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:

February 15, 2023

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

RE: Red Hill AFFF Assessment Sampling
23B0060

Enclosed are the results of analyses for samples received by our laboratory on 2/8/2023. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Greg Salata For Gregory Salata
Project Manager

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

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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: 02/15/2023 14:33

Data Validatable Report

Analysis Case Narrative

EPA 1633: Manual integrations were performed for this method in accordance with APPL's SOP. Chromatograms after manual integration are enclosed for specific samples and analytes. Abbreviated flags for technical justification are listed on the chromatogram.

Some extracted internal standards recovered outside of control limits in some samples; these samples were diluted and recovered in control, unless stated otherwise.

The analyte 6:2FTS and 8:2FTS recovered above the upper control limit in the BCB0167-MRL1.

The analyte PFOA recovered above the upper control limit in the SC00598-LCV1. The analyte NEtFOSAA recovered below the lower control limit.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23B0060-01	AF-RHMW10-WGN01LF-2302W1	Water	02/07/2023 12:05	02/08/2023
23B0060-02	AF-RHMW10-WGFD01LF-2302W1	Water	02/07/2023 12:05	02/08/2023
23B0060-03	AF-HDMW225303-WGN01LF-2302W1	Water	02/07/2023 10:00	02/08/2023

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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: 02/15/2023 14:33

Containers Received

Lab ID	Container Type	Count	Preservation Check
23B0060-01			
	500mL P	2	
23B0060-02			
	500mL P	2	
23B0060-03			
	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: 02/15/2023 14:33

Sample Results

Sample: AF-RHMW10-WGN01LF-2302W1
23B0060-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72 U		1.4	0.72	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
PFPEA	0.36 U		0.72	0.36	0.059	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXA	0.18 U	IR2,	0.36	0.18	0.050	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPA	0.18 U		0.36	0.18	0.037	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOA	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNA	0.18 U		0.36	0.18	0.074	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDA	0.18 U		0.36	0.18	0.091	ng/L	02/10/23	1	EPA 1633	BCB0167
PFUnA	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTRDA	0.27 U		0.36	0.27	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTEDA	0.18 U		0.36	0.18	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFBS	0.18 U	IR1,	0.36	0.18	0.033	ng/L	02/10/23	1	EPA 1633	BCB0167
PFPES	0.18 U	IR1,	0.36	0.18	0.057	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXS	0.042 J		0.36	0.18	0.029	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPS	0.18 U		0.36	0.18	0.046	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOS	0.095 J		0.36	0.18	0.057	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNS	0.18 U		0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDS	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOS	0.18 U	IR1,	0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
4:2FTS	0.72 U		1.4	0.72	0.26	ng/L	02/10/23	1	EPA 1633	BCB0167
6:2FTS	0.72 U		1.4	0.72	0.28	ng/L	02/10/23	1	EPA 1633	BCB0167
8:2FTS	0.72 U		1.4	0.72	0.074	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOSA	0.18 U		0.36	0.18	0.094	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSA	0.72 U		1.4	0.72	0.43	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSA	0.72 U		1.4	0.72	0.37	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSAA	0.18 U		0.36	0.18	0.095	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSAA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSE	1.1 U		1.4	1.1	0.91	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSE	1.1 U		1.4	1.1	0.94	ng/L	02/10/23	1	EPA 1633	BCB0167
HFPO-DA	0.36 U		0.72	0.36	0.16	ng/L	02/10/23	1	EPA 1633	BCB0167
ADONA	0.36 U	IR1,	0.72	0.36	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFEESA	0.36 U		0.72	0.36	0.098	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMPA	0.36 U		0.72	0.36	0.049	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMBA	0.36 U		0.72	0.36	0.082	ng/L	02/10/23	1	EPA 1633	BCB0167
NFDHA	0.36 U		0.72	0.36	0.27	ng/L	02/10/23	1	EPA 1633	BCB0167
9CL-PF3ONS	0.36 U		0.72	0.36	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
11CL-PF3OUDS	0.36 U		0.72	0.36	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
3:3FTCA	0.72 U	IR1,	1.4	0.72	0.52	ng/L	02/10/23	1	EPA 1633	BCB0167
5:3FTCA	0.72 U		1.4	0.72	0.40	ng/L	02/10/23	1	EPA 1633	BCB0167
7:3FTCA	0.72 U		1.4	0.72	0.50	ng/L	02/10/23	1	EPA 1633	BCB0167
Surrogate: 13C4-PFBA	*86.2%*		*10-130*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFPEA	*90.6%*		*35-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFHXA	*93.7%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C4-PFHPA	*92.5%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOA	*95.6%*		*60-140*				*02/10/23*	1	*EPA 1633*	*BCB0167*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/15/2023 14:33

Sample Results
(Continued)

Sample: AF-RHMW10-WGN01LF-2302W1 (Continued)
23B0060-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*82.5%*			*55-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C6-PFDA	*98.9%*			*50-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C7-PFUnA	*86.6%*			*30-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFDOA	*79.6%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFTEDA	*78.2%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFBS	*86.2%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFHXS	*82.3%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOS	*87.0%*			*45-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-4:2FTS	*145%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-6:2FTS	*79.8%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-8:2FTS	*90.1%*			*50-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOSA	*88.8%*			*30-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSA	*40.3%*			*15-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSA	*40.7%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSAA	*94.2%*			*45-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSAA	*103%*			*10-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D7-NMEFOSE	*40.4%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D9-NETFOSE	*53.7%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-HFPO-DA	*92.1%*			*25-160*			*02/10/23*	1	*EPA 1633*	*BCB0167*

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Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/15/2023 14:33

Sample Results

(Continued)

Sample: AF-RHMW10-WGFD01LF-2302W1
23B0060-02 (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	02/10/23	1	EPA 1633	BCB0167
PFPEA	0.36 U		0.71	0.36	0.058	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXA	0.18 U		0.36	0.18	0.049	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPA	0.18 U		0.36	0.18	0.037	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOA	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNA	0.18 U		0.36	0.18	0.073	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDA	0.18 U		0.36	0.18	0.090	ng/L	02/10/23	1	EPA 1633	BCB0167
PFUnA	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTRDA	0.27 U		0.36	0.27	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTEDA	0.18 U		0.36	0.18	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFBS	0.18 U		0.36	0.18	0.033	ng/L	02/10/23	1	EPA 1633	BCB0167
PFPES	0.18 U		0.36	0.18	0.056	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXS	0.18 U		0.36	0.18	0.028	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPS	0.18 U		0.36	0.18	0.046	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOS	0.18 U		0.36	0.18	0.057	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNS	0.18 U		0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDS	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOS	0.18 U		0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
4:2FTS	0.71 U		1.4	0.71	0.26	ng/L	02/10/23	1	EPA 1633	BCB0167
6:2FTS	0.71 U		1.4	0.71	0.28	ng/L	02/10/23	1	EPA 1633	BCB0167
8:2FTS	0.71 U		1.4	0.71	0.073	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOSA	0.18 U		0.36	0.18	0.093	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSA	0.71 U		1.4	0.71	0.42	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSA	0.71 U		1.4	0.71	0.37	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSAA	0.18 U		0.36	0.18	0.094	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSAA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSE	1.1 U		1.4	1.1	0.90	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSE	1.1 U		1.4	1.1	0.93	ng/L	02/10/23	1	EPA 1633	BCB0167
HFPO-DA	0.36 U	IR1,	0.71	0.36	0.16	ng/L	02/10/23	1	EPA 1633	BCB0167
ADONA	0.36 U		0.71	0.36	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFEESA	0.36 U		0.71	0.36	0.097	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMPA	0.36 U		0.71	0.36	0.048	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMBA	0.36 U		0.71	0.36	0.081	ng/L	02/10/23	1	EPA 1633	BCB0167
NFDHA	0.36 U		0.71	0.36	0.27	ng/L	02/10/23	1	EPA 1633	BCB0167
9CL-PF3ONS	0.36 U		0.71	0.36	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
11CL-PF3OUDS	0.36 U		0.71	0.36	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
3:3FTCA	0.71 U		1.4	0.71	0.51	ng/L	02/10/23	1	EPA 1633	BCB0167
5:3FTCA	0.71 U		1.4	0.71	0.40	ng/L	02/10/23	1	EPA 1633	BCB0167
7:3FTCA	0.71 U		1.4	0.71	0.49	ng/L	02/10/23	1	EPA 1633	BCB0167
Surrogate: 13C4-PFBA	*92.0%*		*10-130*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFPEA	*101%*		*35-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFHXA	*101%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C4-PFHPA	*102%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOA	*88.6%*		*60-140*				*02/10/23*	1	*EPA 1633*	*BCB0167*

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Sample Results
(Continued)

Sample: AF-RHMW10-WGFD01LF-2302W1 (Continued)
23B0060-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*98.3%*			*55-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C6-PFDA	*93.5%*			*50-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C7-PFUnA	*96.1%*			*30-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFDOA	*89.8%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFTEDA	*87.3%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFBS	*91.7%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFHXS	*85.0%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOS	*84.2%*			*45-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-4:2FTS	*163%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-6:2FTS	*96.6%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-8:2FTS	*101%*			*50-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOSA	*82.7%*			*30-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSA	*38.4%*			*15-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSA	*38.3%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSAA	*77.7%*			*45-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSAA	*83.1%*			*10-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D7-NMEFOSE	*38.4%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D9-NETFOSE	*61.8%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-HFPO-DA	*92.6%*			*25-160*			*02/10/23*	1	*EPA 1633*	*BCB0167*

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Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/15/2023 14:33

Sample Results

(Continued)

Sample: AF-HDMW225303-WGN01LF-2302W1
23B0060-03 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72 U		1.4	0.72	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
PFPEA	0.36 U		0.72	0.36	0.059	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXA	0.18 U	IR2,	0.36	0.18	0.049	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPA	0.18 U		0.36	0.18	0.037	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOA	0.18 U	IR1,	0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNA	0.18 U		0.36	0.18	0.074	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDA	0.18 U		0.36	0.18	0.091	ng/L	02/10/23	1	EPA 1633	BCB0167
PFUnA	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTRDA	0.27 U		0.36	0.27	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFTEDA	0.18 U		0.36	0.18	0.18	ng/L	02/10/23	1	EPA 1633	BCB0167
PFBS	0.18 U	IR2,	0.36	0.18	0.033	ng/L	02/10/23	1	EPA 1633	BCB0167
PFPES	0.18 U		0.36	0.18	0.056	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHXS	0.18 U	IR2,	0.36	0.18	0.029	ng/L	02/10/23	1	EPA 1633	BCB0167
PFHPS	0.18 U		0.36	0.18	0.046	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOS	0.078 J		0.36	0.18	0.057	ng/L	02/10/23	1	EPA 1633	BCB0167
PFNS	0.18 U		0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDS	0.18 U		0.36	0.18	0.14	ng/L	02/10/23	1	EPA 1633	BCB0167
PFDOS	0.18 U		0.36	0.18	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
4:2FTS	0.72 U		1.4	0.72	0.26	ng/L	02/10/23	1	EPA 1633	BCB0167
6:2FTS	0.72 U		1.4	0.72	0.28	ng/L	02/10/23	1	EPA 1633	BCB0167
8:2FTS	0.72 U		1.4	0.72	0.074	ng/L	02/10/23	1	EPA 1633	BCB0167
PFOSA	0.18 U		0.36	0.18	0.094	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSA	0.72 U		1.4	0.72	0.43	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSA	0.72 U		1.4	0.72	0.37	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSAA	0.18 U		0.36	0.18	0.095	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSAA	0.18 U		0.36	0.18	0.10	ng/L	02/10/23	1	EPA 1633	BCB0167
NMeFOSE	1.1 U		1.4	1.1	0.91	ng/L	02/10/23	1	EPA 1633	BCB0167
NEtFOSE	1.1 U		1.4	1.1	0.94	ng/L	02/10/23	1	EPA 1633	BCB0167
HFPO-DA	0.36 U		0.72	0.36	0.16	ng/L	02/10/23	1	EPA 1633	BCB0167
ADONA	0.36 U		0.72	0.36	0.11	ng/L	02/10/23	1	EPA 1633	BCB0167
PFEESA	0.36 U		0.72	0.36	0.098	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMPA	0.36 U		0.72	0.36	0.049	ng/L	02/10/23	1	EPA 1633	BCB0167
PFMBA	0.36 U		0.72	0.36	0.082	ng/L	02/10/23	1	EPA 1633	BCB0167
NFDHA	0.36 U		0.72	0.36	0.27	ng/L	02/10/23	1	EPA 1633	BCB0167
9CL-PF3ONS	0.36 U		0.72	0.36	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
11CL-PF3OUDS	0.36 U		0.72	0.36	0.19	ng/L	02/10/23	1	EPA 1633	BCB0167
3:3FTCA	0.72 U		1.4	0.72	0.52	ng/L	02/10/23	1	EPA 1633	BCB0167
5:3FTCA	0.72 U		1.4	0.72	0.40	ng/L	02/10/23	1	EPA 1633	BCB0167
7:3FTCA	0.72 U		1.4	0.72	0.50	ng/L	02/10/23	1	EPA 1633	BCB0167
Surrogate: 13C4-PFBA	*94.9%*		*10-130*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFPEA	*100%*		*35-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C5-PFHXA	*95.0%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C4-PFHPA	*88.4%*		*55-150*				*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOA	*83.9%*		*60-140*				*02/10/23*	1	*EPA 1633*	*BCB0167*

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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: 02/15/2023 14:33

Sample Results

(Continued)

Sample: AF-HDMW225303-WGN01LF-2302W1 (Continued)

23B0060-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*89.9%*			*55-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C6-PFDA	*108%*			*50-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C7-PFUnA	*109%*			*30-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFDOA	*98.7%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-PFTEDA	*77.1%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFBS	*94.8%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-PFHXS	*84.3%*			*55-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOS	*89.9%*			*45-140*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-4:2FTS	*162%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-6:2FTS	*81.1%*			*60-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C2-8:2FTS	*103%*			*50-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C8-PFOSA	*80.3%*			*30-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSA	*39.5%*			*15-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSA	*39.0%*			*10-130*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D3-NMEFOSAA	*89.2%*			*45-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D5-NETFOSAA	*85.2%*			*10-200*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D7-NMEFOSE	*53.0%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: D9-NETFOSE	*69.7%*			*10-150*			*02/10/23*	1	*EPA 1633*	*BCB0167*
Surrogate: 13C3-HFPO-DA	*88.6%*			*25-160*			*02/10/23*	1	*EPA 1633*	*BCB0167*

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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: 02/15/2023 14:33

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: BCB0167 - EPA 1633										
Blank (BCB0167-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	0.20 U	0.40	0.20	0.16						
PFDOA	0.20 U	0.40	0.20	0.11						
PFTRDA	0.30 U	0.40	0.30	0.20						
PFTEDA	0.20 U	0.40	0.20	0.20						
PFBS	0.20 U	0.40	0.20	0.037						
PFPES	0.20 U	0.40	0.20	0.063						
PFHXS	0.20 U	0.40	0.20	0.032						
PFHPS	0.20 U	0.40	0.20	0.051						
PFOS	0.0817 J IR1,	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	*29.5*				*32.0*		*92.3*	*10-130*		
13C5-PFPEA	*17.1*				*16.0*		*107*	*35-150*		
13C5-PFHXA	*7.62*				*8.00*		*95.2*	*55-150*		

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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: 02/15/2023 14:33

