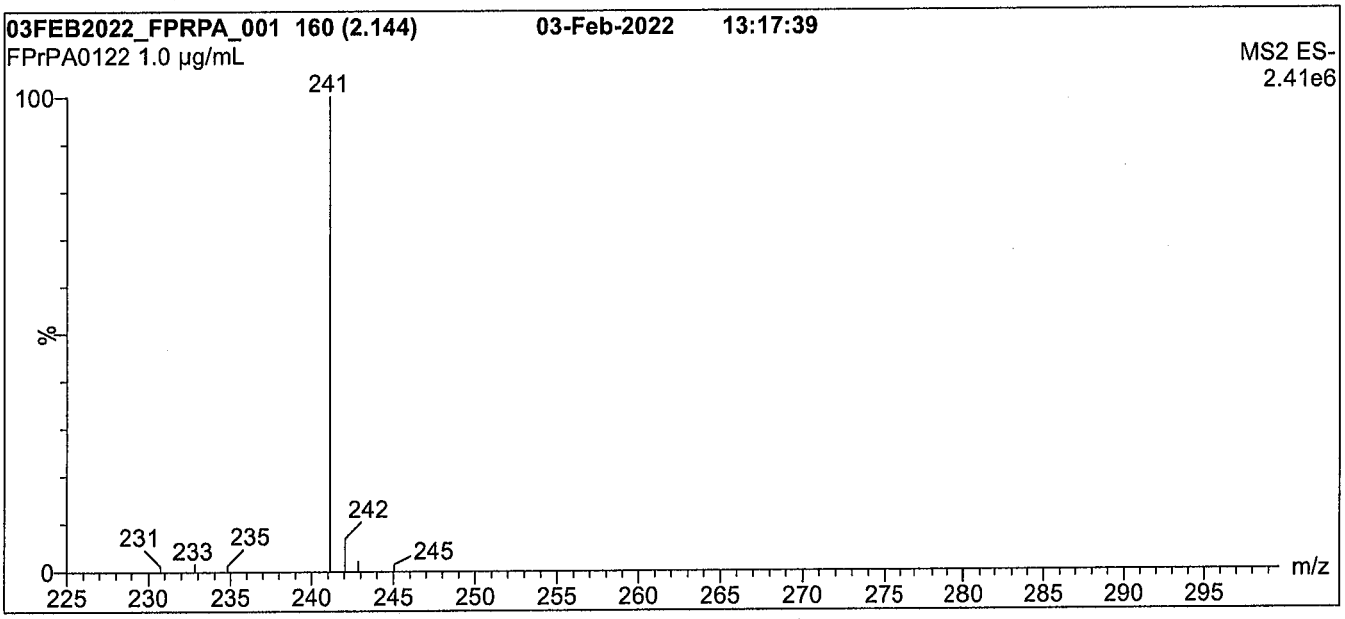
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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 RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

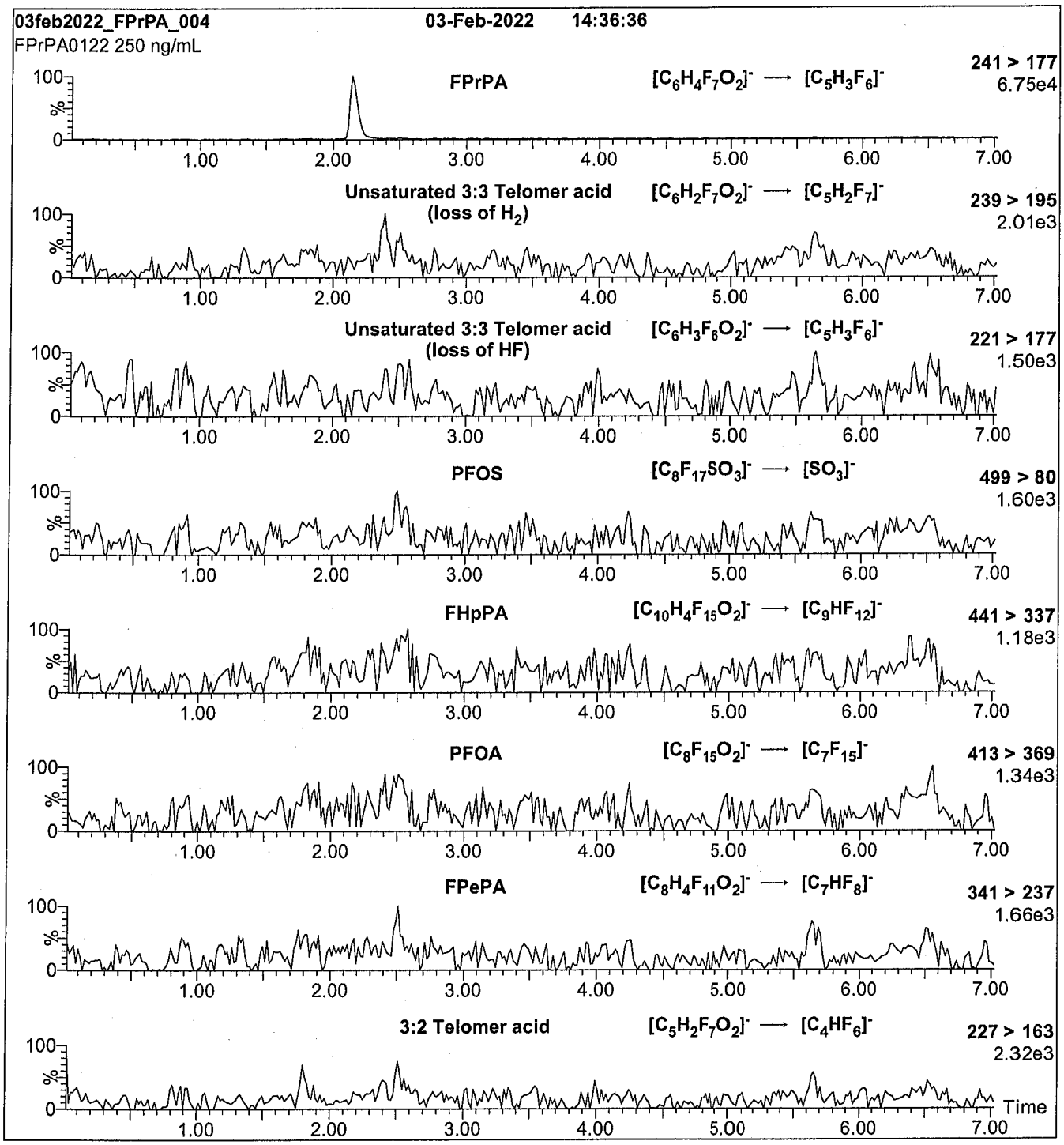
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 10

Analytical Standard Record

22C0308

Description:	PFAS - SAS FPrPA 50ug/mL	Expires:	02/03/2027
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: FPrPA0122)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

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

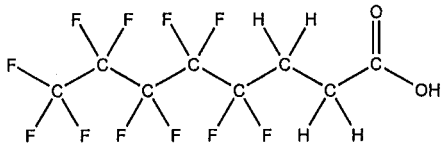
Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FPePA	**LOT NUMBER:**	FPePA1221 22C0309
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 ± 2.5 µg/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: _____ **Date:** 01/06/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

INTENDED USE:

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SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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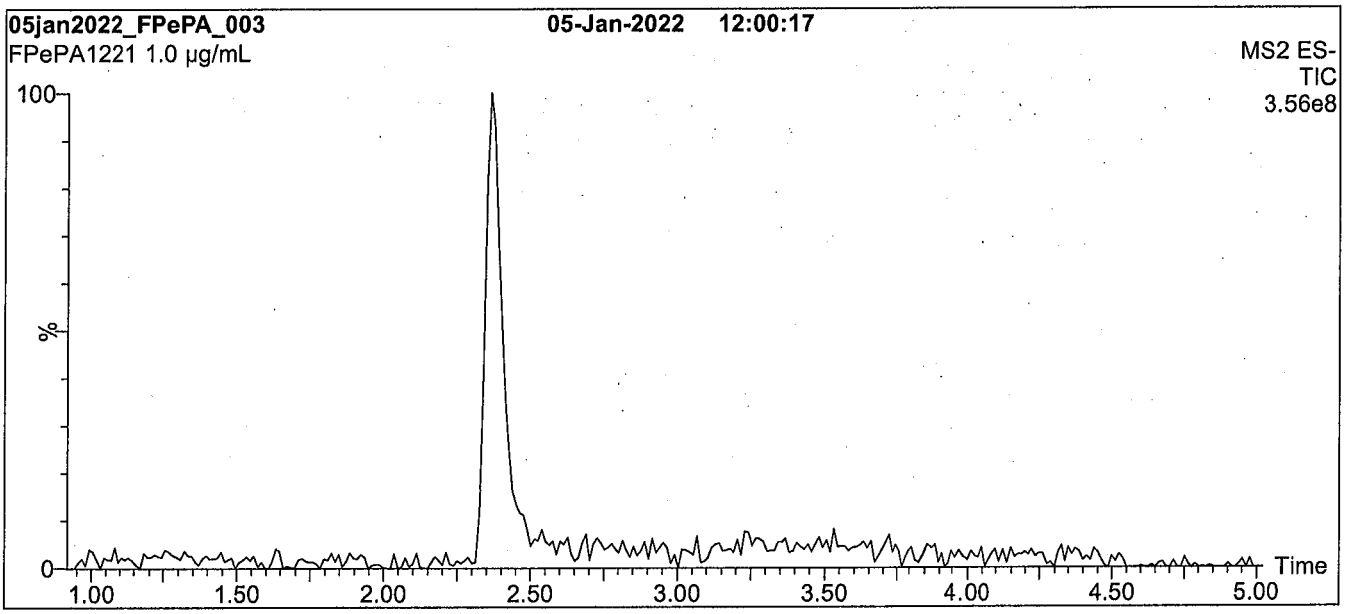
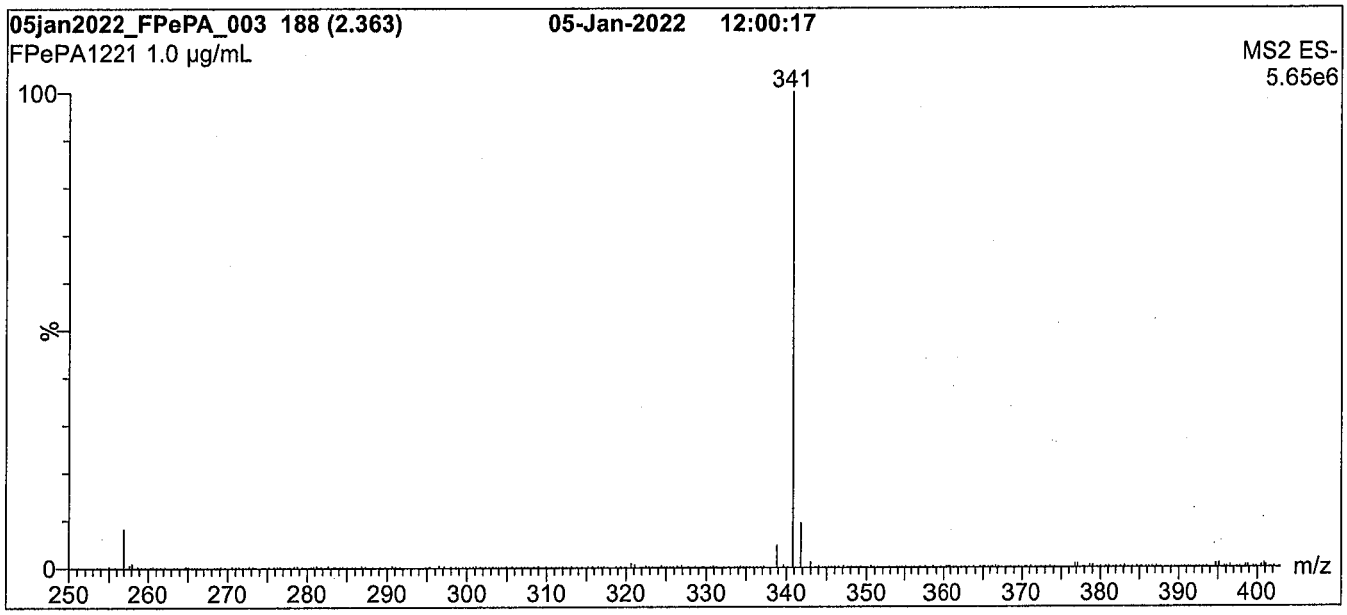
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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 (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

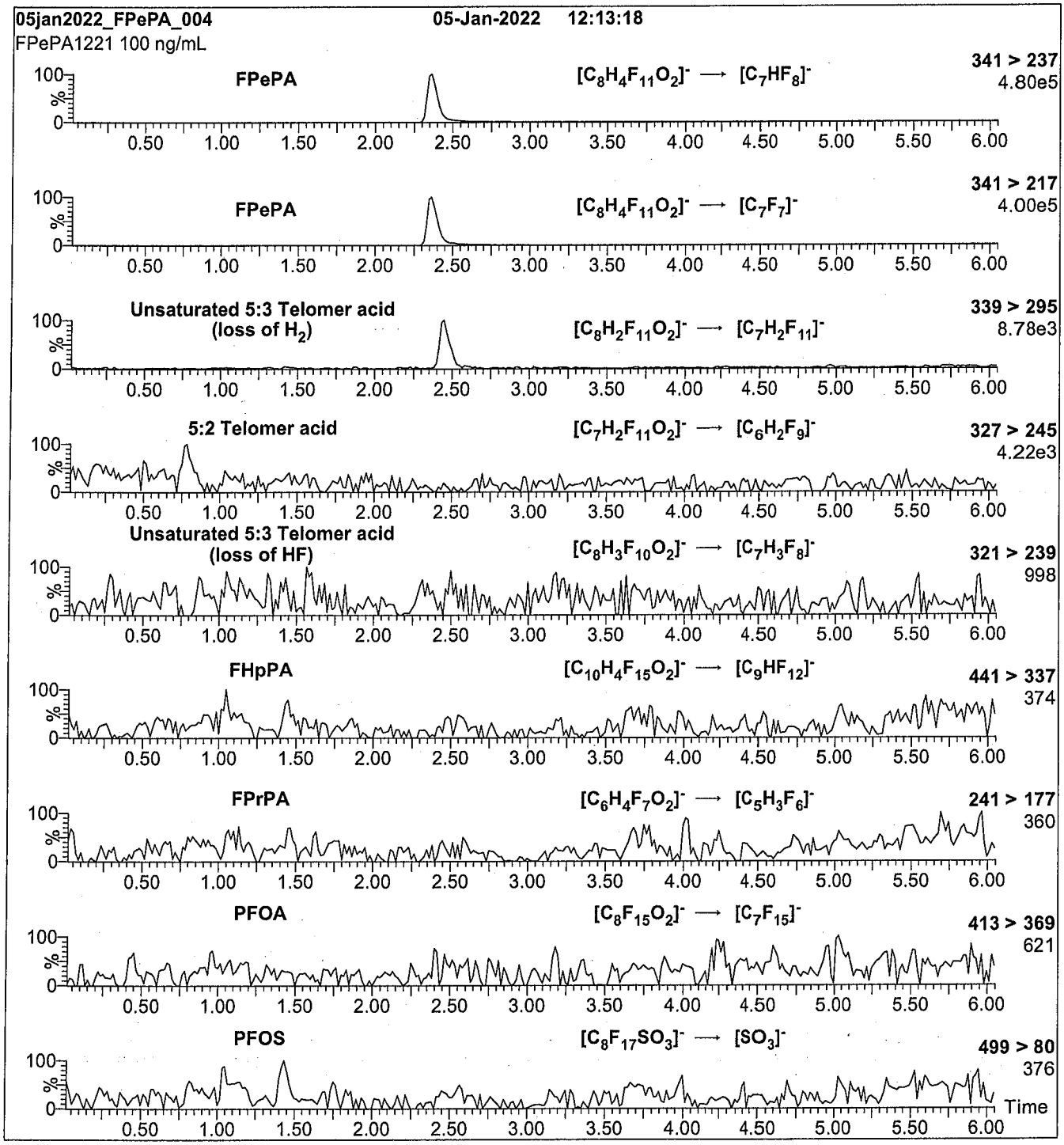
Flow: 300 µL/min

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 µL/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#: FPePA1221)
Final Volume (mls):	1	Department:	PFAS
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

Reviewed By

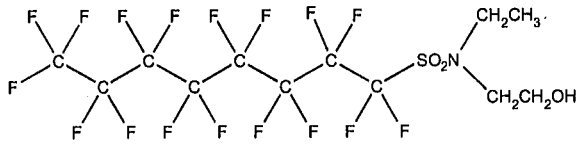
Date

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 ± 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: _____ **Date:** 10/20/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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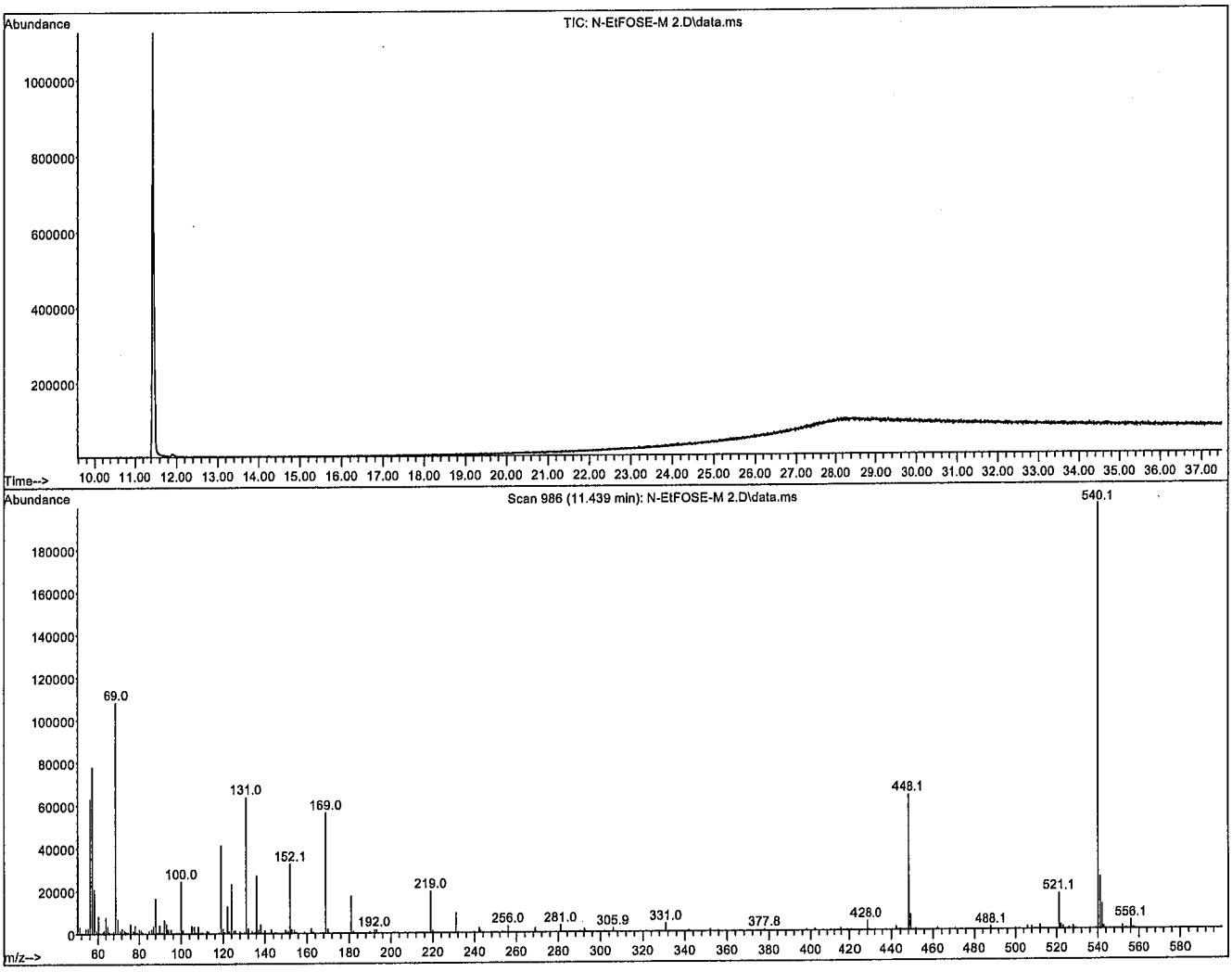
Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



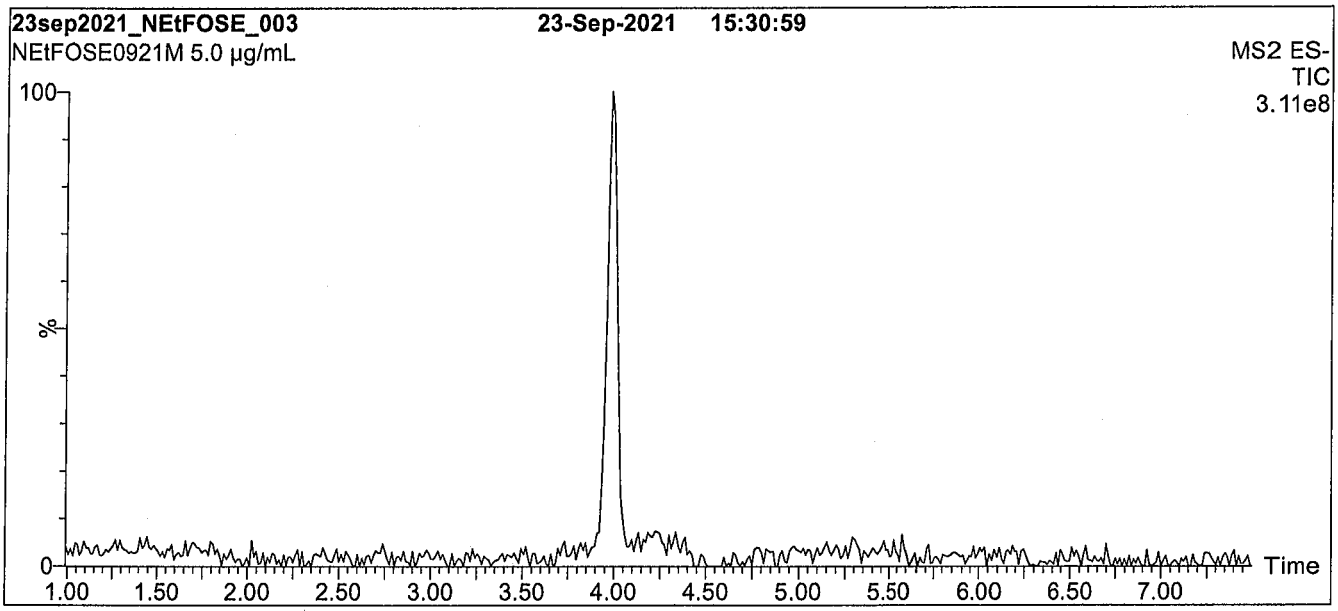
Conditions for Figure 1:

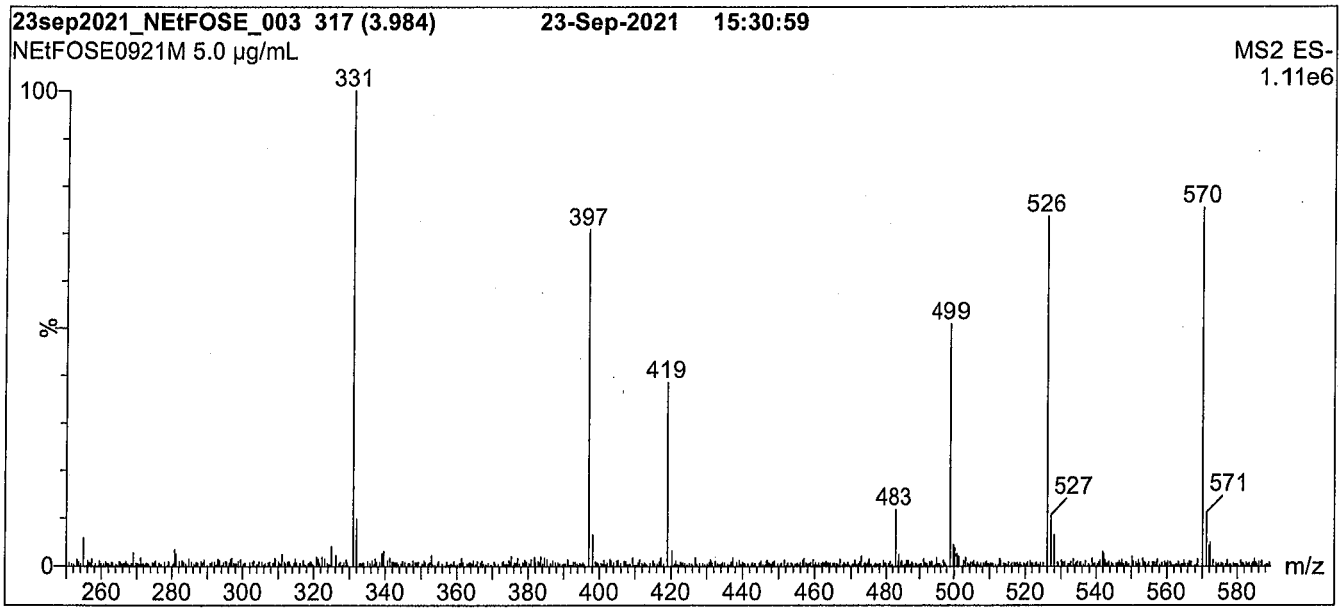
Agilent 7890A HRGC
Agilent 5975C MSD

Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Flow:	Constant at 1 mL/min
Injector:	250°C (Splitless Injection)
Oven:	100°C (5 min)
	10°C/min to 325°C
	325°C (10 min)
Ionization:	EI+
Detector:	230°C
	Full Scan (50-1000 amu)

Figure 2: **N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 2:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% H_2O / 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

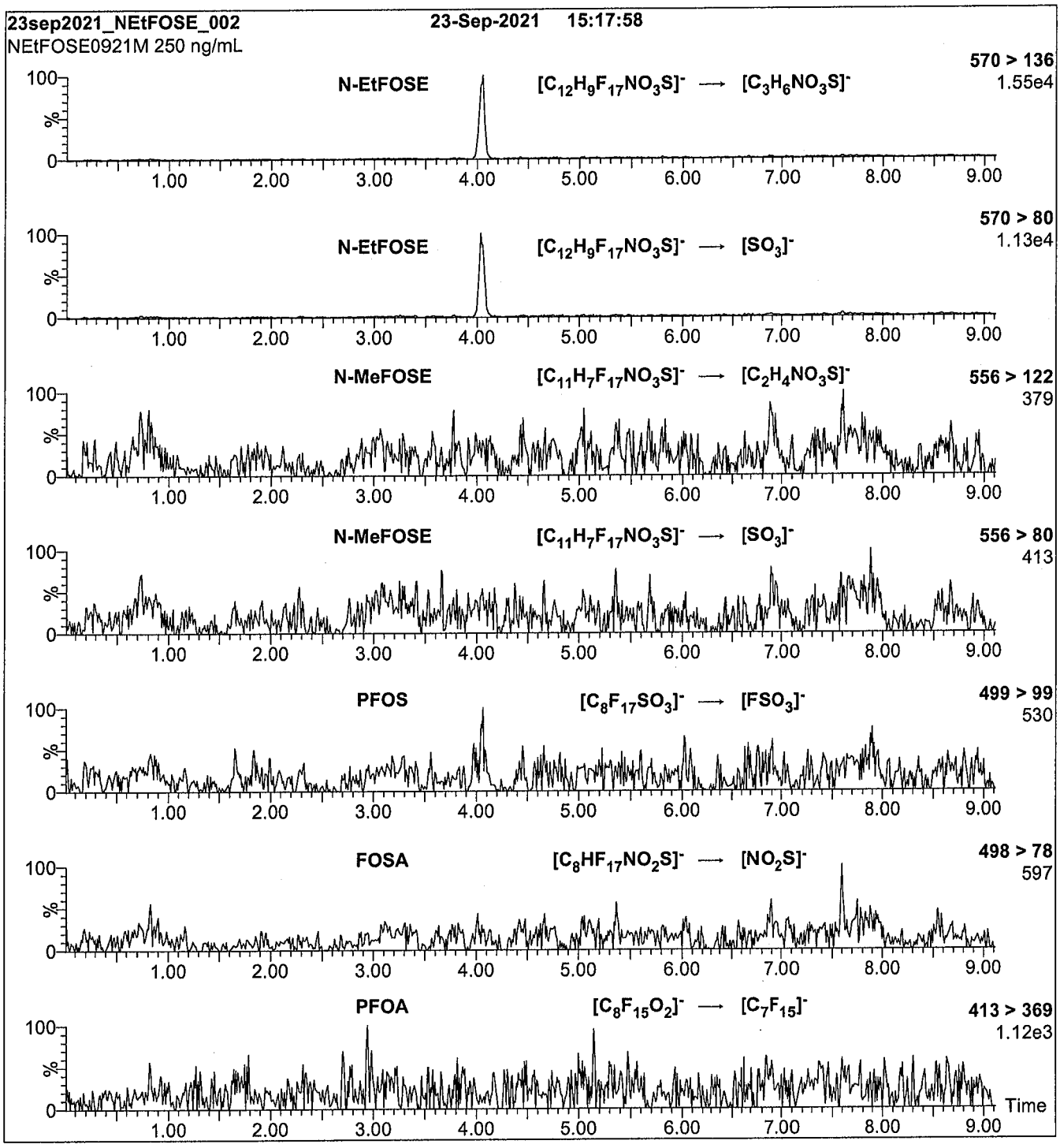
Flow: 300 µL/min

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 µL/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:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSE		1691-99-2	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

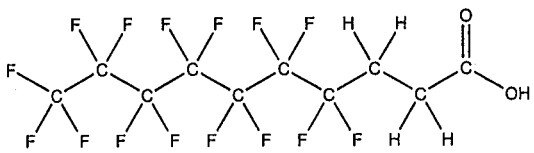
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FHpPA
COMPOUND: 3-Perfluoroheptyl propanoic acid

LOT NUMBER: FHpPA1020
22C0311

STRUCTURE:

CAS #: 812-70-4



MOLECULAR FORMULA:	$C_{10}H_5F_{15}O_2$	**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: _____ **Date:** 11/27/2020 (mm/dd/yyyy)
B.G. Chittim, General Manager

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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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:

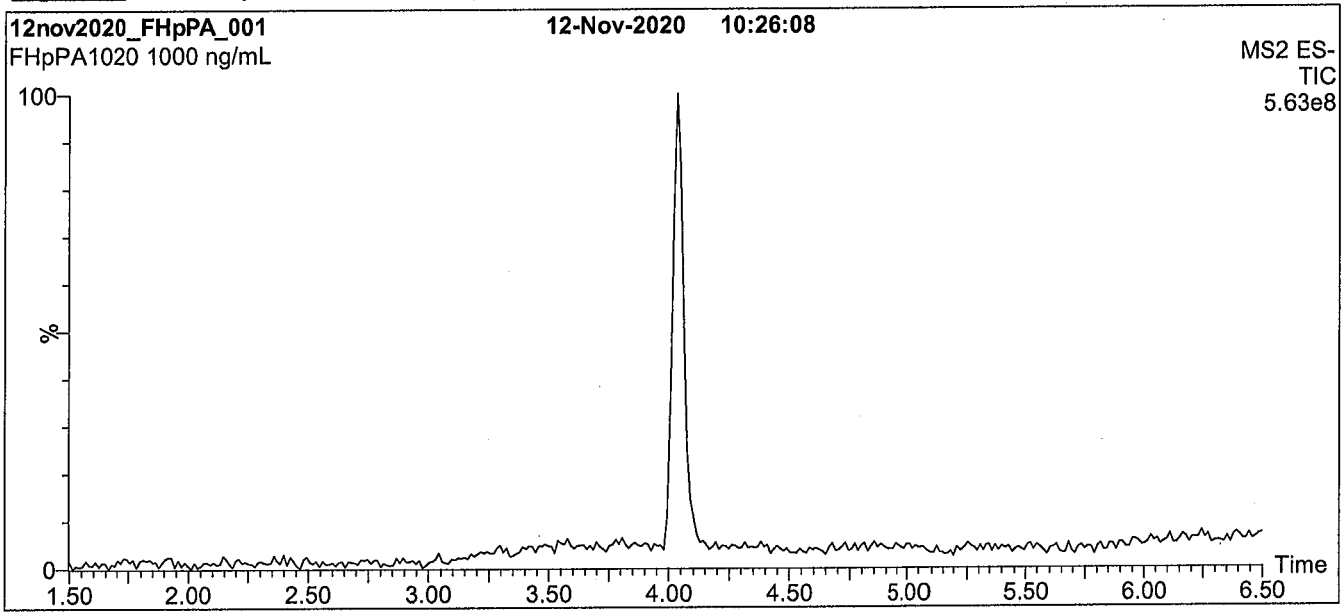
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

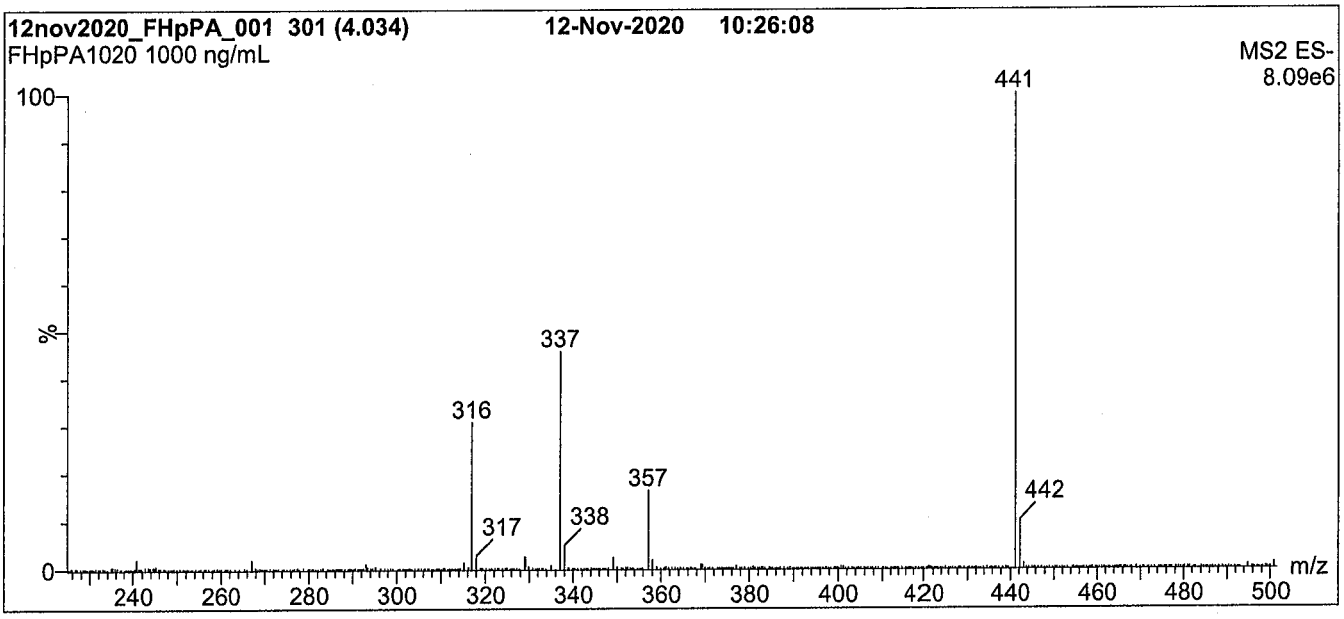
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

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 RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