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 (BCB0167-BLK1)						Prepared: 02/08/23 15:02 Analyzed: 02/10/23 05:07				
	ng/L									
Surrogates										
13C4-PFHPA	*7.98*				*8.00*		*99.8*	*55-150*		
13C8-PFOA	*7.48*				*8.00*		*93.5*	*60-140*		
13C9-PFNA	*3.62*				*4.00*		*90.5*	*55-140*		
13C6-PFDA	*4.07*				*4.00*		*102*	*50-140*		
13C7-PFUnA	*3.36*				*4.00*		*83.9*	*30-140*		
13C2-PFDOA	*3.45*				*4.00*		*86.3*	*10-150*		
13C2-PFTEDA	*2.96*				*4.00*		*74.0*	*10-130*		
13C3-PFBS	*7.03*				*8.00*		*87.9*	*55-150*		
13C3-PFHXS	*6.78*				*8.00*		*84.8*	*55-150*		
13C8-PFOS	*7.05*				*8.00*		*88.2*	*45-140*		
13C2-4:2FTS	*23.9*				*16.0*		*149*	*60-200*		
13C2-6:2FTS	*13.9*				*16.0*		*87.0*	*60-200*		
13C2-8:2FTS	*15.7*				*16.0*		*98.3*	*50-200*		
13C8-PFOSA	*6.63*				*8.00*		*82.9*	*30-130*		
D3-NMEFOSA	*2.95*				*8.00*		*36.9*	*15-130*		
D5-NETFOSA	*3.11*				*8.00*		*38.8*	*10-130*		
D3-NMEFOSAA	*15.4*				*16.0*		*96.3*	*45-200*		
D5-NETFOSAA	*17.3*				*16.0*		*108*	*10-200*		
D7-NMEFOSE	*38.8*				*80.0*		*48.4*	*10-150*		
D9-NETFOSE	*52.0*				*80.0*		*65.0*	*10-150*		
13C3-HFPO-DA	*31.2*				*32.0*		*97.4*	*25-160*		
LCS (BCB0167-BS1)						Prepared: 02/08/23 15:02 Analyzed: 02/10/23 05:20				
	ng/L									
PFBA	18.8				16.0		117	58-148		
PFPEA	8.79				8.00		110	54-152		
PFHXA	4.74				4.00		118	55-152		
PFHPA	4.32				4.00		108	54-154		
PFOA	4.55				4.00		114	52-161		
PFNA	5.01				4.00		125	59-149		
PFDA	4.27				4.00		107	52-147		
PFUnA	4.60				4.00		115	48-159		
PFDOA	4.51				4.00		113	64-142		
PFTRDA	5.00				4.00		125	49-148		
PFTEDA	4.21				4.00		105	47-161		
PFBS	4.20				3.54		119	62-144		
PFPES	4.33				3.76		115	59-151		
PFHXS	4.24				3.66		116	57-146		
PFHPS	4.00				3.82		105	55-152		
PFOS	4.48				3.72		120	58-149		
PFNS	4.49				3.84		117	52-148		
PFDS	4.16				3.86		108	51-147		
PFDOS	3.84				3.88		98.9	36-145		
4:2FTS	18.6				15.0		124	67-146		
6:2FTS	18.6				15.2		122	61-151		
8:2FTS	19.6				15.4		128	63-152		
PFOSA	4.80				4.00		120	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: 02/15/2023 14:33

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 (BCB0167-BS1)						Prepared: 02/08/23 15:02		Analyzed: 02/10/23 05:20		
	ng/L									
NMeFOSA	19.3				16.0		121	63-145		
NEtFOSA	19.2				16.0		120	65-139		
NMeFOSAA	5.00				4.00		125	58-144		
NEtFOSAA	5.28				4.00		132	59-146		
NMeFOSE	19.6				16.0		123	71-136		
NEtFOSE	17.9				16.0		112	69-137		
HFPO-DA	9.13				8.00		114	63-144		
ADONA	8.75				7.56		116	68-146		
PFEESA	8.00				7.12		112	56-151		
PFMPA	8.73				8.00		109	51-145		
PFMBA	8.58				8.00		107	55-148		
NFDHA	9.82				8.00		123	48-161		
9CL-PF3ONS	9.38				7.48		125	56-156		
11CL-PF3OUDS	8.55				7.56		113	46-156		
3:3FTCA	17.8				16.0		111	62-129		
5:3FTCA	17.4				16.0		109	63-134		
7:3FTCA	18.1				16.0		113	50-138		
Surrogates										
13C4-PFBA	*29.0*				*32.0*		*90.6*	*10-130*		
13C5-PFPEA	*16.1*				*16.0*		*101*	*35-150*		
13C5-PFHXA	*7.52*				*8.00*		*93.9*	*55-150*		
13C4-PFHPA	*7.88*				*8.00*		*98.5*	*55-150*		
13C8-PFOA	*6.84*				*8.00*		*85.5*	*60-140*		
13C9-PFNA	*3.68*				*4.00*		*92.0*	*55-140*		
13C6-PFDA	*3.38*				*4.00*		*84.5*	*50-140*		
13C7-PFUnA	*3.34*				*4.00*		*83.5*	*30-140*		
13C2-PFDOA	*3.49*				*4.00*		*87.4*	*10-150*		
13C2-PFTEDA	*3.52*				*4.00*		*88.1*	*10-130*		
13C3-PFBS	*6.98*				*8.00*		*87.2*	*55-150*		
13C3-PFHXS	*7.25*				*8.00*		*90.7*	*55-150*		
13C8-PFOS	*6.93*				*8.00*		*86.6*	*45-140*		
13C2-4:2FTS	*26.8*				*16.0*		*167*	*60-200*		
13C2-6:2FTS	*15.0*				*16.0*		*93.5*	*60-200*		
13C2-8:2FTS	*15.1*				*16.0*		*94.2*	*50-200*		
13C8-PFOSA	*6.14*				*8.00*		*76.8*	*30-130*		
D3-NMEFOSA	*2.97*				*8.00*		*37.1*	*15-130*		
D5-NETFOSA	*3.31*				*8.00*		*41.4*	*10-130*		
D3-NMEFOSAA	*12.8*				*16.0*		*79.7*	*45-200*		
D5-NETFOSAA	*13.1*				*16.0*		*81.7*	*10-200*		
D7-NMEFOSE	*38.6*				*80.0*		*48.3*	*10-150*		
D9-NETFOSE	*54.4*				*80.0*		*68.0*	*10-150*		
13C3-HFPO-DA	*29.7*				*32.0*		*92.8*	*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: 02/15/2023 14:33

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 (BCB0167-MRL1)						Prepared: 02/08/23 15:02		Analyzed: 02/10/23 05:33		
	ng/L									
PFBA	1.84				1.60		115	44-157		
PFPEA	0.999				0.800		125	57-148		
PFHXA	0.461				0.400		115	62-149		
PFHPA	0.574				0.400		144	56-150		
PFOA	0.596				0.400		149	57-161		
PFNA	0.497				0.400		124	53-157		
PFDA	0.426				0.400		106	43-158		
PFUnA	0.508				0.400		127	50-155		
PFDOA	0.505				0.400		126	60-141		
PFTRDA	0.518				0.400		129	52-140		
PFTEDA	0.492				0.400		123	52-156		
PFBS	0.380 J				0.354		107	63-145		
PFPES	0.462				0.376		123	58-144		
PFHXS	0.400 J				0.366		109	44-158		
PFHPS	0.457				0.382		120	51-150		
PFOS	0.489				0.372		131	43-162		
PFNS	0.503				0.384		131	46-151		
PFDS	0.485				0.386		126	50-144		
PFDOS	0.397 J				0.388		102	30-138		
4:2FTS	1.76				1.50		117	52-158		
6:2FTS	2.73 BS2				1.52		180	48-158		
8:2FTS	2.73 BS2				1.54		178	46-165		
PFOSA	0.535				0.400		134	47-163		
NMeFOSA	1.84				1.60		115	54-155		
NEtFOSA	1.84				1.60		115	49-156		
NMeFOSAA	0.473				0.400		118	32-160		
NEtFOSAA	0.493				0.400		123	51-154		
NMeFOSE	2.14				1.60		134	56-151		
NEtFOSE	1.69				1.60		105	60-147		
HFPO-DA	0.904				0.800		113	58-154		
ADONA	0.849				0.756		112	61-148		
PFEESA	0.830				0.712		117	56-144		
PFMPA	1.15				0.800		143	48-150		
PFMBA	0.963				0.800		120	49-154		
NFDHA	0.869				0.800		109	47-160		
9CL-PF3ONS	1.06				0.748		142	44-167		
11CL-PF3OUDS	0.887				0.756		117	36-158		
3:3FTCA	1.99				1.60		125	32-161		
5:3FTCA	1.66				1.60		104	39-156		
7:3FTCA	1.64				1.60		103	36-149		
Surrogates										
13C4-PFBA	*28.5*				*32.0*		*89.1*	*10-130*		
13C5-PFPEA	*16.2*				*16.0*		*101*	*35-150*		
13C5-PFHXA	*7.70*				*8.00*		*96.2*	*55-150*		
13C4-PFHPA	*7.70*				*8.00*		*96.3*	*55-150*		
13C8-PFOA	*6.81*				*8.00*		*85.2*	*60-140*		
13C9-PFNA	*3.36*				*4.00*		*84.0*	*55-140*		

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

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: 02/15/2023 14:33

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 (BCB0167-MRL1)						Prepared: 02/08/23 15:02 Analyzed: 02/10/23 05:33				
	ng/L									
Surrogates										
13C6-PFDA	*3.81*				*4.00*		*95.3*	*50-140*		
13C7-PFUnA	*3.65*				*4.00*		*91.2*	*30-140*		
13C2-PFDOA	*3.43*				*4.00*		*85.6*	*10-150*		
13C2-PFTEDA	*3.12*				*4.00*		*78.1*	*10-130*		
13C3-PFBS	*7.44*				*8.00*		*93.0*	*55-150*		
13C3-PFHXS	*6.93*				*8.00*		*86.6*	*55-150*		
13C8-PFOS	*6.87*				*8.00*		*85.9*	*45-140*		
13C2-4:2FTS	*27.1*				*16.0*		*169*	*60-200*		
13C2-6:2FTS	*12.0*				*16.0*		*75.2*	*60-200*		
13C2-8:2FTS	*13.7*				*16.0*		*85.9*	*50-200*		
13C8-PFOSA	*6.15*				*8.00*		*76.9*	*30-130*		
D3-NMEFOSA	*2.76*				*8.00*		*34.5*	*15-130*		
D5-NETFOSA	*3.24*				*8.00*		*40.6*	*10-130*		
D3-NMEFOSAA	*13.9*				*16.0*		*87.1*	*45-200*		
D5-NETFOSAA	*13.5*				*16.0*		*84.1*	*10-200*		
D7-NMEFOSE	*36.0*				*80.0*		*45.0*	*10-150*		
D9-NETFOSE	*49.3*				*80.0*		*61.7*	*10-150*		
13C3-HFPO-DA	*32.1*				*32.0*		*100*	*25-160*		

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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: 02/15/2023 14:33

Notes and Definitions

Item	Definition
BS2	Blank spike recovered above the upper 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
MI2	Manual integration, non-target peak interference
MI5	Manual integration, whole peak was not integrated
U	Not detected
Dry	Sample results reported on a dry weight basis.
DL	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

WORK ORDER

23B0060

Printed: 02/15/2023 2:34 pm

Project: **Red Hill AFFF Assessment Sampling**
Project Number: **Red Hill AFFF Assessment Sampling**
Project Manager: **Gregory Salata**
PO Number: **60697810**

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

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

Date Received: 02/08/2023 02:10 PM
Date Due: 02/15/2023 (5.00 day TAT)

Logged In By: Megan Salata
Received By: Megan Salata

Analysis	Comments

23B0060-01 AF-RHMW10-WGN01LF-2302W1 [Water] Sampled 2/7/2023 12:05:00PM
1633 NONE

23B0060-02 AF-RHMW10-WGFD01LF-2302W1 [Water] Sampled 2/7/2023 12:05:00PM
1633 NONE

23B0060-03 AF-HDMW225303-WGN01LF-2302W1 [Water] Sampled 2/7/2023 10:00:00AM
1633 NONE

23B0060 **Sample Receipt Log**

Default Cooler

Samples Received at: **-1.2°C**

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

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

ELECTRONIC CHAIN OF CUSTODY RECORD 23B0060
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 2302W1AFAL03

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)	Date Shipped:
CTO N6274223F0104 / 60697810	Matt Yim	Carrier: United
Purchase Order Number	Sampler (Signature)	Waybill No.: 016-90328195
	Matt Yim	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-RHMW10-WGN01LF-2302W1	~~RHMW10~~ RHMW10	2/7/23	1205	HST	2	✓			✓
AF-RHMW10-WGFD01LF-2302W1	RHMW10	2/7/23	1205	HST	2	✓			✓

MY 2/7/23

MY 2/7/23

Shuttle Temperature: IRBC 1.8/1.2°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:
Matt Yim	2/7/23	1360			2/7/23	1335	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/23	1410	

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

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

ELECTRONIC CHAIN OF CUSTODY RECORD

C.O.C. 2302W1AFAL04

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: mark.kromis@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): Matt Yim
Sampler (Signature): Matt Yim

Date Shipped:
Carrier: United
Waybill No.: 016-90328195
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-HDMW225303-WGN01LF-2302W1	HDMW2253-03	2/7/23	1000	HST	2	✓			✓

MY 2/7/23

MY 2/7/23

Shuttle 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:
Matt Yim	2/7/23	1310			2/7/23	1335	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/23	1410	

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 LJ Date 2/7/23

PFAS

SAMPLE DATA

FORM I
ANALYSIS DATA SHEET

AF-RHMW10-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-01	File ID:	S2023-02-09C (37)
Sampled:	02/07/23 12:05	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:46
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	554.43 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.36 U	0.72	0.36	0.059	
PFHXA	0.18 U	0.36	0.18	0.050	IR2,
PFHPA	0.18 U	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	IR1,
PFPES	0.18 U	0.36	0.18	0.057	IR1,
PFHXS	0.042 J	0.36	0.18	0.029	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.095 J	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	IR1,
4:2FTS	0.72 U	1.4	0.72	0.26	
6:2FTS	0.72 U	1.4	0.72	0.28	
8:2FTS	0.72 U	1.4	0.72	0.074	
PFOSA	0.18 U	0.36	0.18	0.094	
NMeFOSA	0.72 U	1.4	0.72	0.43	
NEtFOSA	0.72 U	1.4	0.72	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.095	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.91	
NEtFOSE	1.1 U	1.4	1.1	0.94	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW10-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-01	File ID:	S2023-02-09C (37)
Sampled:	02/07/23 12:05	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:46
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	554.43 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

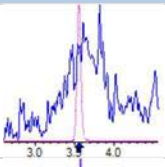
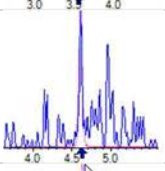
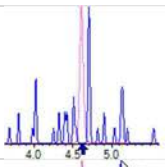
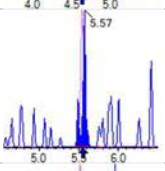
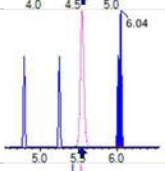
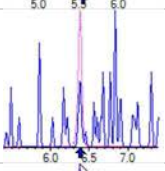
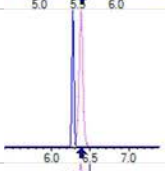
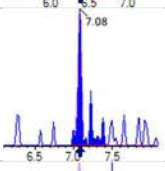
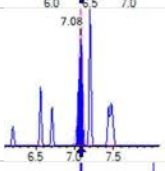
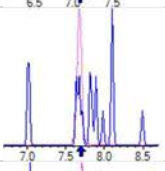
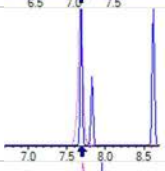
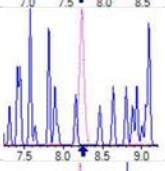
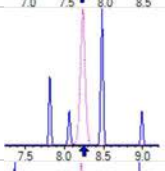
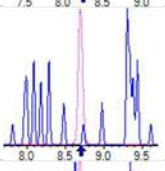
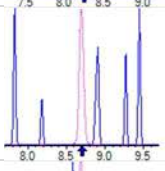
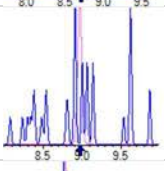
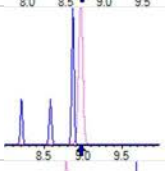
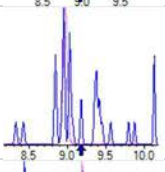
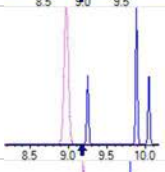
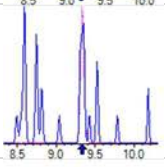
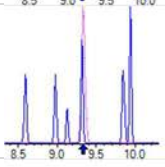
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	IR1,
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.049	
PFMBA	0.36 U	0.72	0.36	0.082	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	IR1,
5:3FTCA	0.72 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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

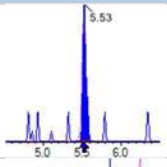
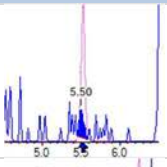
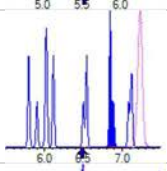
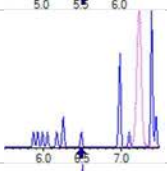
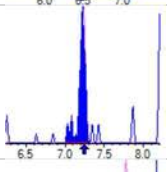
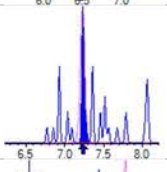
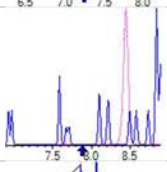
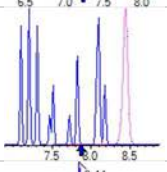
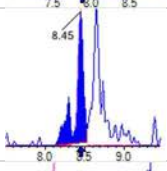
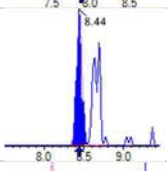
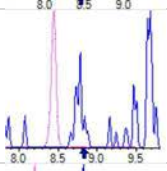
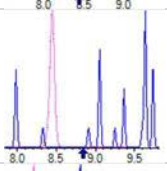
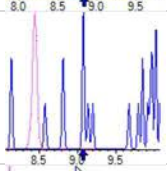
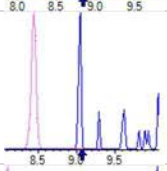
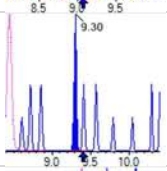
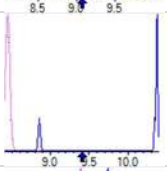
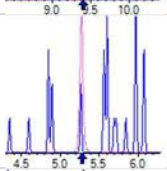
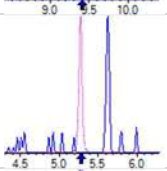
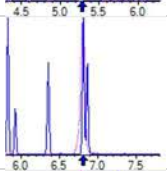
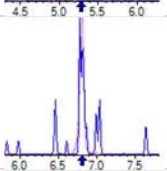
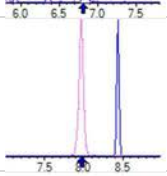
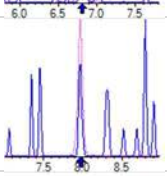
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 5209 (313.0 / 119.0) 1051	(5.57 , 1.00) (0.03 , N/A , -28.1)	132.8 456.3	0.2018 177.9 215.9	0.0119	N/A			IR2,
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 9711 (413.0 / 169.0) 2185	(7.08 , 1.00) (0.00 , N/A , 0.2)	100.6 94.6	0.2250 67.2 70.9	0.0247	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

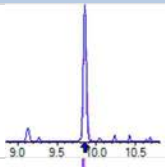
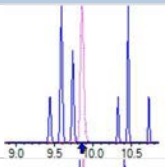
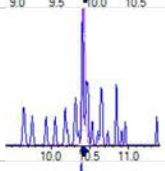
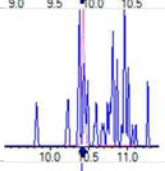
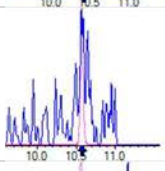
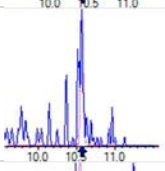
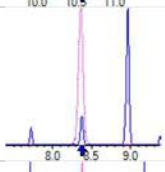
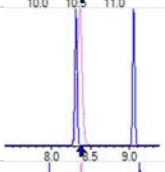
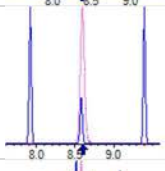
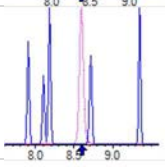
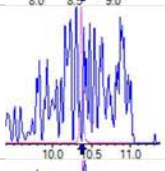
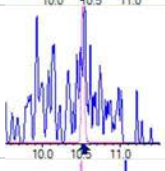
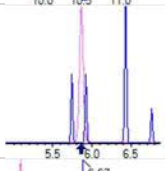
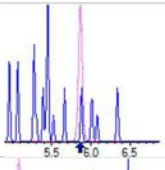
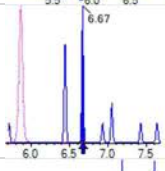
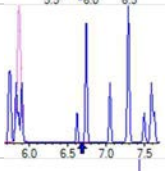
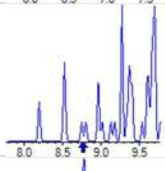
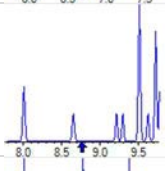
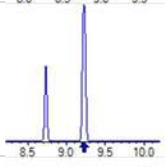
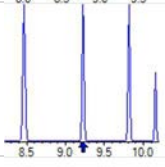
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5680 (299.0 / 99.0) 1175	(5.53 , 1.00) (0.00 , N/A , 1.5)	68.7 5.6	0.2069 35.7 32.6	0.0080	N/A			IR1,
PFPeS	(349.0 / 80.0) 843 (349.0 / 99.0) N/A	(6.84 , 0.95) (N/A , 0.38 , #Value!)	102.3 N/A	N/A 0.0 0.0	0.0007	N/A			IR1,
PFHxS	(399.0 / 80.0) 9992 (399.0 / 99.0) 2722	(7.22 , 1.00) (-0.01 , N/A , -0.6)	356444.6 51.9	0.2724 86.5 79.3	0.0116	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) 27222 (499.0 / 99.0) 8410	(8.45 , 1.00) (0.01 , N/A , 0.8)	38.5 45.7	0.3089 139.0 140.1	0.0264	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) 1158 (699.0 / 99.0) N/A	(9.30 , 1.10) (N/A , -0.09 , #Value!)	26.3 N/A	N/A 0.0 0.0	0.0009	N/A			IR1,
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) 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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

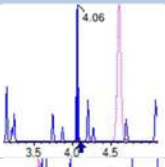
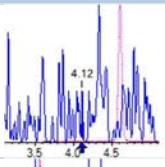
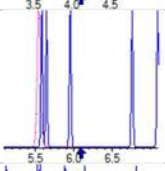
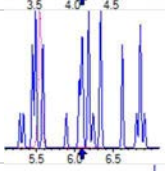
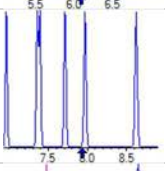
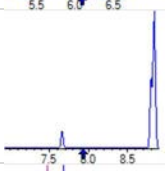
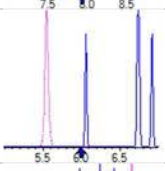
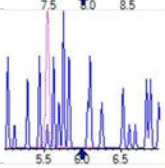
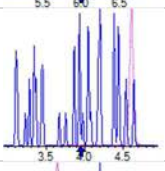
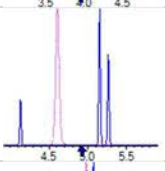
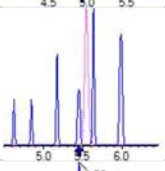
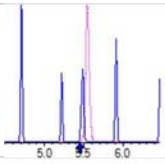
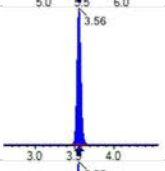
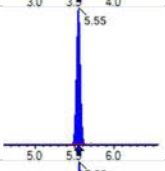
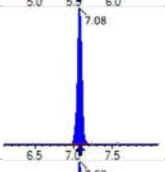
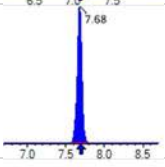
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 1351 (377.0 / 251.0) N/A	(6.67 , 1.14) (N/A , 0.02 , #Value!)	110.0 N/A	N/A 0.0 0.0	0.0019	N/A			IR1,
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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

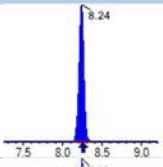
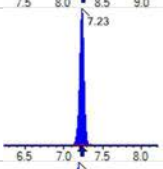
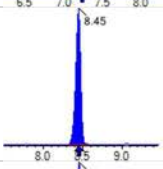
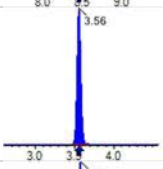
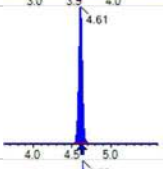
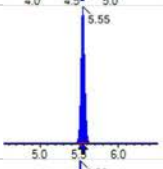
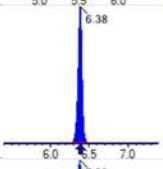
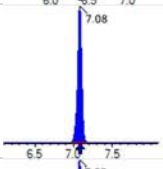
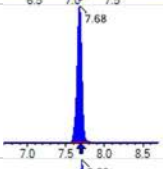
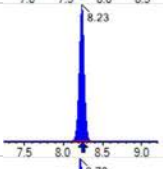
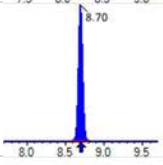
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 344 (241.0 / 117.0) 120	(4.06 , 0.88) (N/A , -0.02 , -3.2)	89.8 3.1	0.3483 20.7 19.8	0.0434	N/A			IR1,
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) 151748	(3.56 , N/A) (N/A , 0.02 , N/A)	1772.0	N/A	1.2308 [1.0000]	123.1% { 108.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 488678	(5.55 , N/A) (N/A , 0.02 , N/A)	4318.2	N/A	1.1346 [1.0000]	113.5% { 120.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 371881	(7.08 , N/A) (N/A , 0.02 , N/A)	944.0	N/A	1.1393 [1.0000]	113.9% { 108.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 328988	(7.68 , N/A) (N/A , 0.02 , N/A)	1099.4	N/A	1.2969 [1.0000]	129.7% { 124.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

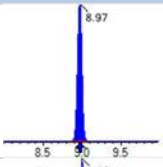
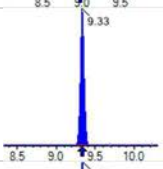
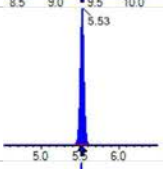
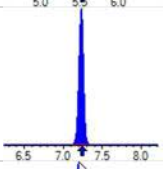
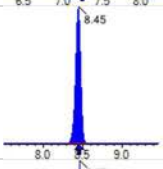
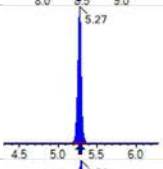
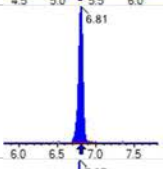
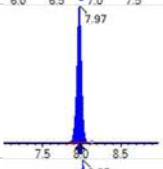
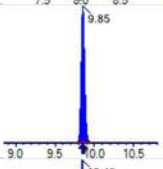
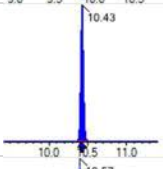
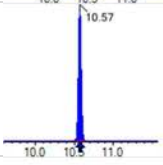
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 386294	(8.24 , N/A) (N/A , 0.02 , N/A)	1073.7	N/A	1.2365 [1.0000]	123.7% { 113.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 758808	(7.23 , N/A) (N/A , 0.02 , N/A)	1274.7	N/A	1.2068 [1.0000]	120.7% { 108.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 819779	(8.45 , N/A) (N/A , 0.03 , N/A)	727.0	N/A	1.2097 [1.0000]	121.0% { 101.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1236462	(3.56 , N/A) (N/A , 0.02 , N/A)	4125.6	N/A	6.8965 [8.0000]	86.2% { 99.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1282088	(4.61 , N/A) (N/A , 0.02 , N/A)	3290.0	N/A	3.6243 [4.0000]	90.6% { 97.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 977304	(5.55 , N/A) (N/A , 0.01 , N/A)	1115.0	N/A	1.8735 [2.0000]	93.7% { 108.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 815137	(6.38 , N/A) (N/A , 0.02 , N/A)	1223.5	N/A	1.8497 [2.0000]	92.5% { 104.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 774189	(7.08 , N/A) (N/A , 0.02 , N/A)	1358.9	N/A	1.9123 [2.0000]	95.6% { 108.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 287624	(7.68 , N/A) (N/A , 0.02 , N/A)	22133.7	N/A	0.8252 [1.0000]	82.5% { 109.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 469245	(8.23 , N/A) (N/A , 0.03 , N/A)	739.5	N/A	0.9890 [1.0000]	98.9% { 124.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 560834	(8.70 , N/A) (N/A , 0.02 , N/A)	1519.9	N/A	0.8658 [1.0000]	86.6% { 111.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

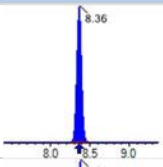
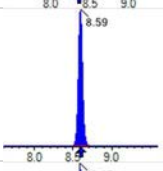
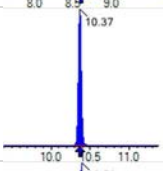
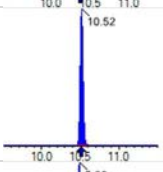
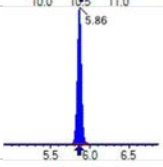
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 532524	(8.97 , N/A) (N/A , 0.02 , N/A)	1239.6	N/A	0.7958 [1.0000]	79.6% { 93.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 377849	(9.33 , N/A) (N/A , 0.02 , N/A)	1400.9	N/A	0.7824 [1.0000]	78.2% { 82.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2502773	(5.53 , N/A) (N/A , 0.02 , N/A)	3046.0	N/A	1.7231 [2.0000]	86.2% { 105.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1171079	(7.23 , N/A) (N/A , 0.02 , N/A)	1487.9	N/A	1.6463 [2.0000]	82.3% { 91.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1903636	(8.45 , N/A) (N/A , 0.03 , N/A)	1045.0	N/A	1.7390 [2.0000]	87.0% { 98.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 460883	(5.27 , N/A) (N/A , 0.01 , N/A)	1398.6	N/A	5.8146 [4.0000]	145.4% { 173.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 253140	(6.81 , N/A) (N/A , 0.02 , N/A)	515.1	N/A	3.1924 [4.0000]	79.8% { 96.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 345574	(7.97 , N/A) (N/A , 0.02 , N/A)	806.0	N/A	3.6053 [4.0000]	90.1% { 107.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3679933	(9.85 , N/A) (N/A , 0.02 , N/A)	1940.9	N/A	1.7764 [2.0000]	88.8% { 97.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 499903	(10.43 , N/A) (N/A , 0.02 , N/A)	1756.4	N/A	0.8054 [2.0000]	40.3% { 43.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 461680	(10.57 , N/A) (N/A , 0.02 , N/A)	2383.7	N/A	0.8134 [2.0000]	40.7% { 42.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (37)
Acquired: 2023/02/10 - 05:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 990332	(8.36 , N/A) (N/A , 0.03 , N/A)	821.7	N/A	3.7685 [4.0000]	94.2% { 94.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 965303	(8.59 , N/A) (N/A , 0.03 , N/A)	5517.4	N/A	4.1023 [4.0000]	102.6% { 132.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1835345	(10.37 , N/A) (N/A , 0.02 , N/A)	1785.5	N/A	8.0765 [20.0000]	40.4% { 42.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3173590	(10.52 , N/A) (N/A , 0.02 , N/A)	1581.0	N/A	10.7411 [20.0000]	53.7% { 52.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2498037	(5.86 , N/A) (N/A , 0.02 , N/A)	3580.8	N/A	7.3711 [8.0000]	92.1% { 98.0% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW10-WGFD01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-02	File ID:	S2023-02-09C (39)
Sampled:	02/07/23 12:05	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 06:12
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	560.74 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

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	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPES	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.18 U	0.36	0.18	0.057	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.71 U	1.4	0.71	0.26	
6:2FTS	0.71 U	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	IR1,

FORM I
ANALYSIS DATA SHEET

AF-RHMW10-WGFD01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-02	File ID:	S2023-02-09C (39)
Sampled:	02/07/23 12:05	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 06:12
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	560.74 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

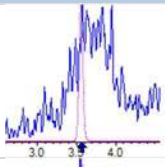
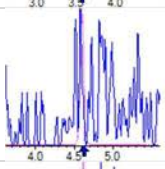
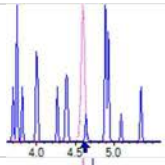
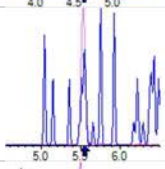
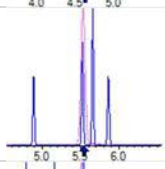
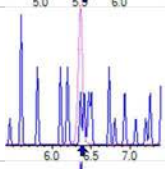
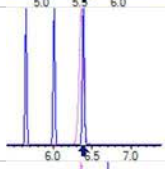
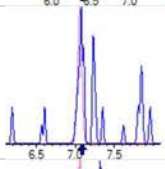
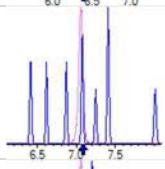
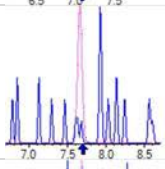
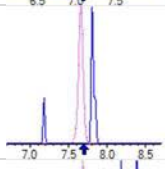
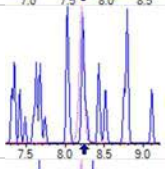
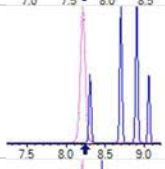
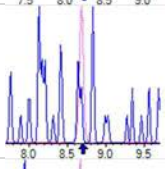
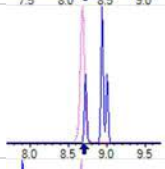
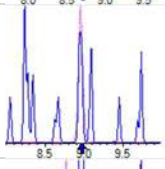
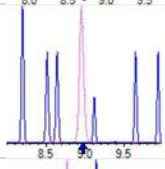
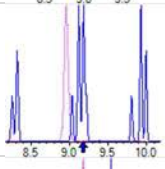
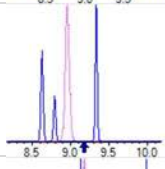
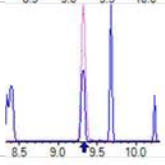
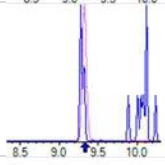
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.71	0.36	0.11	
PFEESA	0.36 U	0.71	0.36	0.097	
PFMPA	0.36 U	0.71	0.36	0.048	
PFMBA	0.36 U	0.71	0.36	0.081	
NFDHA	0.36 U	0.71	0.36	0.27	
9CL-PF3ONS	0.36 U	0.71	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.71	0.36	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