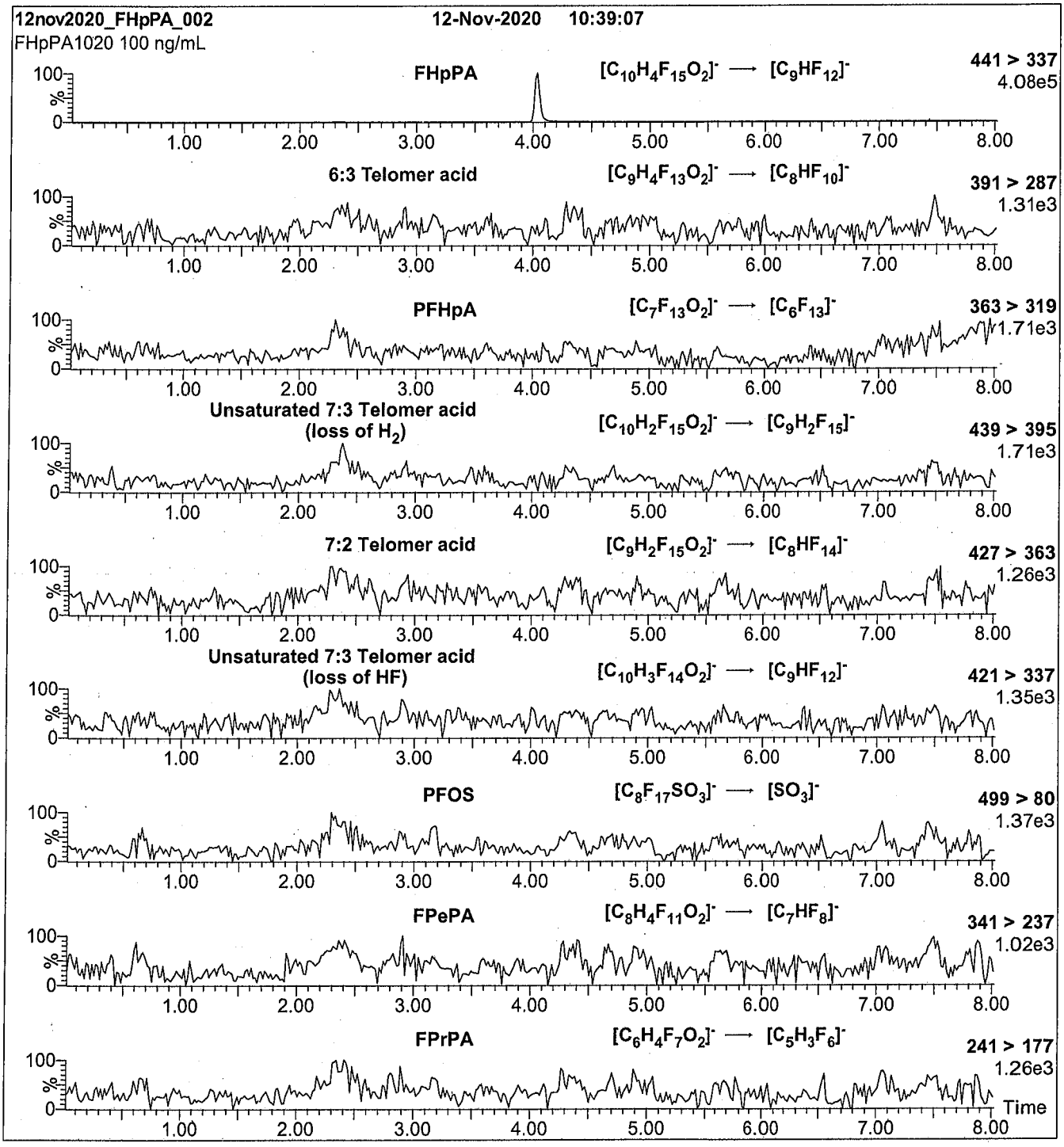
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 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 µL/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#: HHpPA1020)
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

Reviewed By

Date

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#: HHpPA1020)
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

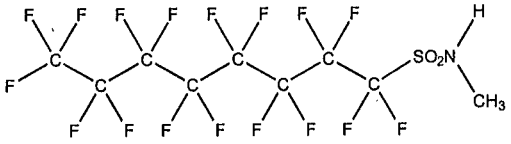
Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0721M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		22C0312
STRUCTURE:		**CAS #:**	31506-32-8



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50.0 ± 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: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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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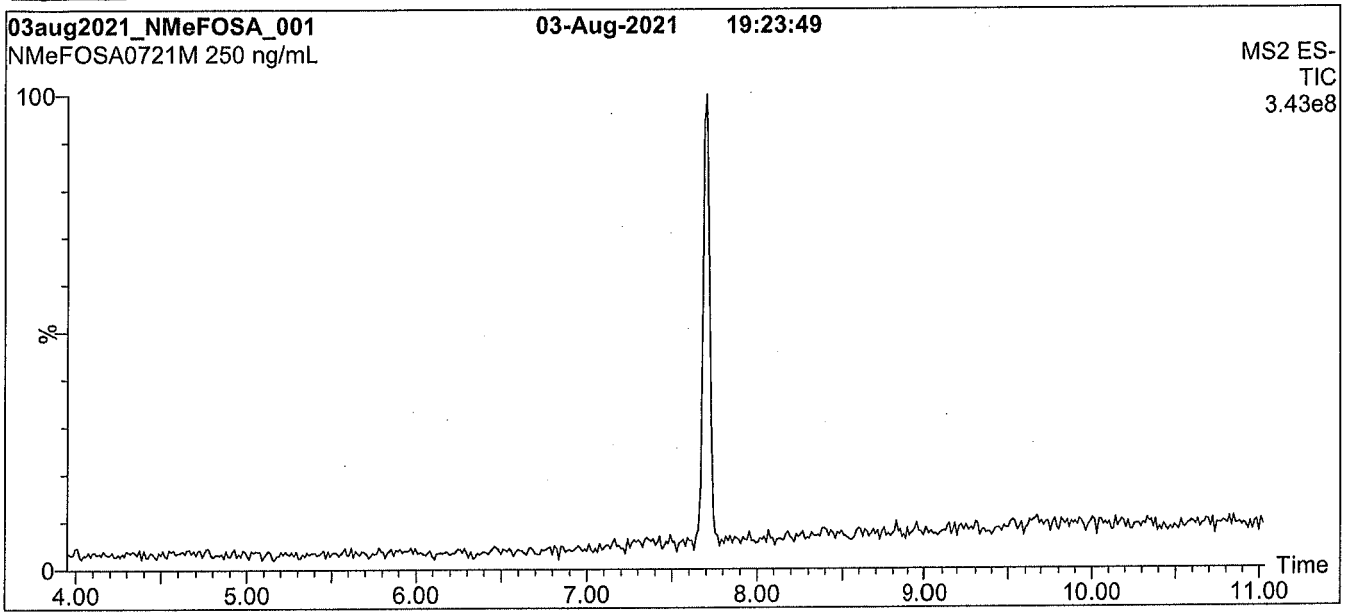
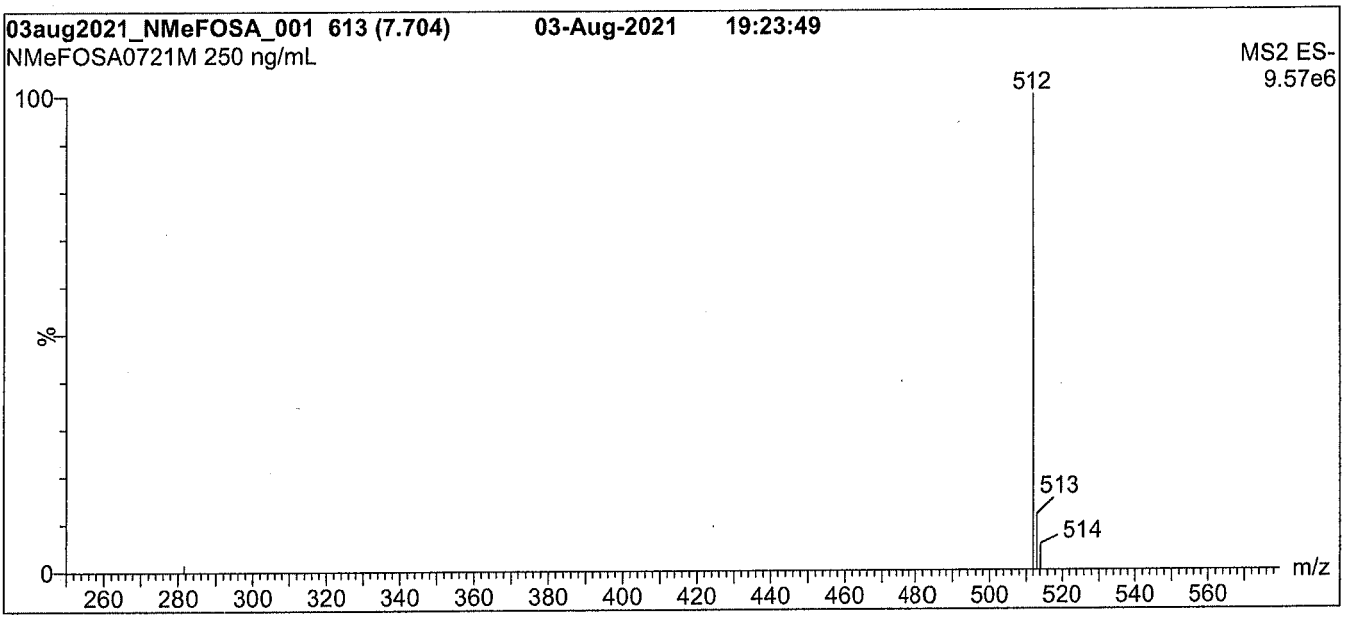
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

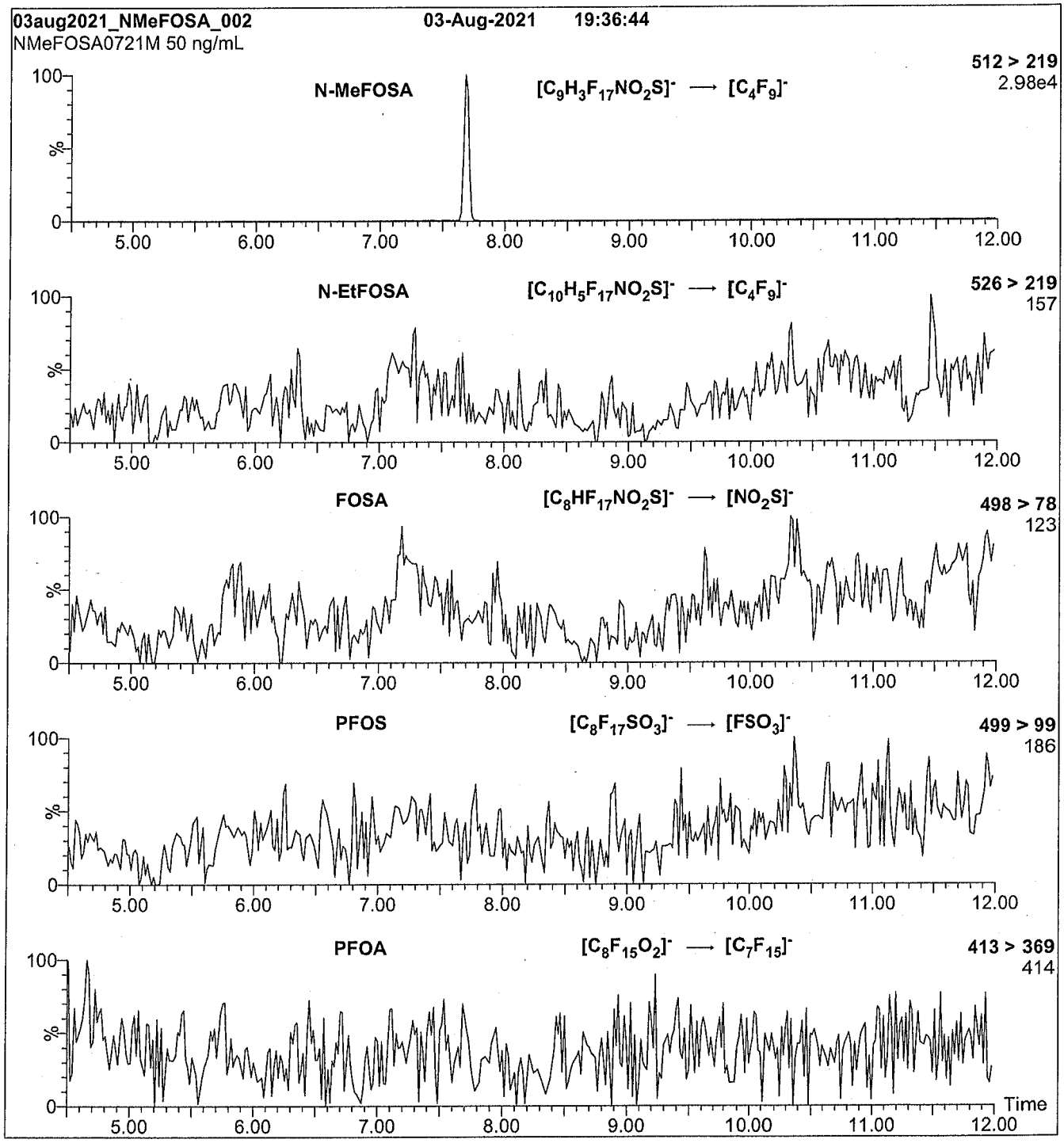
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (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 µL/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