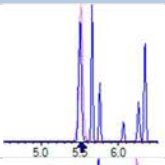
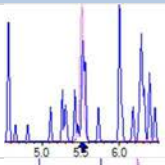
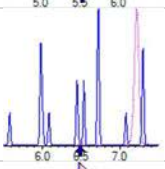
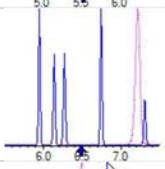
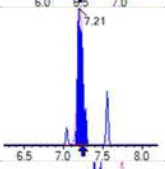
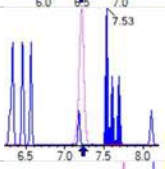
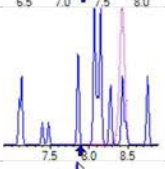
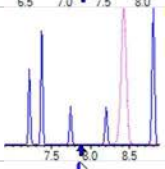
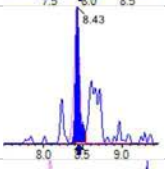
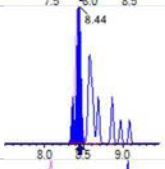
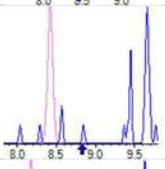
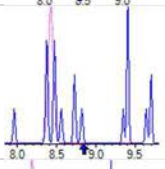
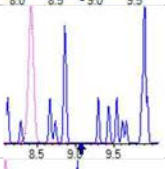
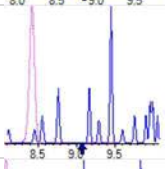
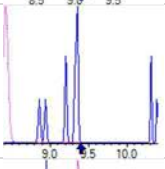
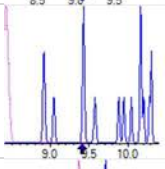
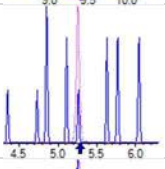
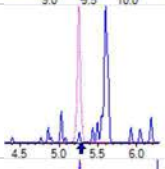
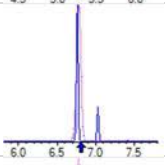
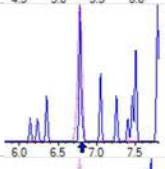
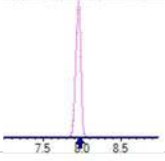
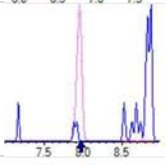
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

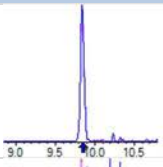
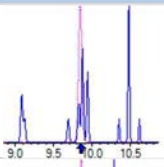
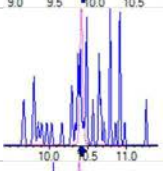
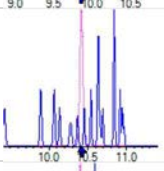
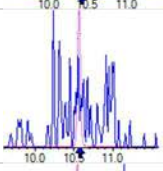
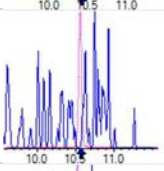
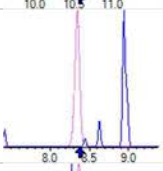
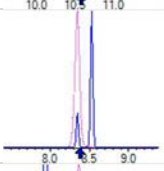
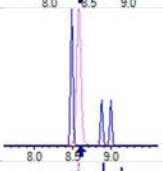
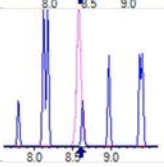
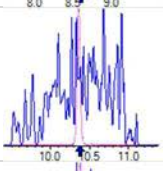
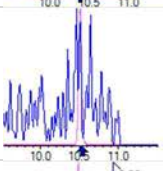
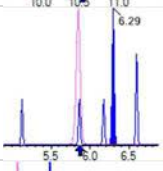
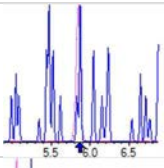
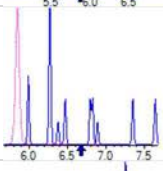
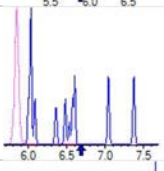
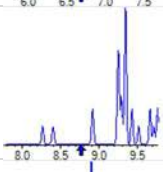
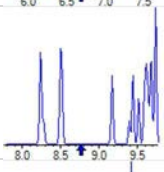
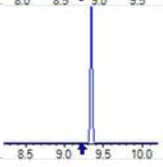
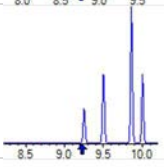
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 4640 (399.0 / 99.0) 1931	(7.21 , 1.00) (-0.01 , N/A , -19.6)	158.9 417.2	0.4162 132.1 121.1	0.0050	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) 17572 (499.0 / 99.0) 3375	(8.43 , 1.00) (0.00 , N/A , -0.5)	60.5 28.6	0.1921 86.4 87.1	0.0145	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

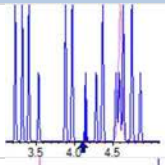
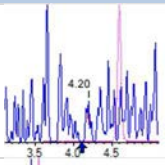
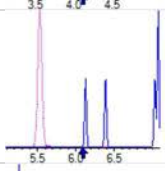
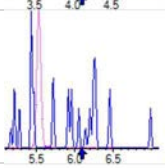
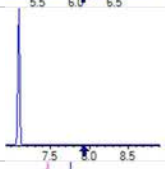
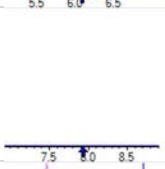
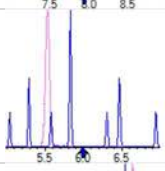
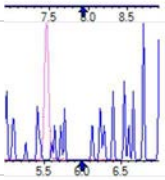
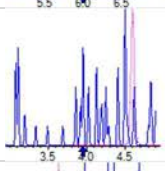
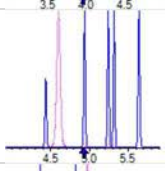
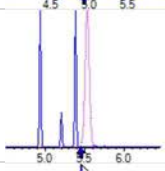
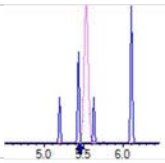
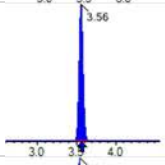
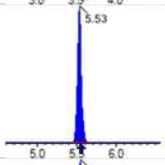
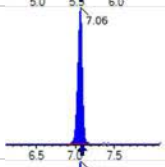
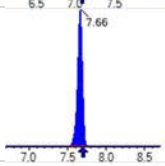
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 727 (285.0 / 185.0) N/A	(6.29 , 1.08) (0.45 , N/A , #Value!)	488.2 N/A	N/A 0.0 0.0	0.0037	N/A			RT,IR1,
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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

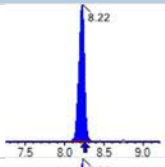
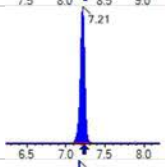
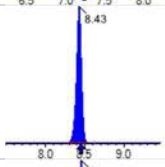
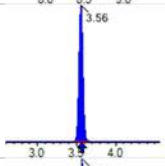
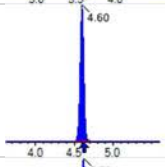
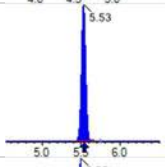
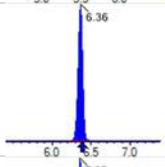
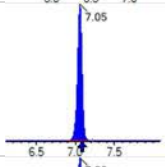
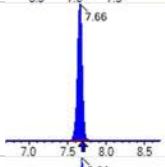
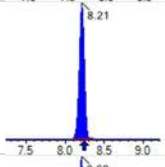
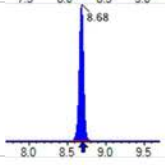
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 35 (241.0 / 117.0) 52	(4.15 , 0.90) (N/A , 0.06 , -3.3)	7.0 2.4	1.4951 88.8 85.2	0.0039	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) 164333	(3.56 , N/A) (N/A , 0.02 , N/A)	1847.6	N/A	1.3329 [1.0000]	133.3% { 117.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 486004	(5.53 , N/A) (N/A , 0.00 , N/A)	1185.8	N/A	1.1284 [1.0000]	112.8% { 120.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 403193	(7.06 , N/A) (N/A , 0.01 , N/A)	678.1	N/A	1.2352 [1.0000]	123.5% { 117.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 320202	(7.66 , N/A) (N/A , 0.01 , N/A)	2648480.1	N/A	1.2623 [1.0000]	126.2% { 121.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

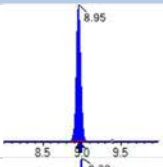
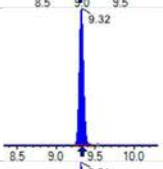
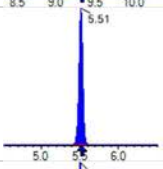
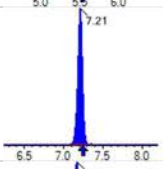
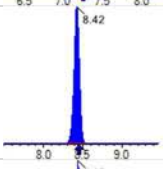
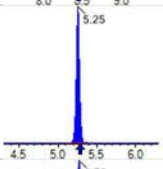
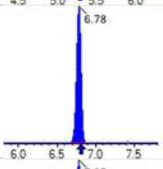
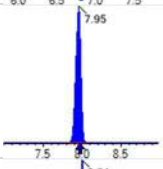
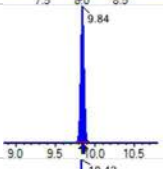
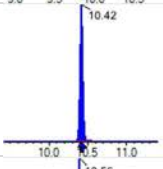
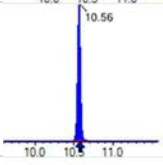
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 397751	(8.22 , N/A) (N/A , 0.01 , N/A)	897.9	N/A	1.2732 [1.0000]	127.3% { 117.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 797701	(7.21 , N/A) (N/A , 0.00 , N/A)	1153.8	N/A	1.2686 [1.0000]	126.9% { 114.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 991179	(8.43 , N/A) (N/A , 0.01 , N/A)	600.9	N/A	1.4626 [1.0000]	146.3% { 122.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1428249	(3.56 , N/A) (N/A , 0.02 , N/A)	5083.0	N/A	7.3562 [8.0000]	92.0% { 114.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1420299	(4.60 , N/A) (N/A , 0.01 , N/A)	2243.7	N/A	4.0371 [4.0000]	100.9% { 108.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1049592	(5.53 , N/A) (N/A , 0.00 , N/A)	2052.6	N/A	2.0232 [2.0000]	101.2% { 116.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 897952	(6.36 , N/A) (N/A , 0.00 , N/A)	2717.1	N/A	2.0488 [2.0000]	102.4% { 115.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 778190	(7.05 , N/A) (N/A , 0.00 , N/A)	1291.7	N/A	1.7729 [2.0000]	88.6% { 109.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 333650	(7.66 , N/A) (N/A , 0.00 , N/A)	880.4	N/A	0.9835 [1.0000]	98.3% { 127.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 456660	(8.21 , N/A) (N/A , 0.00 , N/A)	1128.8	N/A	0.9347 [1.0000]	93.5% { 120.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 641006	(8.68 , N/A) (N/A , 0.01 , N/A)	1400.0	N/A	0.9611 [1.0000]	96.1% { 127.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 619098	(8.95 , N/A) (N/A , 0.00 , N/A)	958.1	N/A	0.8985 [1.0000]	89.8% { 108.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 433968	(9.32 , N/A) (N/A , 0.00 , N/A)	1025.0	N/A	0.8727 [1.0000]	87.3% { 94.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2800972	(5.51 , N/A) (N/A , 0.00 , N/A)	2567.7	N/A	1.8344 [2.0000]	91.7% { 118.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1270704	(7.21 , N/A) (N/A , 0.00 , N/A)	979.6	N/A	1.6993 [2.0000]	85.0% { 98.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2227579	(8.42 , N/A) (N/A , 0.01 , N/A)	1061.7	N/A	1.6831 [2.0000]	84.2% { 114.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 542728	(5.25 , N/A) (N/A , -0.01 , N/A)	1113.2	N/A	6.5133 [4.0000]	162.8% { 204.2% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 321933	(6.78 , N/A) (N/A , -0.01 , N/A)	1207.2	N/A	3.8621 [4.0000]	96.6% { 122.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 408544	(7.95 , N/A) (N/A , 0.01 , N/A)	1458.0	N/A	4.0544 [4.0000]	101.4% { 127.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4141375	(9.84 , N/A) (N/A , 0.01 , N/A)	2000.8	N/A	1.6535 [2.0000]	82.7% { 109.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 576120	(10.42 , N/A) (N/A , 0.01 , N/A)	1413.6	N/A	0.7677 [2.0000]	38.4% { 50.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 525328	(10.56 , N/A) (N/A , 0.01 , N/A)	2642.0	N/A	0.7655 [2.0000]	38.3% { 48.3% }			

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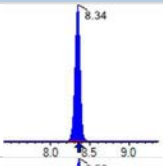
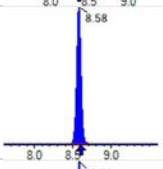
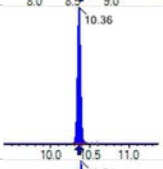
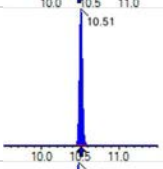
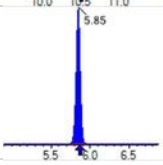
Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (39)
Acquired: 2023/02/10 - 06:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 987840	(8.34 , N/A) (N/A , 0.01 , N/A)	861.9	N/A	3.1090 [4.0000]	77.7% { 93.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 946244	(8.58 , N/A) (N/A , 0.01 , N/A)	554958.9	N/A	3.3259 [4.0000]	83.1% { 130.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2112706	(10.36 , N/A) (N/A , 0.01 , N/A)	1682.7	N/A	7.6893 [20.0000]	38.4% { 48.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4416796	(10.51 , N/A) (N/A , 0.01 , N/A)	1466.8	N/A	12.3637 [20.0000]	61.8% { 73.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2496341	(5.85 , N/A) (N/A , 0.00 , N/A)	2518.6	N/A	7.4066 [8.0000]	92.6% { 97.9% }			

FORM I
ANALYSIS DATA SHEET

AF-HDMW225303-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-03	File ID:	S2023-02-09C (41)
Sampled:	02/07/23 10:00	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 06:38
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	554.96 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.36 U	0.72	0.36	0.059	
PFHXA	0.18 U	0.36	0.18	0.049	IR2,
PFHPA	0.18 U	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	IR1,
PFNA	0.18 U	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	IR2,
PFPES	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.029	IR2,
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.078 J	0.36	0.18	0.057	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.72 U	1.4	0.72	0.26	
6:2FTS	0.72 U	1.4	0.72	0.28	
8:2FTS	0.72 U	1.4	0.72	0.074	
PFOSA	0.18 U	0.36	0.18	0.094	
NMeFOSA	0.72 U	1.4	0.72	0.43	
NEtFOSA	0.72 U	1.4	0.72	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.095	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.91	
NEtFOSE	1.1 U	1.4	1.1	0.94	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I
ANALYSIS DATA SHEET

AF-HDMW225303-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0060-03	File ID:	S2023-02-09C (41)
Sampled:	02/07/23 10:00	Prepared:	02/08/23 15:02	Analyzed:	02/10/23 06:38
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	554.96 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010

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	0.049	
PFMBA	0.36 U	0.72	0.36	0.082	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	
5:3FTCA	0.72 U	1.4	0.72	0.40	
7:3FTCA	0.72 U	1.4	0.72	0.50	

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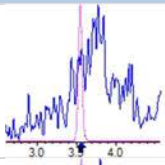
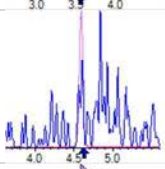
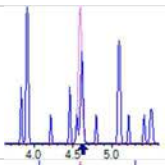
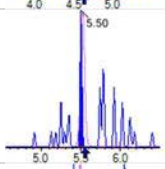
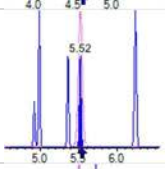
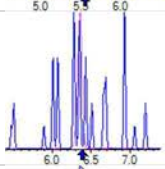
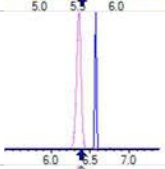
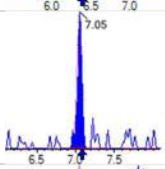
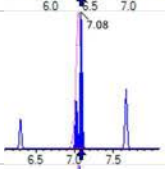
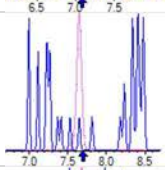
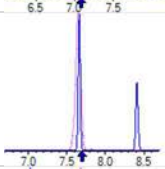
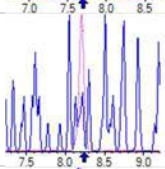
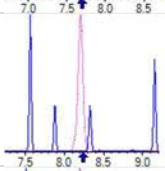
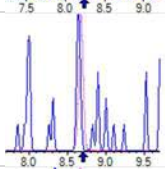
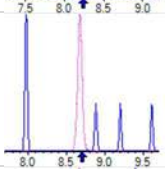
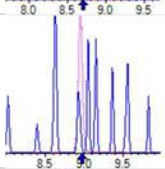
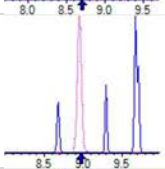
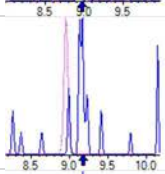
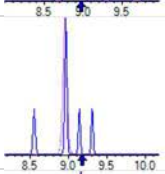
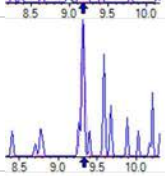
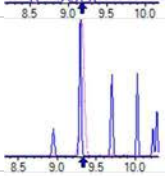
Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

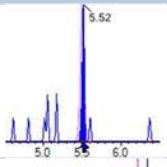
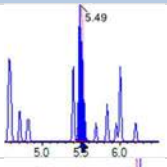
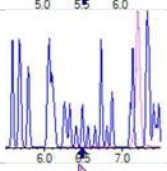
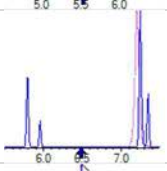
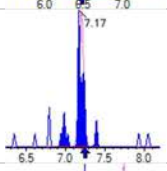
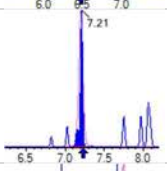
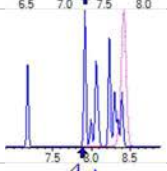
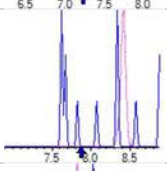
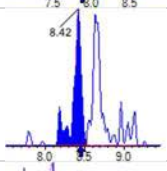
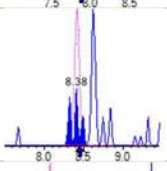
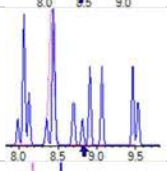
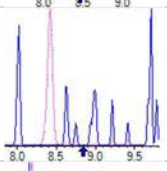
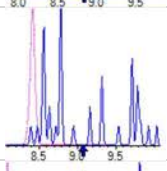
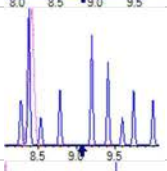
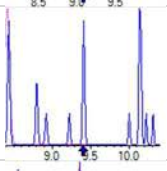
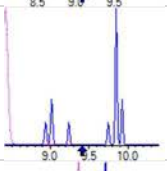
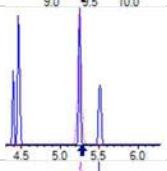
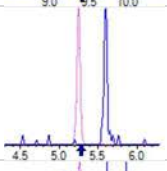
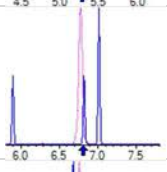
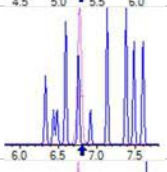
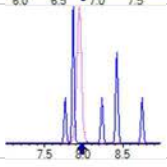
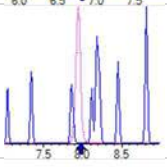
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 2071 (313.0 / 119.0) 421	(5.50 , 1.00) (-0.02 , N/A , -1.1)	862.0 2834.6	0.2034 179.3 217.7	0.0046	N/A			IR2,
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 11349 (413.0 / 169.0) 1528	(7.05 , 1.00) (0.01 , N/A , -1.8)	100.2 210621.0	0.1346 40.2 42.4	0.0311	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

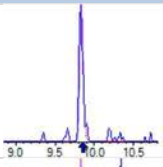
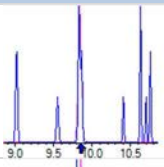
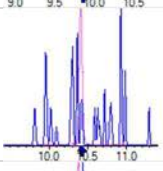
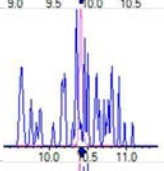
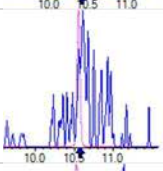
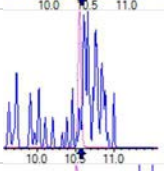
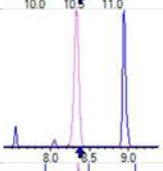
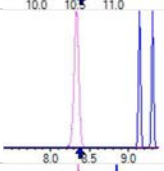
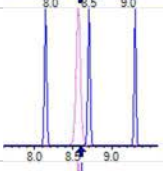
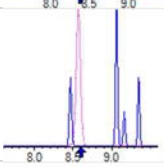
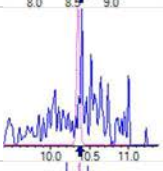
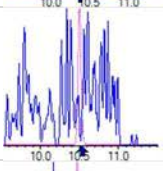
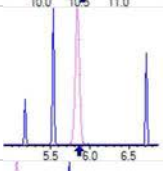
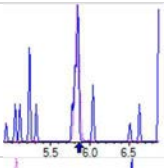
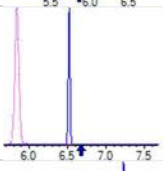
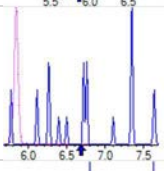
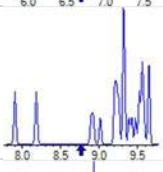
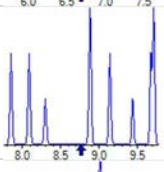
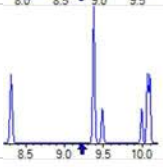
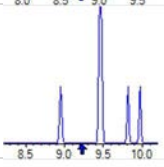
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1672 (299.0 / 99.0) 3085	(5.52 , 1.00) (0.01 , N/A , 1.5)	63.8 28.8	1.8448 318.0 290.7	0.0022	N/A			IR2,
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 6536 (399.0 / 99.0) 3781	(7.17 , 1.00) (-0.03 , N/A , -2.3)	218160.0 2030.3	0.5784 183.6 168.4	0.0074	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) 26990 (499.0 / 99.0) 4380	(8.42 , 1.00) (0.01 , N/A , 2.8)	38.7 10.6	0.1623 73.0 73.6	0.0216	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

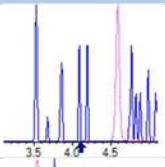
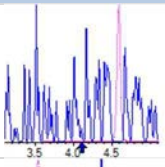
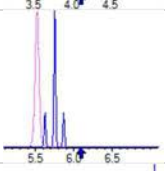
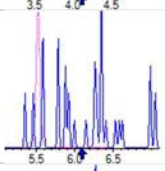
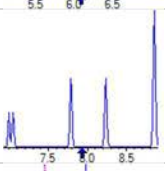
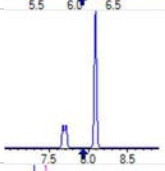
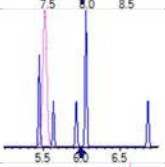
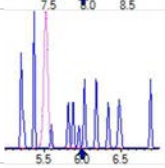
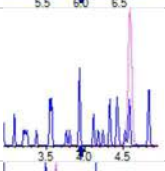
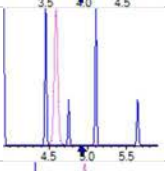
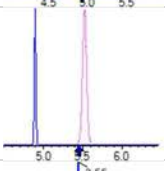
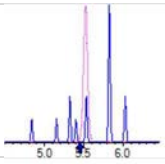
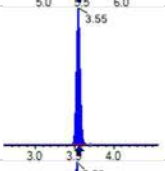
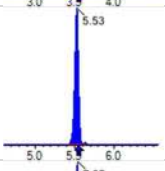
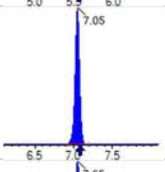
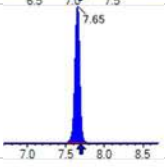
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

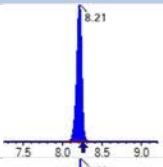
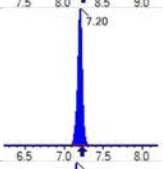
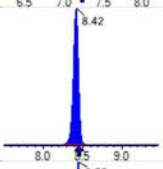
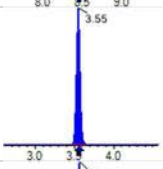
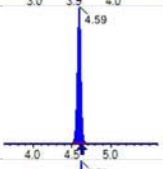
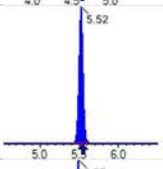
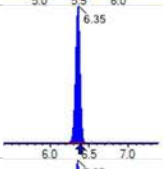
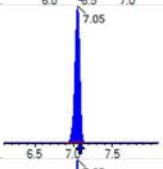
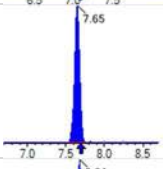
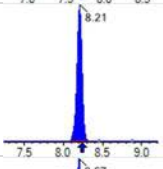
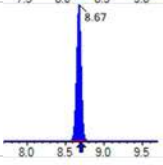
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 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) 148380	(3.55 , N/A) (N/A , 0.01 , N/A)	1433.8	N/A	1.2035 [1.0000]	120.4% { 105.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 491425	(5.53 , N/A) (N/A , 0.00 , N/A)	5335.3	N/A	1.1410 [1.0000]	114.1% { 121.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 394121	(7.05 , N/A) (N/A , -0.01 , N/A)	4049.6	N/A	1.2074 [1.0000]	120.7% { 114.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 306183	(7.65 , N/A) (N/A , 0.00 , N/A)	17559.4	N/A	1.2070 [1.0000]	120.7% { 115.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

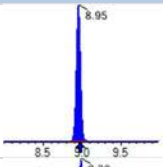
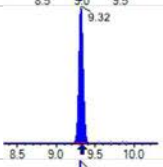
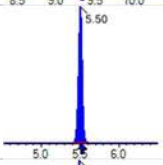
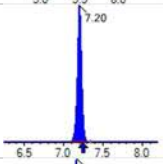
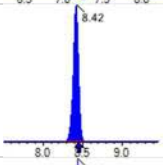
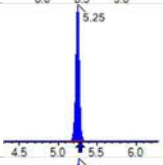
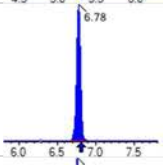
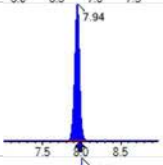
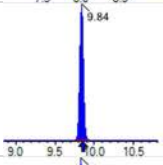
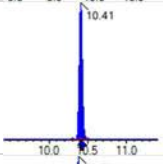
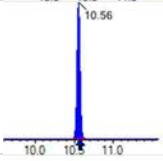
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 363692	(8.21 , N/A) (N/A , 0.00 , N/A)	4889.4	N/A	1.1642 [1.0000]	116.4% { 107.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 758264	(7.20 , N/A) (N/A , -0.01 , N/A)	1381.4	N/A	1.2059 [1.0000]	120.6% { 108.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 961112	(8.42 , N/A) (N/A , 0.00 , N/A)	1021.6	N/A	1.4182 [1.0000]	141.8% { 118.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1330865	(3.55 , N/A) (N/A , 0.01 , N/A)	4426.9	N/A	7.5916 [8.0000]	94.9% { 107.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1428323	(4.59 , N/A) (N/A , 0.00 , N/A)	2499.9	N/A	4.0151 [4.0000]	100.4% { 109.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 996966	(5.52 , N/A) (N/A , -0.01 , N/A)	1620.3	N/A	1.9005 [2.0000]	95.0% { 111.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 783544	(6.35 , N/A) (N/A , -0.01 , N/A)	1220.8	N/A	1.7681 [2.0000]	88.4% { 100.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 719549	(7.05 , N/A) (N/A , -0.01 , N/A)	7500.8	N/A	1.6770 [2.0000]	83.9% { 100.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 291780	(7.65 , N/A) (N/A , -0.01 , N/A)	734.7	N/A	0.8994 [1.0000]	89.9% { 111.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 482522	(8.21 , N/A) (N/A , 0.00 , N/A)	692.3	N/A	1.0802 [1.0000]	108.0% { 127.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 662374	(8.67 , N/A) (N/A , 0.00 , N/A)	2423.7	N/A	1.0861 [1.0000]	108.6% { 131.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

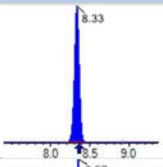
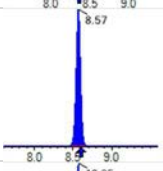
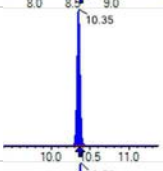
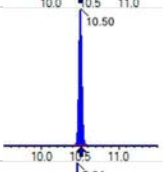
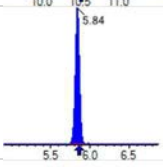
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 621964	(8.95 , N/A) (N/A , 0.00 , N/A)	1637.5	N/A	0.9872 [1.0000]	98.7% { 109.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 350674	(9.32 , N/A) (N/A , 0.00 , N/A)	545.9	N/A	0.7713 [1.0000]	77.1% { 76.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2752306	(5.50 , N/A) (N/A , -0.01 , N/A)	2249.3	N/A	1.8962 [2.0000]	94.8% { 115.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1198228	(7.20 , N/A) (N/A , -0.01 , N/A)	1906.5	N/A	1.6857 [2.0000]	84.3% { 93.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2307798	(8.42 , N/A) (N/A , 0.00 , N/A)	1269.3	N/A	1.7982 [2.0000]	89.9% { 118.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 514790	(5.25 , N/A) (N/A , -0.01 , N/A)	1592.7	N/A	6.4994 [4.0000]	162.5% { 193.7% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 257127	(6.78 , N/A) (N/A , -0.01 , N/A)	1154.1	N/A	3.2451 [4.0000]	81.1% { 97.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 396419	(7.94 , N/A) (N/A , 0.00 , N/A)	925.0	N/A	4.1387 [4.0000]	103.5% { 123.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3902017	(9.84 , N/A) (N/A , 0.00 , N/A)	2007.7	N/A	1.6066 [2.0000]	80.3% { 103.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 575510	(10.41 , N/A) (N/A , 0.00 , N/A)	1804.7	N/A	0.7909 [2.0000]	39.5% { 50.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 518361	(10.56 , N/A) (N/A , 0.00 , N/A)	1855.1	N/A	0.7790 [2.0000]	39.0% { 47.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0060-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (41)
Acquired: 2023/02/10 - 06:38