Reviewed By

Date

WELLINGTON LABORATORIES

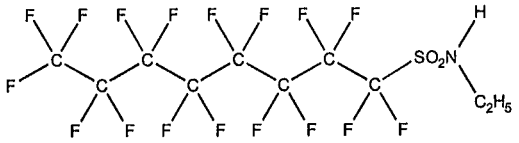
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide

LOT NUMBER: NEtFOSA0821M
22C0313

CAS #: 4151-50-2

STRUCTURE:



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_2S$	**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:

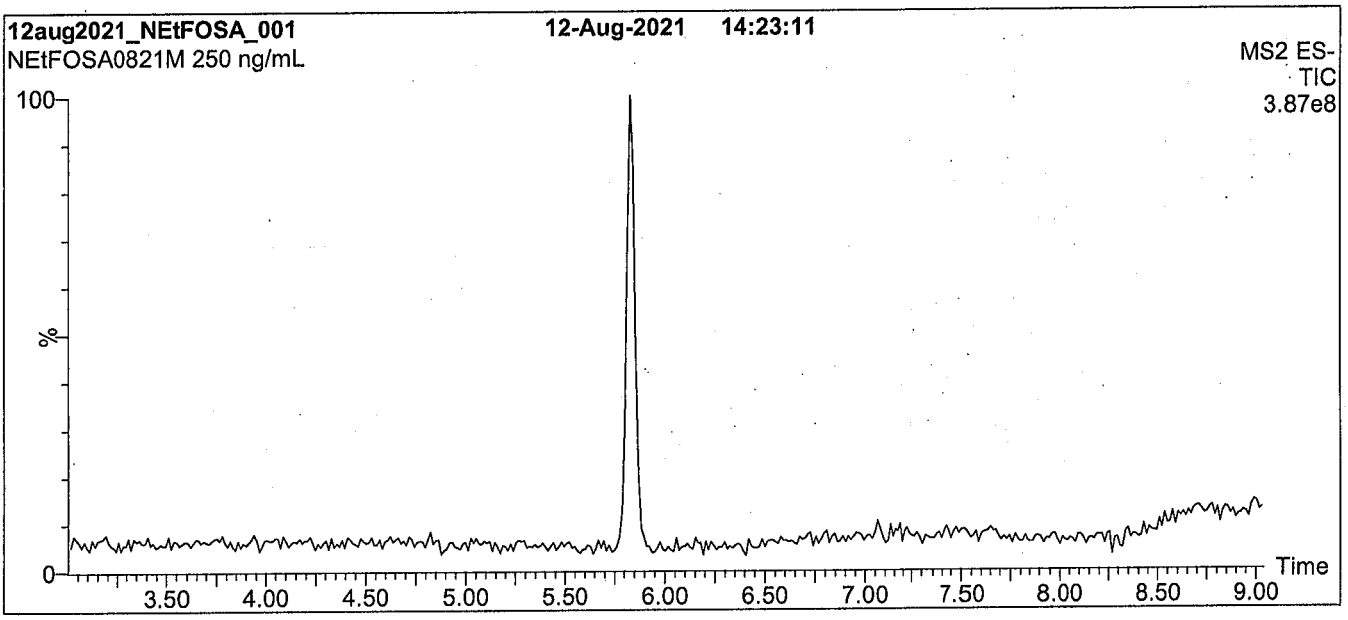
- See page 2 for further details.

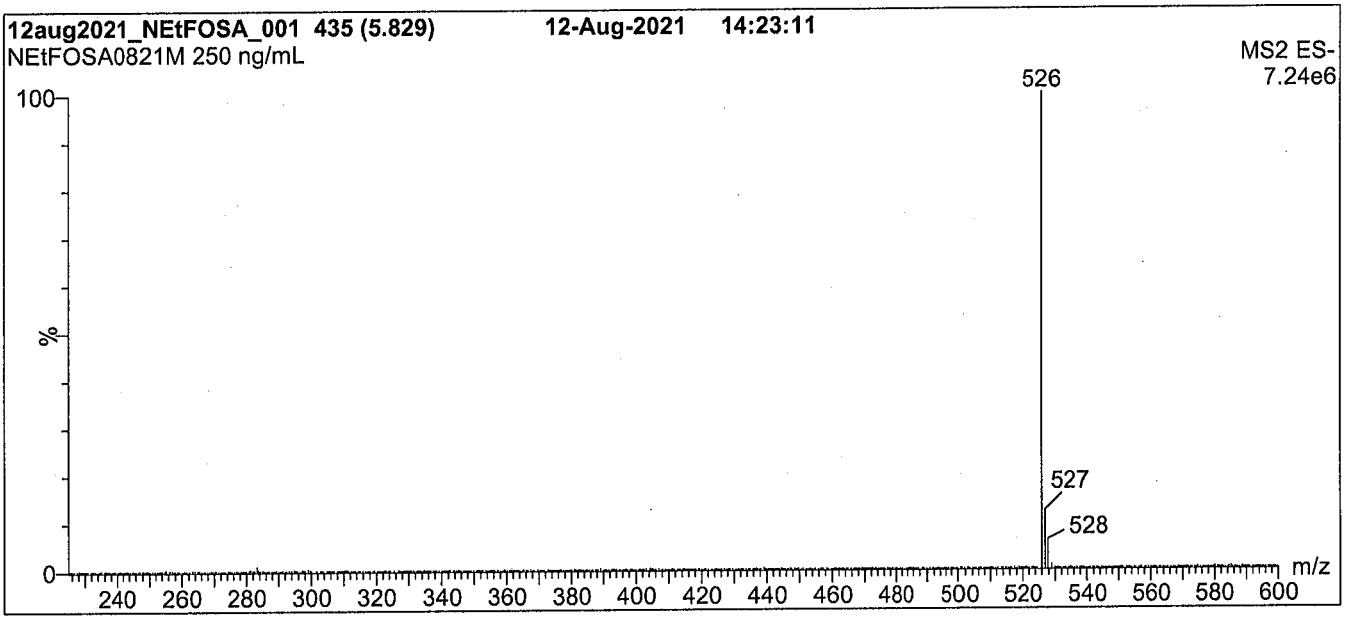
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/16/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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 RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% H_2O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°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:	PFAS
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF 22F0058

Native Replacement PFAS Solution/Mixture

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

DESCRIPTION:

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

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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

INTENDED USE:

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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.

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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

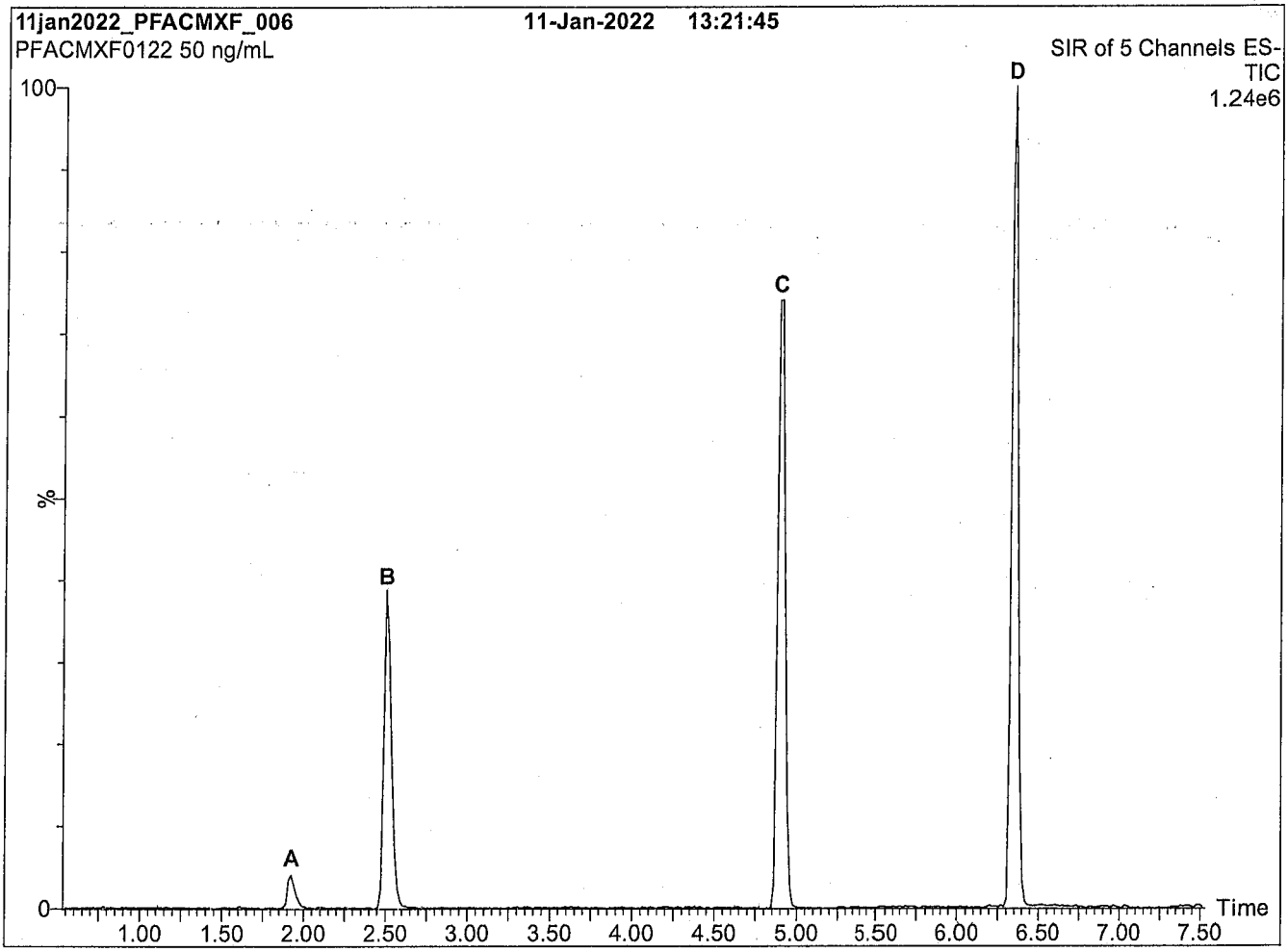
Table A: **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
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: _____ **Date:** 01/12/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **PFAC-MXF; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