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) 1098877	(8.33 , N/A) (N/A , 0.00 , N/A)	1005.3	N/A	3.5666 [4.0000]	89.2% { 104.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 940182	(8.57 , N/A) (N/A , 0.00 , N/A)	2072.0	N/A	3.4080 [4.0000]	85.2% { 129.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2825473	(10.35 , N/A) (N/A , 0.00 , N/A)	2032.7	N/A	10.6052 [20.0000]	53.0% { 65.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4826298	(10.50 , N/A) (N/A , 0.00 , N/A)	1352.3	N/A	13.9327 [20.0000]	69.7% { 79.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2416213	(5.84 , N/A) (N/A , -0.01 , N/A)	1921.0	N/A	7.0898 [8.0000]	88.6% { 94.8% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW10-WGN01LF-2302W1 (23B0060-01) ng/L	Lab File ID: S2023-02-09C (37)			Analyzed: 02/10/23 05:46
13C4-PFBA	28.9	86.2	10 - 130	
13C5-PFPEA	14.4	90.6	35 - 150	
13C5-PFHXA	7.21	93.7	55 - 150	
13C4-PFHPA	7.21	92.5	55 - 150	
13C8-PFOA	7.21	95.6	60 - 140	
13C9-PFNA	3.61	82.5	55 - 140	
13C6-PFDA	3.61	98.9	50 - 140	
13C7-PFUnA	3.61	86.6	30 - 140	
13C2-PFDOA	3.61	79.6	10 - 150	
13C2-PFTEDA	3.61	78.2	10 - 130	
13C3-PFBS	7.21	86.2	55 - 150	
13C3-PFHXS	7.21	82.3	55 - 150	
13C8-PFOS	7.21	87.0	45 - 140	
13C2-4:2FTS	14.4	145	60 - 200	
13C2-6:2FTS	14.4	79.8	60 - 200	
13C2-8:2FTS	14.4	90.1	50 - 200	
13C8-PFOSA	7.21	88.8	30 - 130	
D3-NMEFOSA	7.21	40.3	15 - 130	
D5-NETFOSA	7.21	40.7	10 - 130	
D3-NMEFOSAA	14.4	94.2	45 - 200	
D5-NETFOSAA	14.4	103	10 - 200	
D7-NMEFOSE	72.1	40.4	10 - 150	
D9-NETFOSE	72.1	53.7	10 - 150	
13C3-HFPO-DA	28.9	92.1	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW10-WGFD01LF-2302W1 (23B0060-02) ng/L	Lab File ID: S2023-02-09C (39)			Analyzed: 02/10/23 06:12
13C4-PFBA	28.5	92.0	10 - 130	
13C5-PFPEA	14.3	101	35 - 150	
13C5-PFHXA	7.13	101	55 - 150	
13C4-PFHPA	7.13	102	55 - 150	
13C8-PFOA	7.13	88.6	60 - 140	
13C9-PFNA	3.57	98.3	55 - 140	
13C6-PFDA	3.57	93.5	50 - 140	
13C7-PFUnA	3.57	96.1	30 - 140	
13C2-PFDOA	3.57	89.8	10 - 150	
13C2-PFTEDA	3.57	87.3	10 - 130	
13C3-PFBS	7.13	91.7	55 - 150	
13C3-PFHXS	7.13	85.0	55 - 150	
13C8-PFOS	7.13	84.2	45 - 140	
13C2-4:2FTS	14.3	163	60 - 200	
13C2-6:2FTS	14.3	96.6	60 - 200	
13C2-8:2FTS	14.3	101	50 - 200	
13C8-PFOSA	7.13	82.7	30 - 130	
D3-NMEFOSA	7.13	38.4	15 - 130	
D5-NETFOSA	7.13	38.3	10 - 130	
D3-NMEFOSAA	14.3	77.7	45 - 200	
D5-NETFOSAA	14.3	83.1	10 - 200	
D7-NMEFOSE	71.3	38.4	10 - 150	
D9-NETFOSE	71.3	61.8	10 - 150	
13C3-HFPO-DA	28.5	92.6	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-HDMW225303-WGN01LF-2302W1 (23B0060-03) ng/L Lab File ID: S2023-02-09C (41)				Analyzed: 02/10/23 06:38
13C4-PFBA	28.8	94.9	10 - 130	
13C5-PFPEA	14.4	100	35 - 150	
13C5-PFHXA	7.21	95.0	55 - 150	
13C4-PFHPA	7.21	88.4	55 - 150	
13C8-PFOA	7.21	83.9	60 - 140	
13C9-PFNA	3.60	89.9	55 - 140	
13C6-PFDA	3.60	108	50 - 140	
13C7-PFUnA	3.60	109	30 - 140	
13C2-PFDOA	3.60	98.7	10 - 150	
13C2-PFTEDA	3.60	77.1	10 - 130	
13C3-PFBS	7.21	94.8	55 - 150	
13C3-PFHXS	7.21	84.3	55 - 150	
13C8-PFOS	7.21	89.9	45 - 140	
13C2-4:2FTS	14.4	162	60 - 200	
13C2-6:2FTS	14.4	81.1	60 - 200	
13C2-8:2FTS	14.4	103	50 - 200	
13C8-PFOSA	7.21	80.3	30 - 130	
D3-NMEFOSA	7.21	39.5	15 - 130	
D5-NETFOSA	7.21	39.0	10 - 130	
D3-NMEFOSAA	14.4	89.2	45 - 200	
D5-NETFOSAA	14.4	85.2	10 - 200	
D7-NMEFOSE	72.1	53.0	10 - 150	
D9-NETFOSE	72.1	69.7	10 - 150	
13C3-HFPO-DA	28.8	88.6	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCB0167-BLK1) ng/L	Lab File ID: S2023-02-09C (34)			Analyzed: 02/10/23 05:07
13C4-PFBA	32.0	92.3	10 - 130	
13C5-PFPEA	16.0	107	35 - 150	
13C5-PFHXA	8.00	95.2	55 - 150	
13C4-PFHPA	8.00	99.8	55 - 150	
13C8-PFOA	8.00	93.5	60 - 140	
13C9-PFNA	4.00	90.5	55 - 140	
13C6-PFDA	4.00	102	50 - 140	
13C7-PFUnA	4.00	83.9	30 - 140	
13C2-PFDOA	4.00	86.3	10 - 150	
13C2-PFTEDA	4.00	74.0	10 - 130	
13C3-PFBS	8.00	87.9	55 - 150	
13C3-PFHXS	8.00	84.8	55 - 150	
13C8-PFOS	8.00	88.2	45 - 140	
13C2-4:2FTS	16.0	149	60 - 200	
13C2-6:2FTS	16.0	87.0	60 - 200	
13C2-8:2FTS	16.0	98.3	50 - 200	
13C8-PFOSA	8.00	82.9	30 - 130	
D3-NMEFOSA	8.00	36.9	15 - 130	
D5-NETFOSA	8.00	38.8	10 - 130	
D3-NMEFOSAA	16.0	96.3	45 - 200	
D5-NETFOSAA	16.0	108	10 - 200	
D7-NMEFOSE	80.0	48.4	10 - 150	
D9-NETFOSE	80.0	65.0	10 - 150	
13C3-HFPO-DA	32.0	97.4	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCB0167-BS1) ng/L	Lab File ID: S2023-02-09C (35)			Analyzed: 02/10/23 05:20
13C4-PFBA	32.0	90.6	10 - 130	
13C5-PFPEA	16.0	101	35 - 150	
13C5-PFHXA	8.00	93.9	55 - 150	
13C4-PFHPA	8.00	98.5	55 - 150	
13C8-PFOA	8.00	85.5	60 - 140	
13C9-PFNA	4.00	92.0	55 - 140	
13C6-PFDA	4.00	84.5	50 - 140	
13C7-PFUnA	4.00	83.5	30 - 140	
13C2-PFDOA	4.00	87.4	10 - 150	
13C2-PFTEDA	4.00	88.1	10 - 130	
13C3-PFBS	8.00	87.2	55 - 150	
13C3-PFHXS	8.00	90.7	55 - 150	
13C8-PFOS	8.00	86.6	45 - 140	
13C2-4:2FTS	16.0	167	60 - 200	
13C2-6:2FTS	16.0	93.5	60 - 200	
13C2-8:2FTS	16.0	94.2	50 - 200	
13C8-PFOSA	8.00	76.8	30 - 130	
D3-NMEFOSA	8.00	37.1	15 - 130	
D5-NETFOSA	8.00	41.4	10 - 130	
D3-NMEFOSAA	16.0	79.7	45 - 200	
D5-NETFOSAA	16.0	81.7	10 - 200	
D7-NMEFOSE	80.0	48.3	10 - 150	
D9-NETFOSE	80.0	68.0	10 - 150	
13C3-HFPO-DA	32.0	92.8	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0060
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCB0167-MRL1) ng/L	Lab File ID: S2023-02-09C (36)			Analyzed: 02/10/23 05:33
13C4-PFBA	32.0	89.1	10 - 130	
13C5-PFPEA	16.0	101	35 - 150	
13C5-PFHXA	8.00	96.2	55 - 150	
13C4-PFHPA	8.00	96.3	55 - 150	
13C8-PFOA	8.00	85.2	60 - 140	
13C9-PFNA	4.00	84.0	55 - 140	
13C6-PFDA	4.00	95.3	50 - 140	
13C7-PFUnA	4.00	91.2	30 - 140	
13C2-PFDOA	4.00	85.6	10 - 150	
13C2-PFTEDA	4.00	78.1	10 - 130	
13C3-PFBS	8.00	93.0	55 - 150	
13C3-PFHXS	8.00	86.6	55 - 150	
13C8-PFOS	8.00	85.9	45 - 140	
13C2-4:2FTS	16.0	169	60 - 200	
13C2-6:2FTS	16.0	75.2	60 - 200	
13C2-8:2FTS	16.0	85.9	50 - 200	
13C8-PFOSA	8.00	76.9	30 - 130	
D3-NMEFOSA	8.00	34.5	15 - 130	
D5-NETFOSA	8.00	40.6	10 - 130	
D3-NMEFOSAA	16.0	87.1	45 - 200	
D5-NETFOSAA	16.0	84.1	10 - 200	
D7-NMEFOSE	80.0	45.0	10 - 150	
D9-NETFOSE	80.0	61.7	10 - 150	
13C3-HFPO-DA	32.0	100	25 - 160	

METHOD BLANK SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Blank ID:	BCB0167-BLK1	Batch:	BCB0167
Prepared:	02/08/2023 15:02		

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCB0167-BS1	S2023-02-09C (35)	05:20
MRL Check	BCB0167-MRL1	S2023-02-09C (36)	05:33
AF-RHMW10-WGN01LF-2302W1	23B0060-01	S2023-02-09C (37)	05:46
AF-RHMW10-WGFD01LF-2302W1	23B0060-02	S2023-02-09C (39)	06:12
AF-HDMW225303-WGN01LF-2302W1	23B0060-03	S2023-02-09C (41)	06:38

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BLK1	File ID:	S2023-02-09C (34)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:07
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
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	0.20 U	0.40	0.20	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.20 U	0.40	0.20	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPES	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.0817 J	0.40	0.20	0.064	IR1, J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U				

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BLK1	File ID:	S2023-02-09C (34)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:07
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
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:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCB0167	Laboratory ID:	BCB0167-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	18.8	117	58 - 148
PFPEA	8.00	8.79	110	54 - 152
PFHXA	4.00	4.74	118	55 - 152
PFHPA	4.00	4.32	108	54 - 154
PFOA	4.00	4.55	114	52 - 161
PFNA	4.00	5.01	125	59 - 149
PFDA	4.00	4.27	107	52 - 147
PFUnA	4.00	4.60	115	48 - 159
PFDOA	4.00	4.51	113	64 - 142
PFTRDA	4.00	5.00	125	49 - 148
PFTEDA	4.00	4.21	105	47 - 161
PFBS	3.54	4.20	119	62 - 144
PFPES	3.76	4.33	115	59 - 151
PFHXS	3.66	4.24	116	57 - 146
PFHPS	3.82	4.00	105	55 - 152
PFOS	3.72	4.48	120	58 - 149
PFNS	3.84	4.49	117	52 - 148
PFDS	3.86	4.16	108	51 - 147
PFDOS	3.88	3.84	98.9	36 - 145
4:2FTS	15.0	18.6	124	67 - 146
6:2FTS	15.2	18.6	122	61 - 151
8:2FTS	15.4	19.6	128	63 - 152
PFOSA	4.00	4.80	120	61 - 148
NMeFOSA	16.0	19.3	121	63 - 145
NEtFOSA	16.0	19.2	120	65 - 139
NMeFOSAA	4.00	5.00	125	58 - 144
NEtFOSAA	4.00	5.28	132	59 - 146
NMeFOSE	16.0	19.6	123	71 - 136
NEtFOSE	16.0	17.9	112	69 - 137
HFPO-DA	8.00	9.13	114	63 - 144
ADONA	7.56	8.75	116	68 - 146
PFEESA	7.12	8.00	112	56 - 151
PFMPA	8.00	8.73	109	51 - 145
PFMBA	8.00	8.58	107	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCB0167	Laboratory ID:	BCB0167-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	9.82	123	48 - 161
9CL-PF3ONS	7.48	9.38	125	56 - 156
11CL-PF3OUDS	7.56	8.55	113	46 - 156
3:3FTCA	16.0	17.8	111	62 - 129
5:3FTCA	16.0	17.4	109	63 - 134
7:3FTCA	16.0	18.1	113	50 - 138

CALIBRATION SUMMARY

HH
Saphira
Q3 5500

Quant Method: H:\Saphira\Projects\1633\2023-02-

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.41040 x (std. dev. = 0.03436) (weighting: None)	%RSE=8.4
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.41817 x (std. dev. = 0.03930) (weighting: None)	%RSE=9.4
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.44686 x (std. dev. = 0.05209) (weighting: None)	%RSE=11.7
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.48468 x (std. dev. = 0.03966) (weighting: None)	%RSE=8.2
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.50766 x (std. dev. = 0.06087) (weighting: None)	%RSE=12.0
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.94056 x (std. dev. = 0.12237) (weighting: None)	%RSE=13.0
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.92792 x (std. dev. = 0.12585) (weighting: None)	%RSE=13.6
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.82495 x (std. dev. = 0.08594) (weighting: None)	%RSE=10.4
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.86143 x (std. dev. = 0.10650) (weighting: None)	%RSE=12.4
PFTrDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.71965 x (std. dev. = 0.06170) (weighting: None)	%RSE=8.6
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.91011 x (std. dev. = 0.13545) (weighting: None)	%RSE=14.9
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.24958 x (std. dev. = 0.02914) (weighting: None)	%RSE=11.7
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.91814 x (std. dev. = 0.10450) (weighting: None)	%RSE=11.4
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.67166 x (std. dev. = 0.06695) (weighting: None)	%RSE=10.0
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.39130 x (std. dev. = 0.05358) (weighting: None)	%RSE=13.7
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.50298 x (std. dev. = 0.04508) (weighting: None)	%RSE=9.0
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.61010 x (std. dev. = 0.08548) (weighting: None)	%RSE=14.0
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.80633 x (std. dev. = 0.07986) (weighting: None)	%RSE=9.9
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.62764 x (std. dev. = 0.05771) (weighting: None)	%RSE=9.2
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.68052 x (std. dev. = 0.28644) (weighting: None)	%RSE=10.7
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.31168 x (std. dev. = 0.13260) (weighting: None)	%RSE=10.1
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.14972 x (std. dev. = 0.12756) (weighting: None)	%RSE=11.1
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.48350 x (std. dev. = 0.06084) (weighting: None)	%RSE=12.6
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.58203 x (std. dev. = 0.19473) (weighting: None)	%RSE=12.3
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.91055 x (std. dev. = 0.16343) (weighting: None)	%RSE=8.6
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.19541 x (std. dev. = 0.02384) (weighting: None)	%RSE=12.2
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.20085 x (std. dev. = 0.02217) (weighting: None)	%RSE=11.0
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.20727 x (std. dev. = 0.01807) (weighting: None)	%RSE=8.7
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.19385 x (std. dev. = 0.01836) (weighting: None)	%RSE=9.5
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.15678 x (std. dev. = 0.01394) (weighting: None)	%RSE=8.9
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.52854 x (std. dev. = 0.05115) (weighting: None)	%RSE=9.7
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = -0.01654 x^2 + 1.53887 x + -0.00762 (r = 0.99645) (weighting: 1 / x)	%RSE=11.2
11Cl-PF3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = -0.01087 x^2 + 1.22158 x + -0.01041 (r = 0.99804) (weighting: 1 / x)	%RSE=8.6
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.02473 x (std. dev. = 0.00339) (weighting: None)	%RSE=13.7
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.32115 x (std. dev. = 0.05585) (weighting: None)	%RSE=17.4
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.35903 x (std. dev. = 0.05364) (weighting: None)	%RSE=14.9
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.81753 x (std. dev. = 0.08332) (weighting: None)	%RSE=10.2
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.08015 x (std. dev. = 0.00854) (weighting: None)	%RSE=10.7
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.38018 x (std. dev. = 0.04020) (weighting: None)	%RSE=10.6
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.50530 x (std. dev. = 0.06338) (weighting: None)	%RSE=12.5
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 123289.7034 x	%RSD=11.5
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 430712.1235 x	%RSD=7.4
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 326413.0155 x	%RSD=8.7
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 253669.6969 x	%RSD=6.5
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 312404.7155 x	%RSD=7.0
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 628790.1239 x	%RSD=4.5

HH
Saphira
Q3 5500

Quant Method: H:\Saphira\Projects\1633\2023-02-

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 677678.7801 x	%RSD=10.8
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 9.4518 x	%RSD=4.7
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 2.8955 x	%RSD=5.5
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.1349 x	%RSD=5.4
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 1.8036 x	%RSD=7.5
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.1773 x	%RSD=3.7
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0595 x	%RSD=9.9
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2283 x	%RSD=3.7
13C7_PFUnA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.6768 x	%RSD=4.4
13C2_PFDoA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.7324 x	%RSD=5.6
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2502 x	%RSD=8.0
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 3.8284 x	%RSD=13.5
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.8749 x	%RSD=10.7
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.6706 x	%RSD=7.4
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4178 x	%RSD=6.5
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4180 x	%RSD=10.0
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5053 x	%RSD=9.8
13C8_PFOSA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 5.0539 x	%RSD=9.8
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.5143 x	%RSD=9.0
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.3847 x	%RSD=9.9
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.2823 x	%RSD=11.5
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.1482 x	%RSD=10.6
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 5.5441 x	%RSD=9.0
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 7.2083 x	%RSD=14.6
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 5.5480 x	%RSD=3.6

x=Concentration Analyte

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

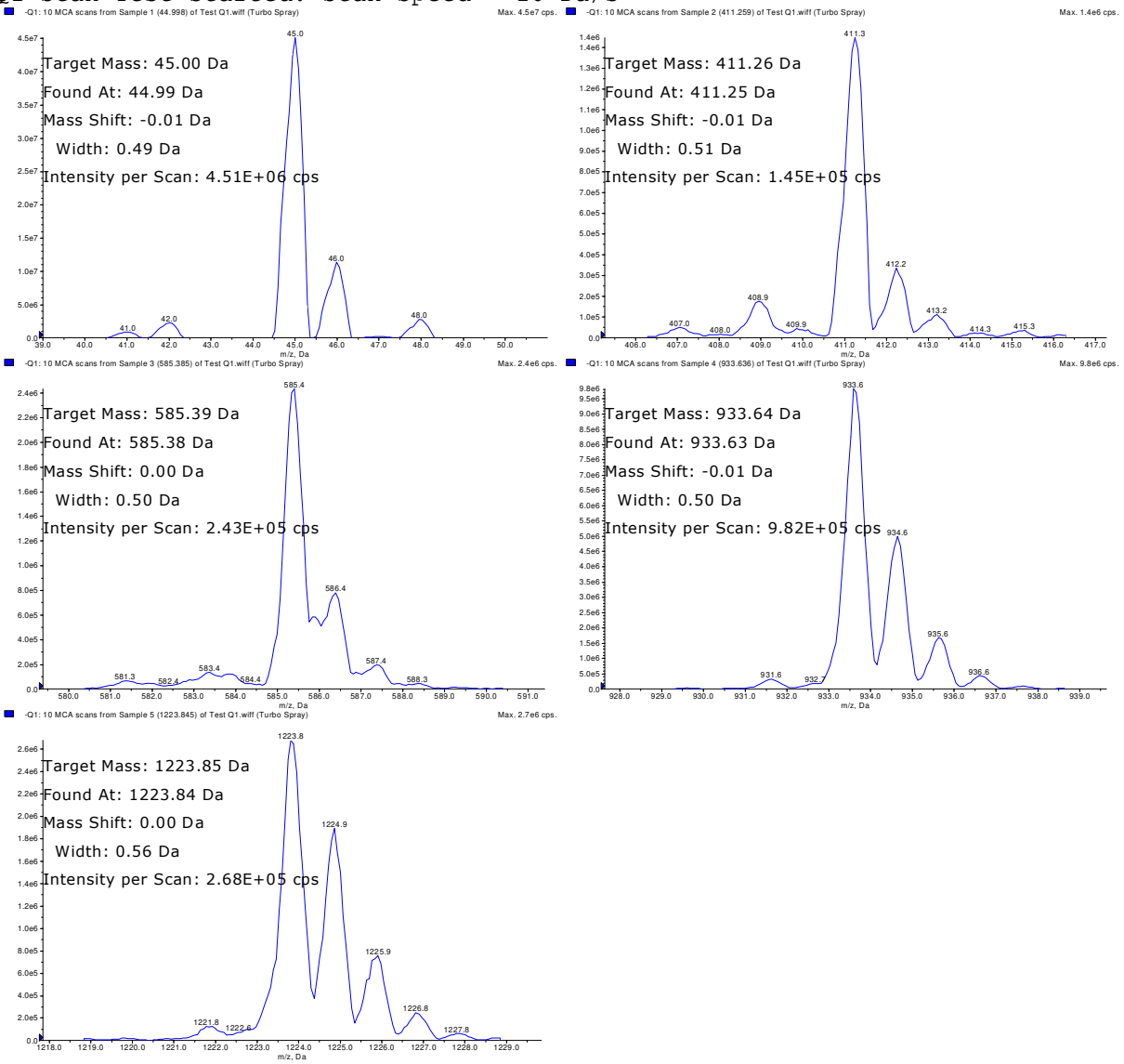
$$\text{Acid Factor} = \frac{\text{Moleculat weight Acid}}{\text{Molecular weight Salt}}$$

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

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

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

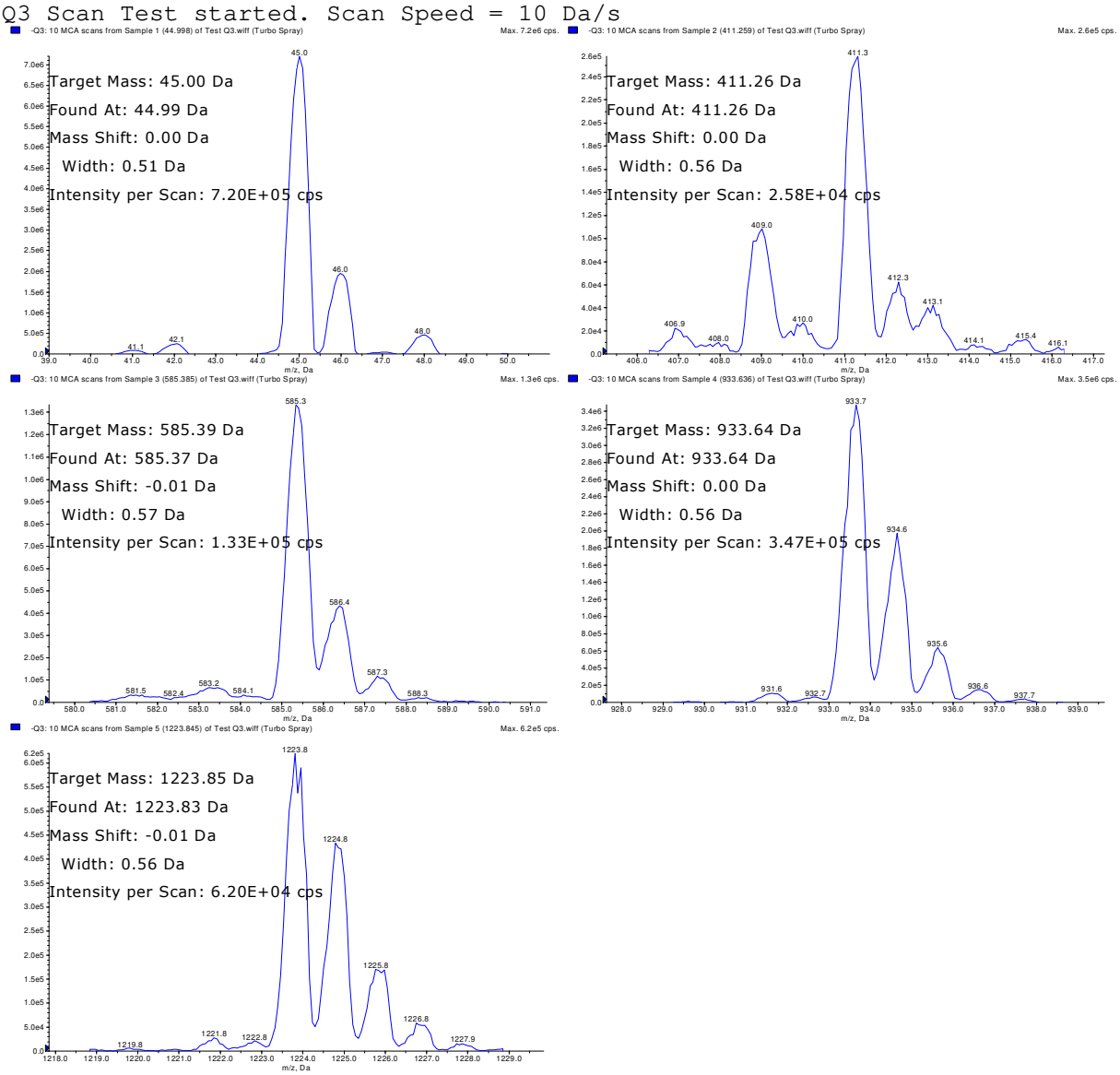
Q1 Scan Test started. Scan Speed = 10 Da/s



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

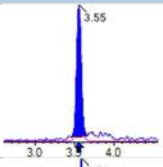
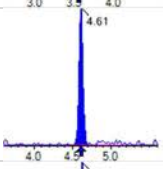
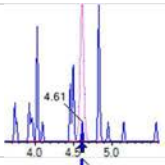
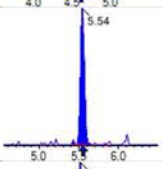
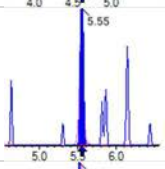
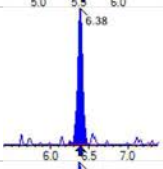
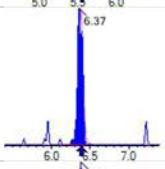
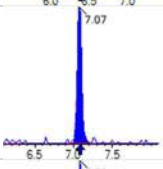
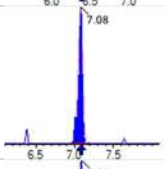
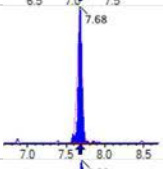
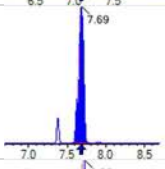
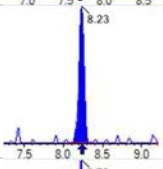
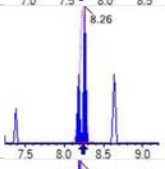
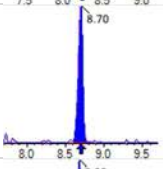
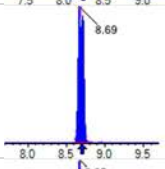
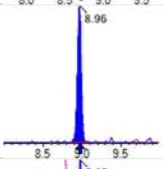
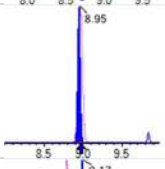
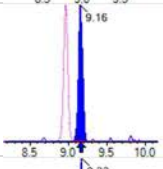
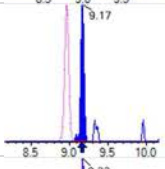
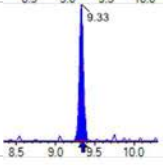
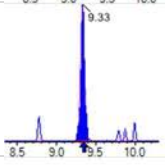
Initial Calibration: SC00597

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

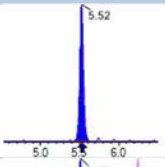
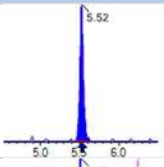
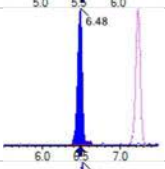
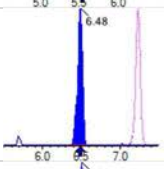
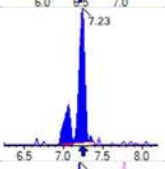
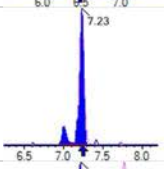
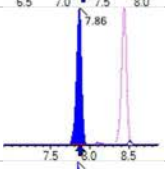
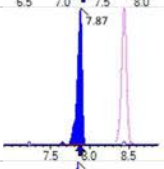
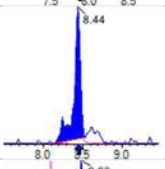
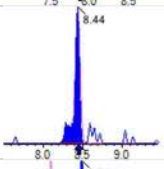
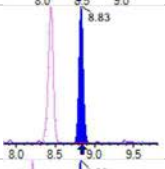
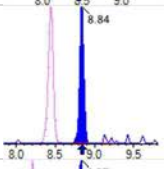
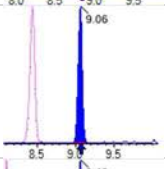
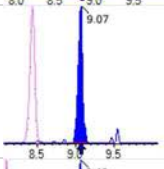
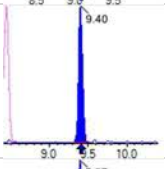
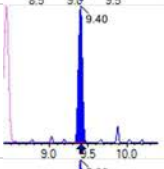
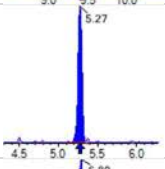
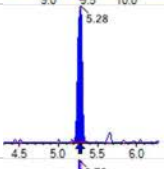
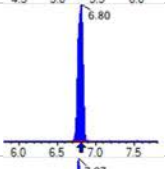
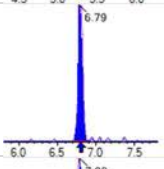
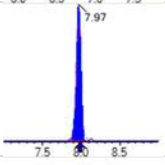
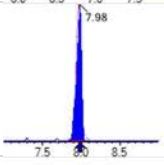
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 49647	(3.55 , 1.00) (0.00 , N/A , 0.0)	71.4	N/A 0.0 0.0	0.3818 [0.4000]	95.4%			
PFPeA	(263.0 / 219.0) 51219 (263.0 / 69.0) 78	(4.61 , 1.00) (0.00 , N/A , -0.2)	262.1 4.3	0.0015 10.4 10.4	0.1840 [0.2000]	92.0%			
PFHxA	(313.0 / 269.0) 37006 (313.0 / 119.0) 2739	(5.54 , 1.00) (0.00 , N/A , -0.5)	1641.1 211.8	0.0740 65.2 65.2	0.0868 [0.1000]	86.8%			
PFHpA	(363.0 / 319.0) 41326 (363.0 / 169.0) 14184	(6.38 , 1.00) (0.00 , N/A , 0.9)	389.5 718.3	0.3432 109.2 109.2	0.1081 [0.1000]	108.1%			
PFOA	(413.0 / 369.0) 47649 (413.0 / 169.0) 11348	(7.07 , 1.00) (0.00 , N/A , -0.4)	429.7 372461.8	0.2382 71.1 71.1	0.1225 [0.1000]	122.5%			
PFNA	(463.0 / 419.0) 23311 (463.0 / 169.0) 9056	(7.68 , 1.00) (0.00 , N/A , -0.4)	943.8 250.7	0.3885 170.3 170.3	0.0883 [0.1000]	88.3%			IR2,
PFDA	(513.0 / 469.0) 45641 (513.0 / 169.0) 1573	(8.23 , 1.00) (0.00 , N/A , -1.6)	95.0 152.5	0.0345 31.2 31.2	0.1219 [0.1000]	121.9%			IR1,
PFUnA	(563.0 / 519.0) 45829 (563.0 / 169.0) 2225	(8.70 , 1.00) (0.01 , N/A , 0.6)	165.3 96858.9	0.0485 47.4 47.4	0.1041 [0.1000]	104.1%			IR1,
PFDoA	(613.0 / 569.0) 44388 (613.0 / 169.0) 4200	(8.96 , 1.00) (0.00 , N/A , 1.1)	224.4 481.5	0.0946 66.0 66.0	0.0864 [0.1000]	86.4%			
PFTrDA	(663.0 / 619.0) 40227 (663.0 / 169.0) 7699	(9.16 , 1.02) (N/A , -0.01 , -0.7)	295.9 350.0	0.1914 84.1 84.1	0.0938 [0.1000]	93.8%			
PFTeDA	(713.0 / 669.0) 36645 (713.0 / 169.0) 9279	(9.33 , 1.00) (0.00 , N/A , -0.4)	169.4 175.8	0.2532 123.3 123.3	0.1100 [0.1000]	110.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