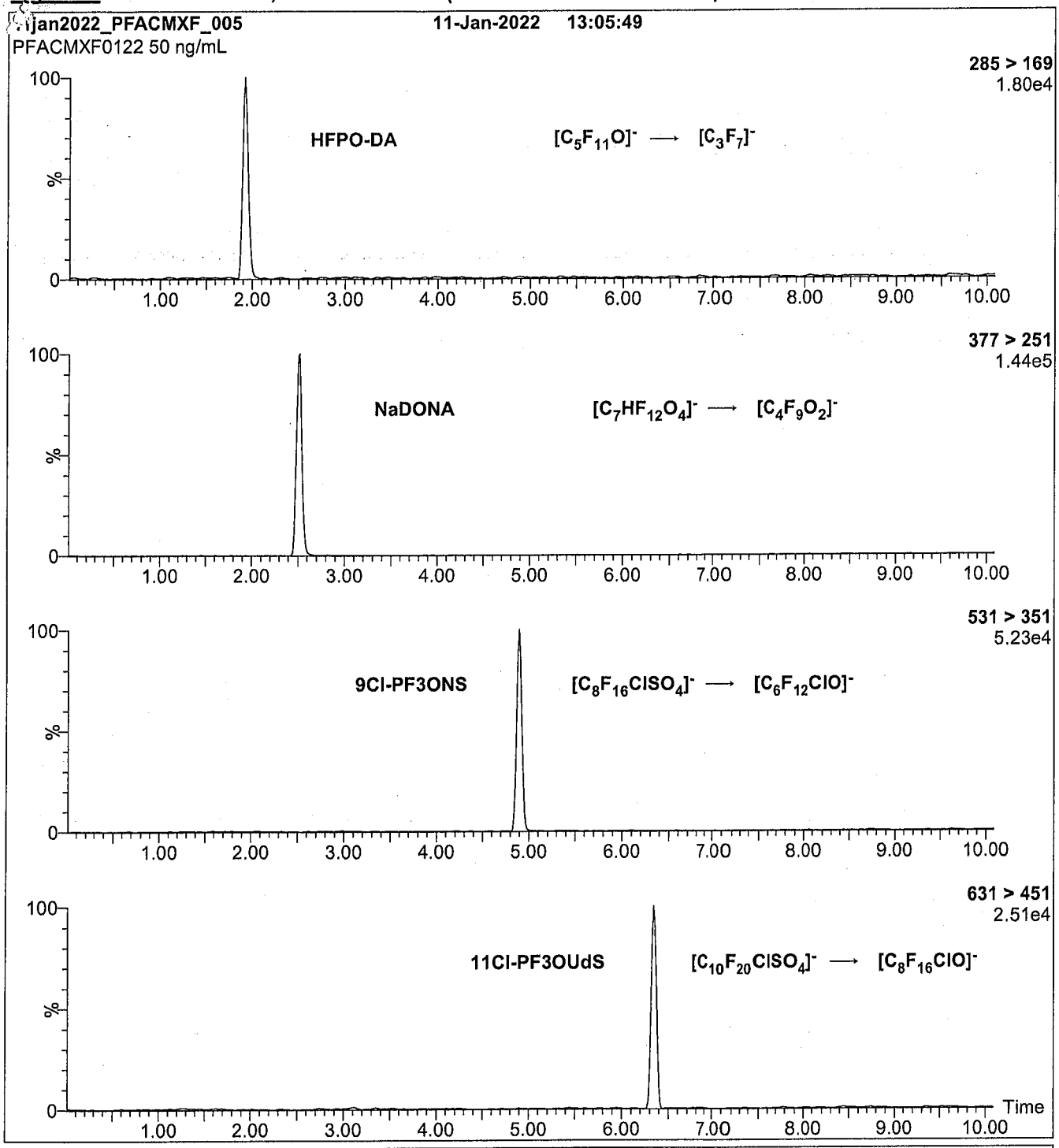
Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (15-74)
Desolvation Temperature (°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 µL/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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH 22F0059

Native Per- and Poly-fluoroalkyl Substance Solution/Mixture

PRODUCT CODE:	PFAC-MXH
LOT NUMBER:	PFACMXH0921
SOLVENT(S):	Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	09/09/2021
LAST TESTED: (mm/dd/yyyy)	09/14/2021
EXPIRY DATE: (mm/dd/yyyy)	09/14/2026
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of eleven native linear perfluoroalkylcarboxylic acids (C_4-C_{14}), eight native perfluoroalkanesulfonates (C_4, C_5, C_7, C_9, C_{10} and C_{12} linear; C_6 and C_8 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.

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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-MXH; Components and Concentrations (µg/mL, ± 5% in methanol / isopropanol (2%) / water (<1%))**

Compound	Acronym	Concentration* (µg/mL)	Peak Assignment in Figure 1
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: ∑ branched isomers	0.240	17
N-ethylperfluorooctanesulfonamidoacetic acid [b]	N-EtFOSAA: linear isomer	0.775	22
	N-EtFOSAA: ∑ branched isomers	0.225	21

Compound	Acronym	Concentration* (µg/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanesulfonate	L-PFBS	1.00	0.887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1.00	0.941	6
Potassium perfluorohexanesulfonate [c]	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: ∑ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctanesulfonate [d]	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: ∑ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1.00	0.965	24
Sodium perfluoro-1-dodecanesulfonate	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-perfluorodecanesulfonate	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: _____ **Date:** 09/23/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **br-NMeFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	0.2	
7	Other Unidentified Isomers		1.1	

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Table C: **br-NEtFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3	22.5
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	2.2	
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	5.4	
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(C_2H_5)CH_2CO_2H$	10.4	
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	0.3	
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3	
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3	
9	Other Unidentified Isomers		1.3	

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Table D: **PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FSO_3^-K^+$	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2SO_3^-K^+$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2CF_2SO_3^-K^+$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2CF_2CF_2SO_3^-K^+$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3\underset{\displaystyle CF_3}{\underset{\vert}{\overset{\displaystyle CF_3}{\overset{\vert}{C}}}}CF_2CF_2SO_3^-K^+$	0.2	
7	Other Unidentified Isomers		0.5	

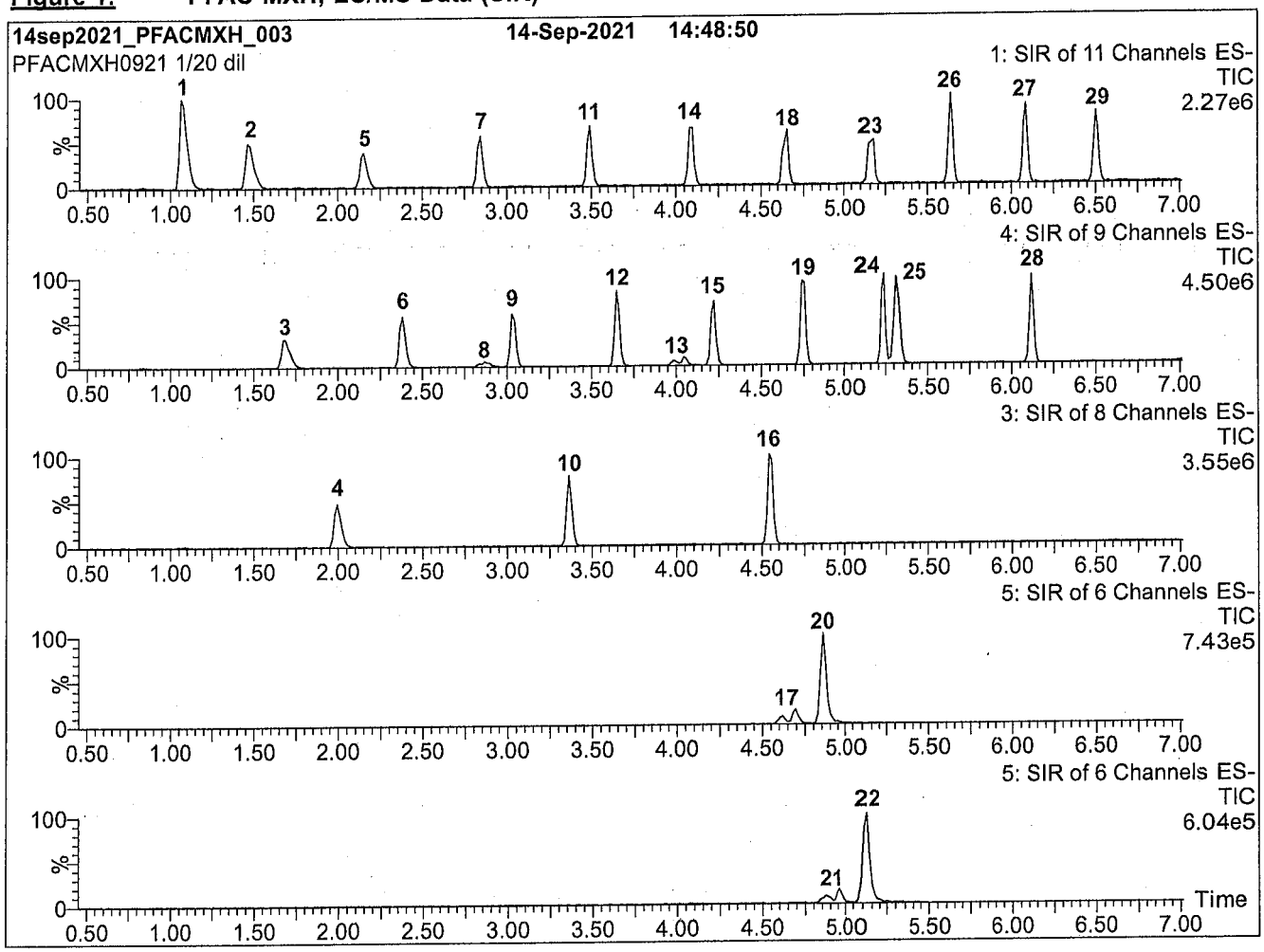
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Table E: **PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)_2CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	0.07	

* Percent of total perfluorooctanesulfonate isomers only.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Figure 1: **PFAC-MXH; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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 µL/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)**