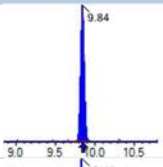
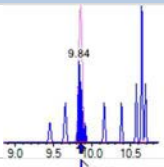
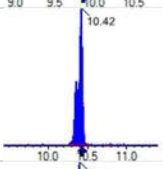
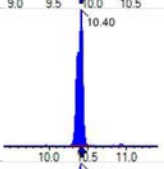
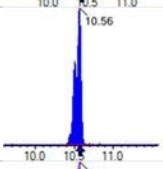
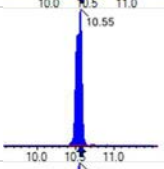
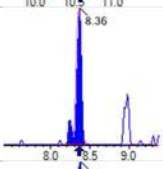
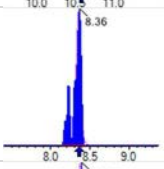
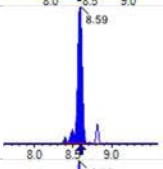
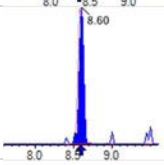
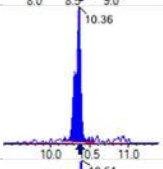
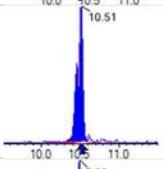
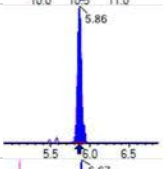
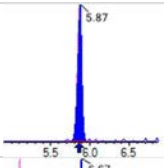
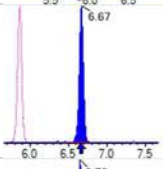
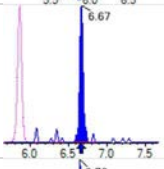
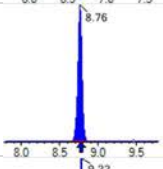
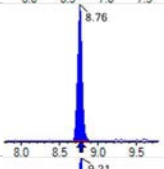
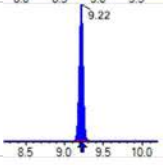
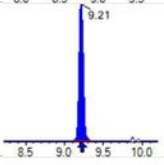
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 67494 (299.0 / 99.0) 41061	(5.52 , 1.00) (0.00 , N/A , 0.1)	716.3 343.2	0.6084 104.9 104.9	0.0896 [0.0885]	101.2%			
PFPeS	(349.0 / 80.0) 106790 (349.0 / 99.0) 48875	(6.48 , 0.90) (N/A , 0.00 , -0.3)	2185728.5 694.7	0.4577 133.7 133.7	0.0945 [0.0938]	100.7%			
PFHxS	(399.0 / 80.0) 67919 (399.0 / 99.0) 28841	(7.23 , 1.00) (0.01 , N/A , 0.1)	90.5 9394.2	0.4246 134.8 134.8	0.0798 [0.0911]	87.6%			
PFHpS	(449.0 / 80.0) 64407 (449.0 / 99.0) 25749	(7.86 , 0.93) (N/A , -0.01 , -0.7)	106550.8 90896.3	0.3998 150.5 150.5	0.0815 [0.0951]	85.7%			IR2,
PFOS	(499.0 / 80.0) 92237 (499.0 / 99.0) 23538	(8.44 , 1.00) (0.00 , N/A , 0.4)	67.5 68.6	0.2552 114.8 114.8	0.0886 [0.0927]	95.5%			
PFNS	(549.0 / 80.0) 105172 (549.0 / 99.0) 24154	(8.83 , 1.05) (N/A , -0.01 , -0.5)	11691.4 652404.2	0.2297 94.6 94.6	0.0862 [0.0960]	89.8%			
PFDS	(599.0 / 80.0) 158364 (599.0 / 99.0) 41178	(9.06 , 1.07) (N/A , -0.01 , -0.2)	491.3 178.5	0.2600 128.5 128.5	0.0985 [0.0963]	102.3%			
PFDoS	(699.0 / 80.0) 109940 (699.0 / 99.0) 20274	(9.40 , 1.11) (N/A , -0.01 , 0.0)	379.0 234.1	0.1844 90.4 90.4	0.0884 [0.0970]	91.2%			
4:2FTS	(327.0 / 307.0) 75425 (327.0 / 81.0) 44409	(5.27 , 1.00) (0.00 , N/A , 0.0)	488.1 219.7	0.5888 102.7 102.7	0.4292 [0.3738]	114.8%			
6:2FTS	(427.0 / 407.0) 30265 (427.0 / 81.0) 28572	(6.80 , 1.00) (0.00 , N/A , 0.7)	846.5 224.7	0.9440 123.9 123.9	0.3415 [0.3796]	89.9%			
8:2FTS	(527.0 / 507.0) 28725 (527.0 / 81.0) 25368	(7.97 , 1.00) (0.00 , N/A , -0.6)	131.7 7818.8	0.8831 135.4 135.4	0.3224 [0.3833]	84.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

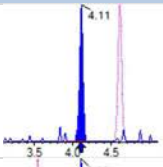
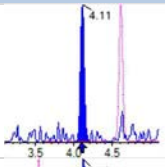
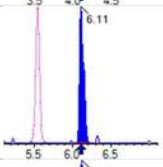
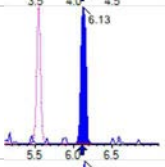
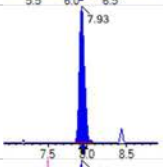
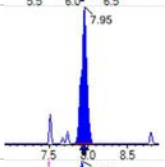
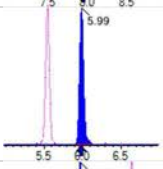
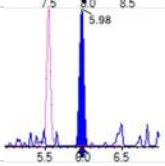
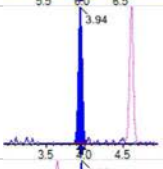
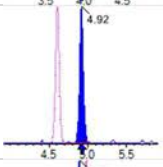
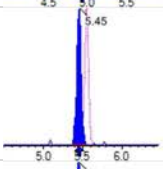
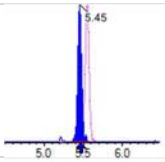
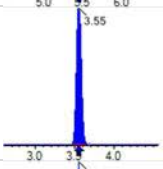
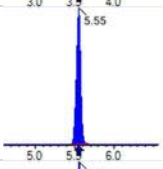
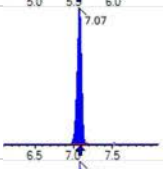
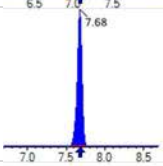
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 203867 (498.0 / 478.0) 1761	(9.84 , 1.00) (0.00 , N/A , 0.4)	811.8 24.2	0.0086 41.2 41.2	0.1110 [0.1000]	111.0%			
NMeFOSA	(512.0 / 219.0) 160688 (512.0 / 169.0) 154941	(10.42 , 1.00) (0.00 , N/A , 0.9)	972.6 2122.9	0.9642 117.4 117.4	0.3889 [0.4000]	97.2%			
NEtFOSA	(526.0 / 219.0) 178662 (526.0 / 169.0) 218515	(10.56 , 1.00) (0.00 , N/A , 0.6)	1825.1 1720.1	1.2231 97.6 97.6	0.3911 [0.4000]	97.8%			
NMeFOSAA	(570.0 / 419.0) 16680 (570.0 / 483.0) 8952	(8.36 , 1.00) (0.01 , N/A , 0.0)	724.3 44.4	0.5367 98.9 98.9	0.1003 [0.1000]	100.3%			
NEtFOSAA	(584.0 / 419.0) 12202 (584.0 / 526.0) 12492	(8.59 , 1.00) (0.00 , N/A , -1.0)	1331.3 203.0	1.0237 152.1 152.1	0.0788 [0.1000]	78.8%			IR2,
NMeFOSE	(616.0 / 59.0) 77435	(10.36 , 1.00) (0.01 , N/A , 0.0)	155.4	N/A 0.0 0.0	0.3579 [0.4000]	89.5%			
NEtFOSE	(630.0 / 59.0) 85763	(10.51 , 1.00) (0.01 , N/A , 0.0)	177.8	N/A 0.0 0.0	0.3903 [0.4000]	97.6%			
HFPO-DA	(285.0 / 169.0) 36055 (285.0 / 185.0) 100975	(5.86 , 1.00) (0.00 , N/A , -0.4)	35255.3 268.6	2.8006 98.8 98.8	0.1919 [0.2000]	95.9%			
ADONA	(377.0 / 85.0) 127855 (377.0 / 251.0) 13849	(6.67 , 1.14) (N/A , 0.00 , 0.0)	1202.8 115.8	0.1083 101.2 101.2	0.1903 [0.1885]	100.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 374224 (533.0 / 353.0) 111964	(8.76 , 1.49) (N/A , 0.00 , 0.1)	959.8 489.2	0.2992 95.8 95.8	0.1988 [0.1867]	106.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 278374 (633.0 / 453.0) 91524	(9.22 , 1.57) (N/A , 0.00 , 0.1)	615.6 1531.6	0.3288 103.5 103.5	0.1956 [0.1886]	103.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

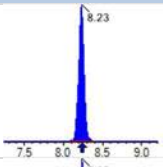
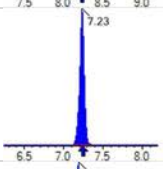
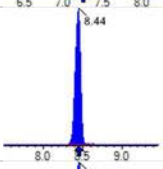
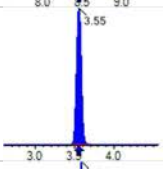
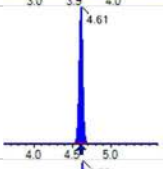
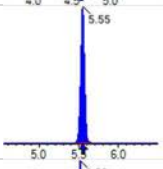
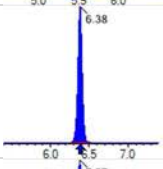
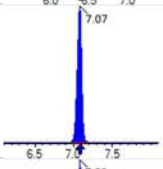
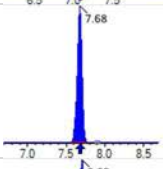
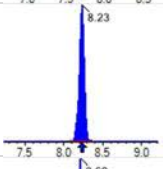
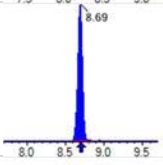
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3819 (241.0 / 117.0) 5737	(4.11 , 0.89) (N/A , 0.00 , 0.0)	165.8 42.8	1.5020 89.2 89.2	0.4639 [0.4000]	116.0%			
5:3FTCA	(341.0 / 236.7) 25536 (341.0 / 217.0) 44066	(6.11 , 1.10) (N/A , 0.00 , -0.9)	727.6 137.7	1.7256 96.2 96.2	0.3332 [0.4000]	83.3%			
7:3FTCA	(441.0 / 317.0) 29196 (441.0 / 337.0) 14485	(7.93 , 1.43) (N/A , -0.01 , -1.3)	1431.0 121.5	0.4961 59.1 59.1	0.3408 [0.4000]	85.2%			
PFEESA	(315.0 / 135.0) 73153 (315.0 / 83.0) 20805	(5.99 , 1.08) (N/A , 0.01 , 0.6)	1205.3 58.9	0.2844 93.2 93.2	0.1673 [0.1785]	93.8%			
PFMPA	(229.0 / 85.0) 9421	(3.94 , 0.86) (N/A , 0.00 , 0.0)	194.7	N/A 0.0 0.0	0.1766 [0.2000]	88.3%			
PFMBA	(279.0 / 85.0) 54394	(4.92 , 1.07) (N/A , 0.00 , 0.0)	656.3	N/A 0.0 0.0	0.2149 [0.2000]	107.5%			
NFDHA	(295.0 / 201.0) 46021 (295.0 / 85.0) 44248	(5.45 , 0.98) (N/A , 0.00 , 0.0)	8049.8 2163.6	0.9615 96.5 96.5	0.1909 [0.2000]	95.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 129587	(3.55 , N/A) (N/A , 0.00 , N/A)	1457.3	N/A	1.0511 [1.0000]	105.1% { 103.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 423452	(5.55 , N/A) (N/A , 0.00 , N/A)	10832.6	N/A	0.9831 [1.0000]	98.3% { 92.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 332557	(7.07 , N/A) (N/A , 0.00 , N/A)	3431.2	N/A	1.0188 [1.0000]	101.9% { 93.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 260218	(7.68 , N/A) (N/A , 0.00 , N/A)	21028.2	N/A	1.0258 [1.0000]	102.6% { 111.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

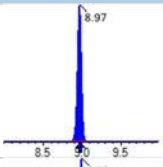
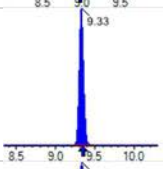
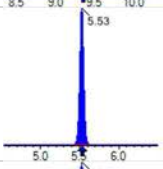
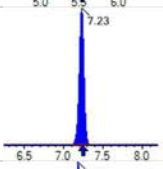
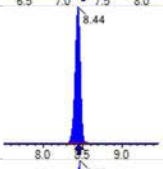
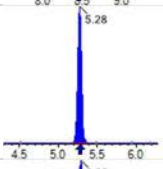
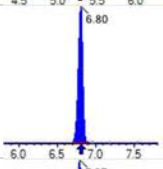
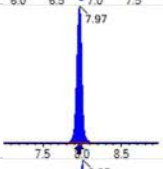
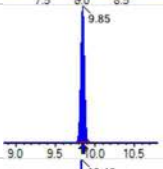
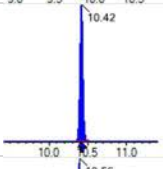
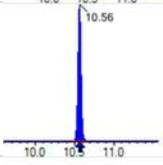
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 322413	(8.23 , N/A) (N/A , -0.01 , N/A)	1182.8	N/A	1.0320 [1.0000]	103.2% { 93.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 631090	(7.23 , N/A) (N/A , 0.00 , N/A)	1006.6	N/A	1.0037 [1.0000]	100.4% { 94.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 706728	(8.44 , N/A) (N/A , -0.01 , N/A)	763.4	N/A	1.0429 [1.0000]	104.3% { 90.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1267490	(3.55 , N/A) (N/A , 0.00 , N/A)	3350.5	N/A	8.2786 [8.0000]	103.5% { 105.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1331527	(4.61 , N/A) (N/A , 0.00 , N/A)	3178.4	N/A	4.3439 [4.0000]	108.6% { 105.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 954403	(5.55 , N/A) (N/A , 0.00 , N/A)	1906.4	N/A	2.1114 [2.0000]	105.6% { 95.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 789022	(6.38 , N/A) (N/A , 0.00 , N/A)	1610.0	N/A	2.0662 [2.0000]	103.3% { 104.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 766115	(7.07 , N/A) (N/A , 0.00 , N/A)	2451.1	N/A	2.1161 [2.0000]	105.8% { 104.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 280739	(7.68 , N/A) (N/A , 0.00 , N/A)	3813.9	N/A	1.0183 [1.0000]	101.8% { 96.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 403613	(8.23 , N/A) (N/A , 0.00 , N/A)	1768.3	N/A	1.0192 [1.0000]	101.9% { 97.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 533686	(8.69 , N/A) (N/A , -0.01 , N/A)	824.9	N/A	0.9871 [1.0000]	98.7% { 95.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

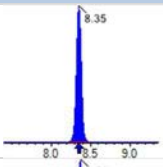
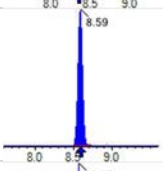
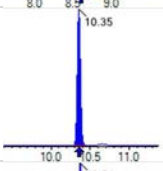
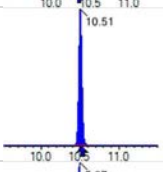
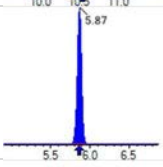
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 596102	(8.97 , N/A) (N/A , 0.00 , N/A)	882.4	N/A	1.0673 [1.0000]	106.7% { 103.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 366093	(9.33 , N/A) (N/A , -0.01 , N/A)	846.1	N/A	0.9083 [1.0000]	90.8% { 84.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2671443	(5.53 , N/A) (N/A , 0.00 , N/A)	2720.2	N/A	2.2114 [2.0000]	110.6% { 107.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1154535	(7.23 , N/A) (N/A , 0.00 , N/A)	1380.6	N/A	1.9515 [2.0000]	97.6% { 96.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1920396	(8.44 , N/A) (N/A , 0.00 , N/A)	1657.4	N/A	2.0350 [2.0000]	101.7% { 98.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 245060	(5.28 , N/A) (N/A , 0.00 , N/A)	867.7	N/A	3.7174 [4.0000]	92.9% { 95.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 256519	(6.80 , N/A) (N/A , 0.00 , N/A)	900.6	N/A	3.8898 [4.0000]	97.2% { 105.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 297044	(7.97 , N/A) (N/A , 0.00 , N/A)	1320.3	N/A	3.7261 [4.0000]	93.2% { 103.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3798680	(9.85 , N/A) (N/A , 0.00 , N/A)	2107.9	N/A	2.1271 [2.0000]	106.4% { 104.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1044771	(10.42 , N/A) (N/A , 0.00 , N/A)	2568.5	N/A	1.9525 [2.0000]	97.6% { 96.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 956529	(10.56 , N/A) (N/A , 0.00 , N/A)	2869.7	N/A	1.9549 [2.0000]	97.7% { 94.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (1)
Acquired: 2023/02/09 - 12:17

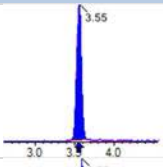