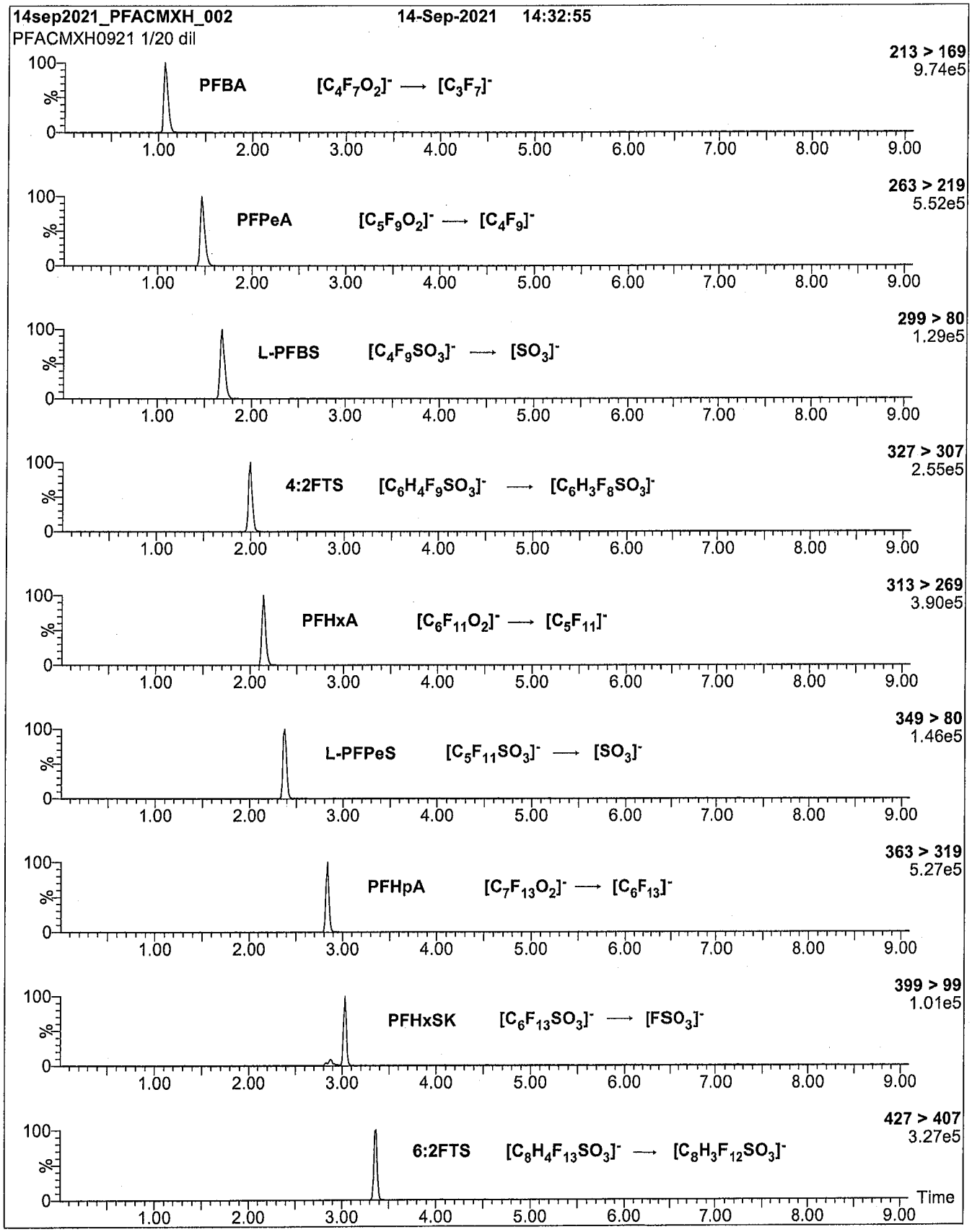
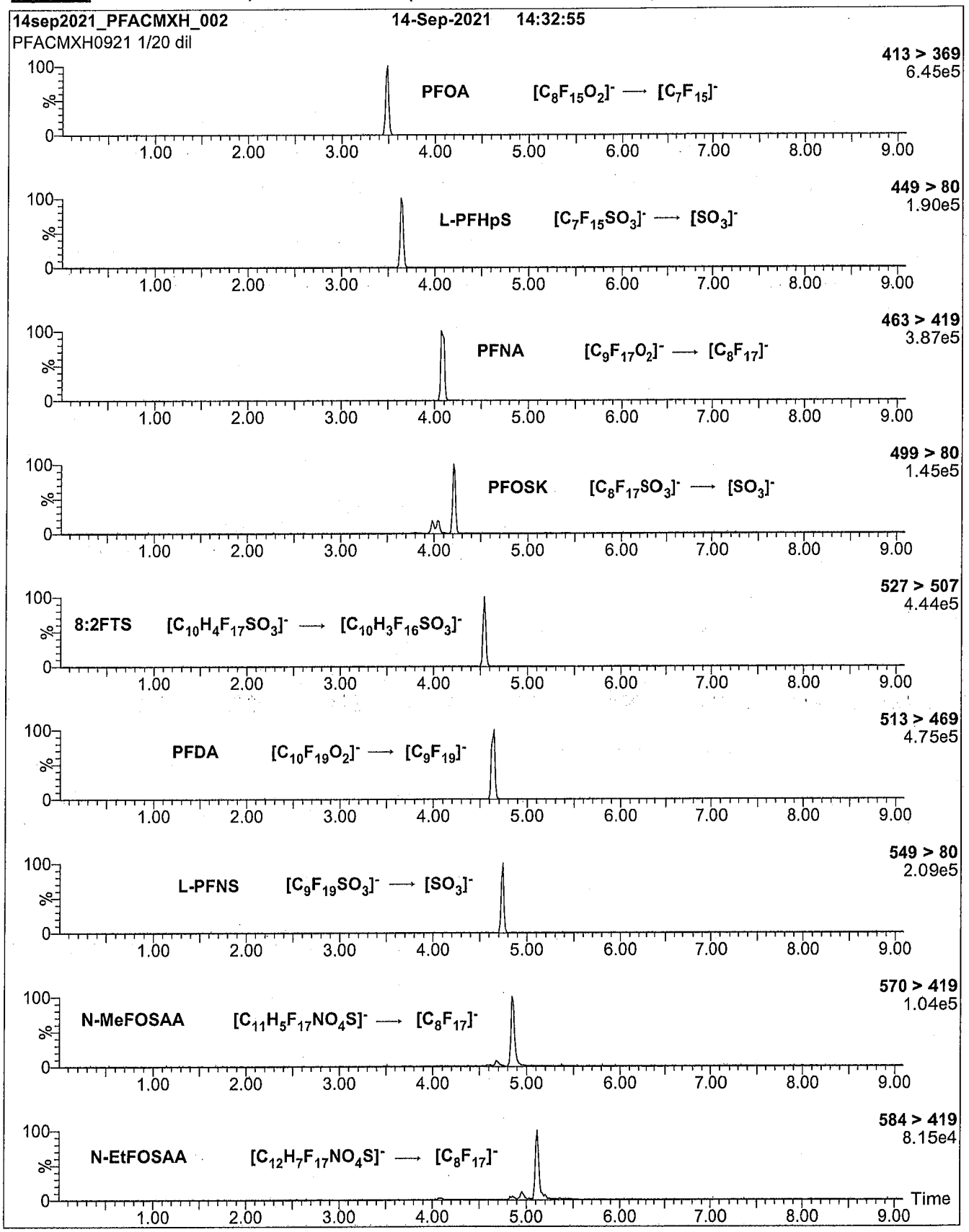


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**



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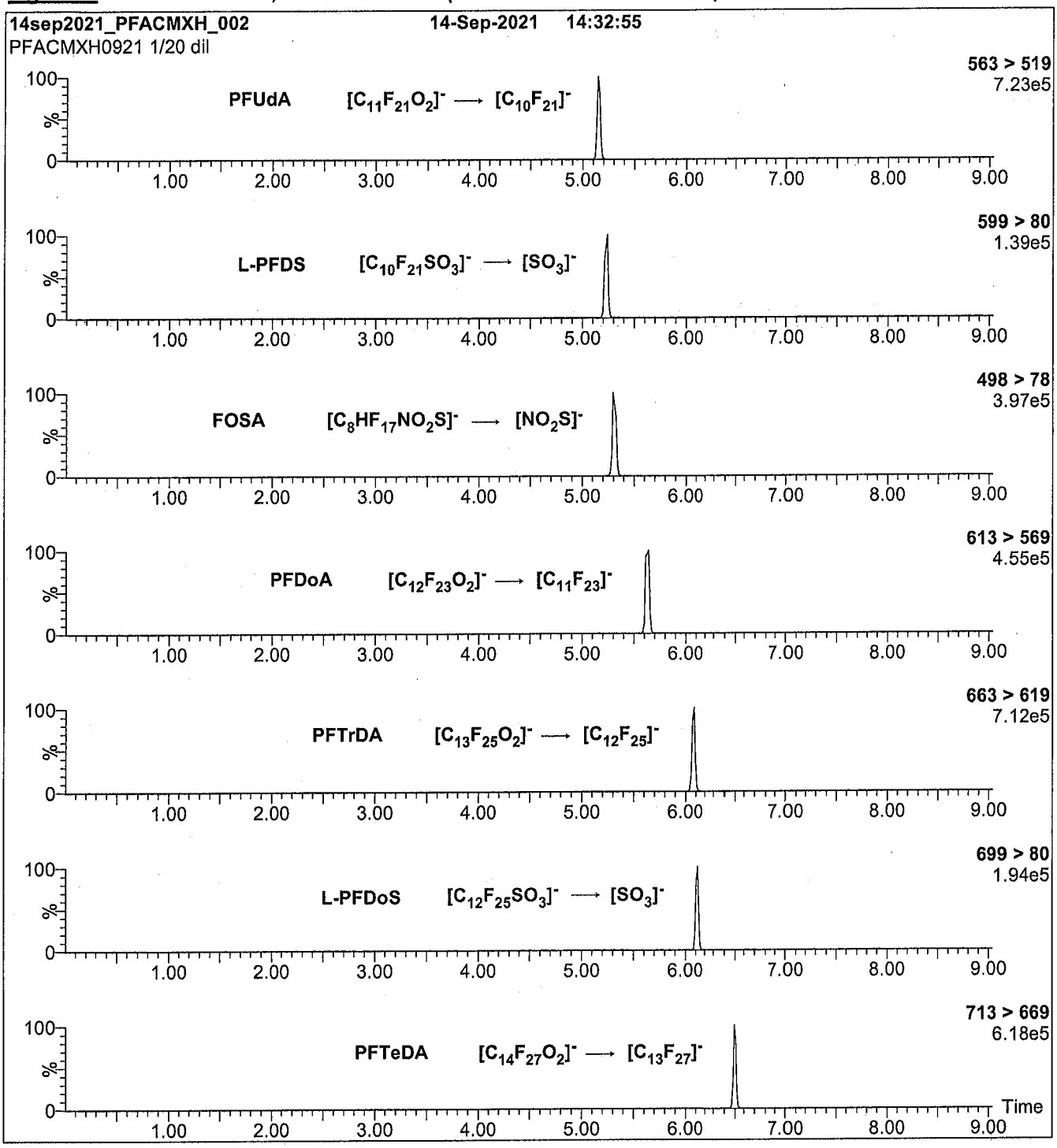

Conditions for Figure 2:

Injection: On-column (PFAC-MXH)

Mobile phase: Same as Figure 1

Flow: 300 µL/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

Reviewed By

Date

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

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical 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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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; ± 5% in methanol/water (<1%))**

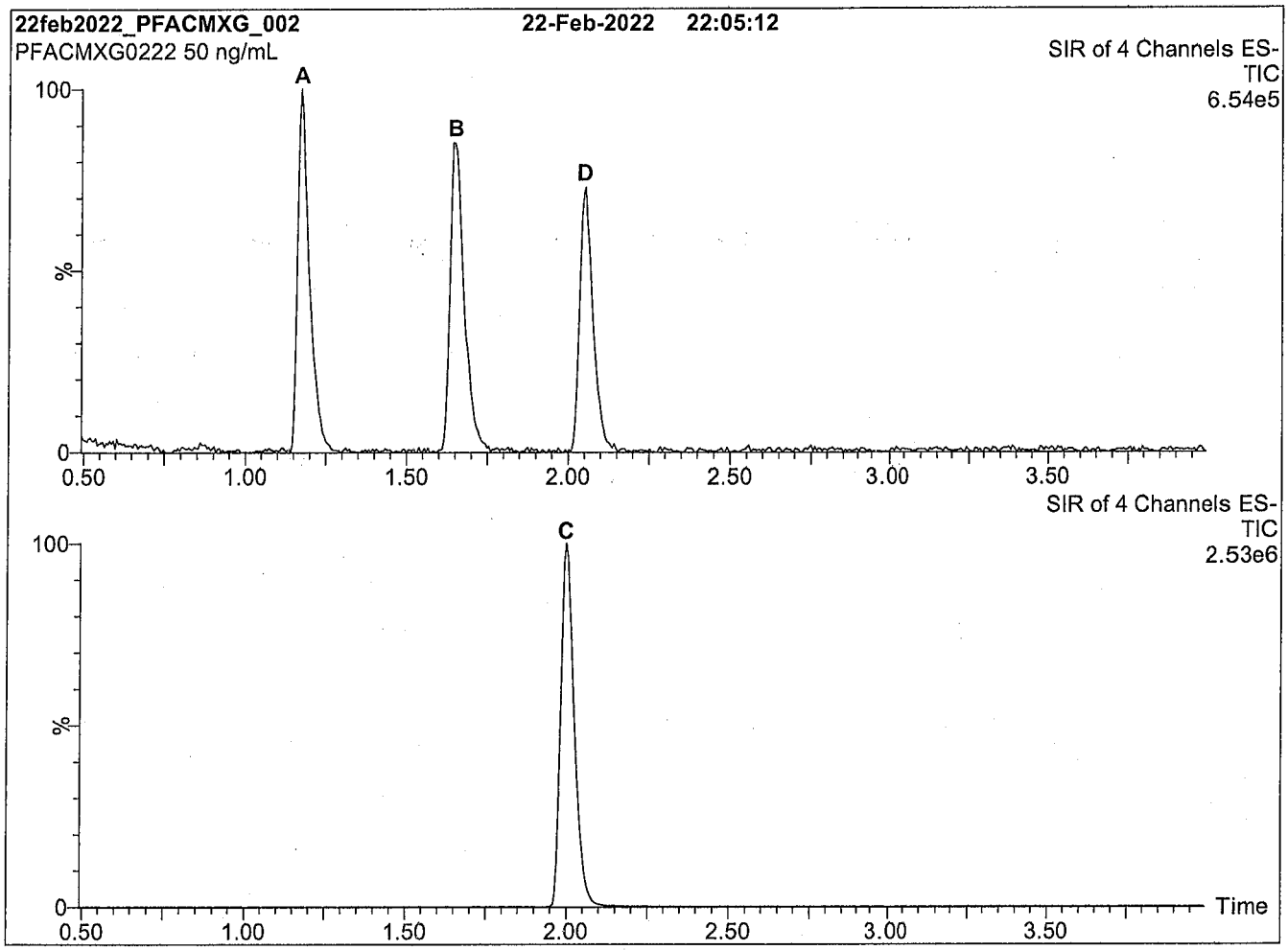
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 03/03/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **PFAC-MXG; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc 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

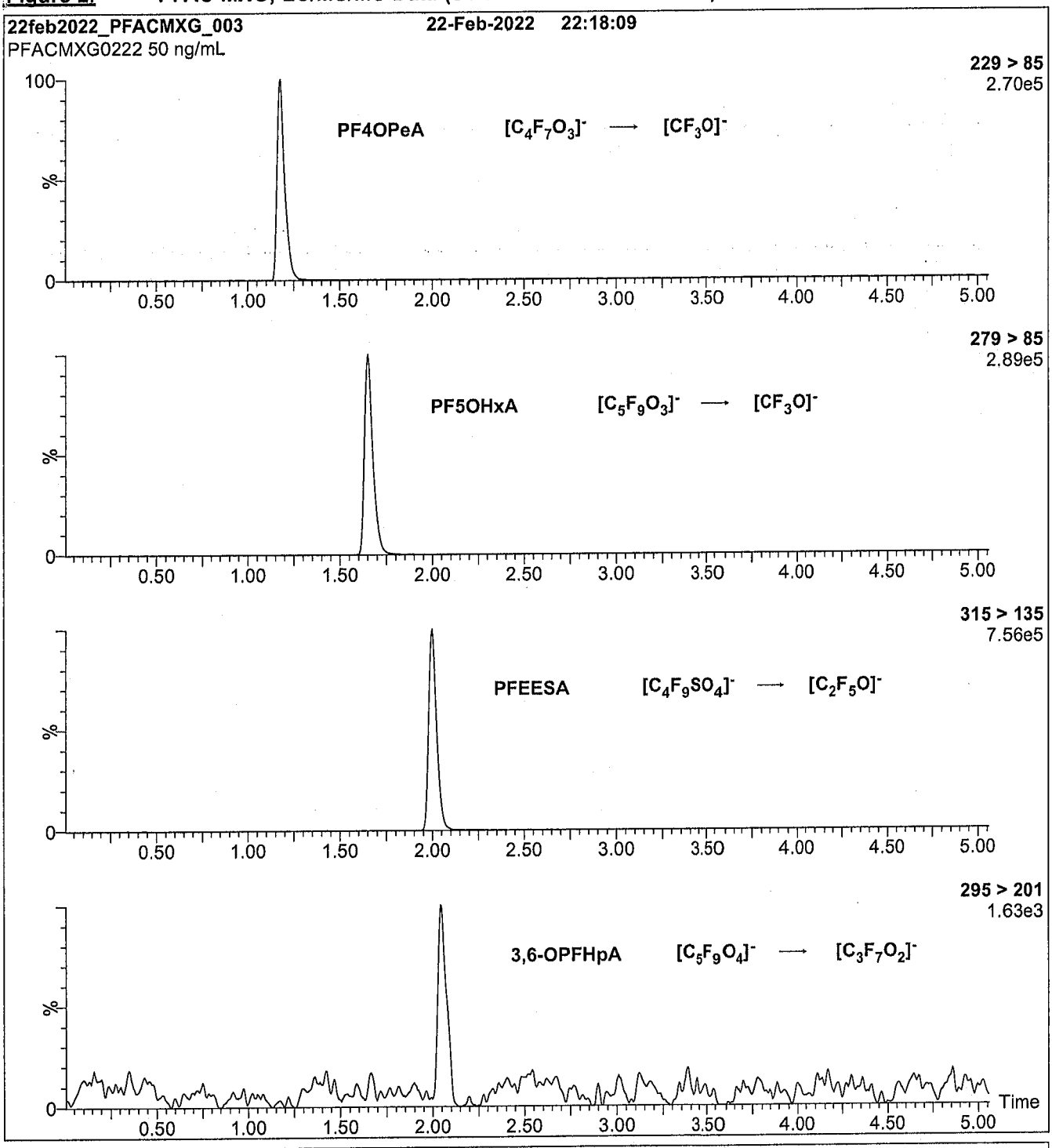
Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = variable (15-35)
Desolvation Temperature (°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 µL/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 NFHDA 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

Reviewed By

Date

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

Reviewed By

Date

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

Reviewed By

Date

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

Reviewed By

Date

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#: TPFOA0122)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 12:59 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA		335-67-1	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	T-PFOA	**LOT NUMBER:**	TPFOA0122
COMPOUND:	Ammonium perfluorooctanoate (Technical Grade)		
STRUCTURE:	(see Table A)	**CAS #:**	3825-26-1 (for linear ammonium perfluorooctanoate)

MOLECULAR FORMULA:	$C_8F_{15}O_2NH_4$
CONCENTRATION:	50.0 ± 2.5 µg/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: _____ **Date:** 01/27/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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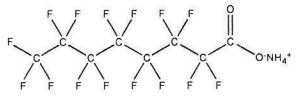
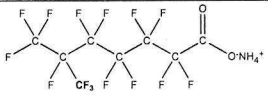
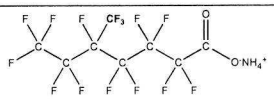
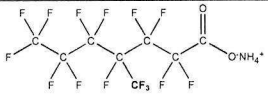
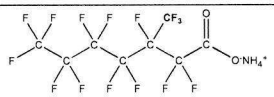
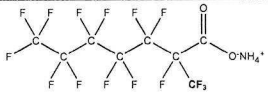
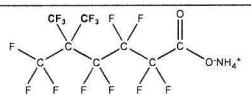
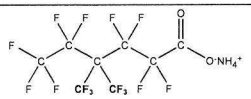
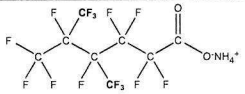
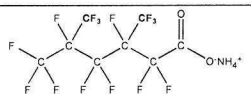
Table A: **T-PFOA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	Ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9.0
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4.0
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3.0
6	Ammonium 2-trifluoromethylperfluoroheptanoate		0.50
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ^{19}F-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#: br-FOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-FOSA

Perfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-FOSA
LOT NUMBER:	brFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Isopropanol
DATE PREPARED: (mm/dd/yyyy)	09/14/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	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 ^{19}F-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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Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Table A: **br-FOSA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	Perfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH_2$	66.6
2	Perfluoro-1-methyl-1-heptanesulfonamide**	$CF_3(CF_2)_5CF(CF_3)SO_2NH_2$	0.8
3	Perfluoro-2-methyl-1-heptanesulfonamide	$CF_3(CF_2)_4CF(CF_3)CF_2SO_2NH_2$	0.3
4	Perfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2NH_2$	4.2
5	Perfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2NH_2$	3.5
6	Perfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2NH_2$	7.8
7	Perfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_3)(CF_2)_5SO_2NH_2$	16.8
8	Perfluoro-5,5-dimethyl-1-hexanesulfonamide	$CF_3C(CF_3)_2(CF_2)_4SO_2NH_2$	0.2

* Percent of total perfluorooctanesulfonamide isomers only.
** Systematic Name: Perfluoro-2-octanesulfonamide.

Certified By: _____ **Date:** 11/15/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

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#: br-FOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Reviewed By

Date

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#: brNMeFOSA0822)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

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

Reviewed By

Date

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSA

N-Methylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NMeFOSA
LOT NUMBER:	brNMeFOSA0822
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/18/2022
LAST TESTED: (mm/dd/yyyy)	08/23/2022
EXPIRY DATE: (mm/dd/yyyy)	08/23/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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Table A: **br-NMeFOSA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	N-Methylperfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH$ $\vert$ CH_3	72.3
2	N-Methylperfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_2)_2SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	2.1
3	N-Methylperfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_2)_3SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	2.6
4	N-Methylperfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	6.7
5	N-Methylperfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_2)_5SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	16.2
6	N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamide	CF_3 $\vert$ $CF_3C(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	0.04

* Percent of total N-methylperfluorooctanesulfonamide isomers only.

Certified By: _____ **Date:** 11/15/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

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#: brNMeFOSA0822)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

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

Reviewed By

Date

Analytical Standard Record

22J0302

Description:	br-NEtFOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNEtFOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:38 by HGH

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

Reviewed By

Date

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NEtFOSA
LOT NUMBER:	brNEtFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/23/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	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 ^{19}F-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 ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	N-Ethylperfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH$ $\vert$ CH_2CH_3	73.8
2	N-Ethylperfluoro-1-methyl-1-heptanesulfonamide**	$CF_3(CF_2)_5CFSO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	0.1
3	N-Ethylperfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_2)_2SO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	2.3
4	N-Ethylperfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_2)_3SO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	2.6
5	N-Ethylperfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	6.2
6	N-Ethylperfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_2)_5SO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	14.8
7	N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamide	CF_3 $\vert$ $CF_3C(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_2CH_3	0.2

* Percent of total N-ethylperfluorooctanesulfonamide isomers only.
** Systematic Name: N-Ethylperfluoro-2-octanesulfonamide.

Certified By: _____ **Date:** 11/15/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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#: brNMeFOSE0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:41 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSE		1691-99-2	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NMeFOSE
LOT NUMBER:	brNMeFOSE0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/02/2022
LAST TESTED: (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	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 ^{19}F-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 ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	2-(N-Methylperfluoro-1-octanesulfonamido)ethanol	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CH_2OH$	67.6
2	2-(N-Methylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CH_2OH$	3.9
3	2-(N-Methylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CH_2OH$	3.2
4	2-(N-Methylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CH_2OH$	7.7
5	2-(N-Methylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CH_2OH$	17.5
6	2-(N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CH_2OH$	0.2

* Percent of total 2-(N-methylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____ **Date:** 11/14/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

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#: brNEtFOSE1022)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:43 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSE		1691-99-2	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NEtFOSE
LOT NUMBER:	brNEtFOSE1022
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/12/2022
LAST TESTED: (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	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 ^{19}F-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 ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	2-(N-Ethylperfluoro-1-octanesulfonamido)ethanol	$CF_3(CF_2)_7SO_2N(CH_2CH_3)CH_2CH_2OH$	64.6
2	2-(N-Ethylperfluoro-2-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_4CF(CF_3)CF_2SO_2N(CH_2CH_3)CH_2CH_2OH$	0.2
3	2-(N-Ethylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_2CH_3)CH_2CH_2OH$	4.1
4	2-(N-Ethylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_2CH_3)CH_2CH_2OH$	4.3
5	2-(N-Ethylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_2CH_3)CH_2CH_2OH$	8.8
6	2-(N-Ethylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_2CH_3)CH_2CH_2OH$	17.8
7	2-(N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_2CH_3)CH_2CH_2OH$	0.3

* Percent of total 2-(N-ethylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____ **Date:** 11/14/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

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

Reviewed By

Date

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

Reviewed By

Date

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#: PFASMXF0122)
Final Volume (mls):	1.2	Department:	PFAS
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

Reviewed By

Date

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#: PFASMXG0222)
Final Volume (mls):	1.2	Department:	PFAS
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

Reviewed By

Date

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#: PFASMXH0822)
Final Volume (mls):	1.2	Department:	PFAS
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

Reviewed By

Date

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

Reviewed By

Date

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

Reviewed By

Date

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

Reviewed By

Date

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

Reviewed By

Date

Analytical Standard Record

23A0371

Description:	PFAS - MIX 1633 200ng/mL	Expires:	07/18/2023
Standard Type:	Analyte Spike	Prepared:	01/19/2023
Solvent:	MeOH 62244	Prepared By:	Dipti Gokal
Final Volume (mls):	5	Department:	PFAS
Vials:	1	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

Reviewed By

Date

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:	PFAS
Vials:	1	Last Edit:	01/23/2023 15:26 by ABK
Lot Number:	MPFACHIFES1022		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSE		D9-NETFOSE	5	ug/mL

WELLINGTON LABORATORIES

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 ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) perfluorooctane-sulfonamidoethanols, 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 ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **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
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: _____ **Date:** 11/24/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

Analytical Standard Record

23B0168

Description:	MPFAC-HIF-ES-EIS	Expires:	08/06/2023
Standard Type:	Other	Prepared:	02/07/2023
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	02/07/2023 16:12 by ABK
Lot Number:	MPFACHIFES1022		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSE		D9-NETFOSE	5	ug/mL

WELLINGTON LABORATORIES

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 ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) 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 ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **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
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: _____ **Date:** 11/24/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager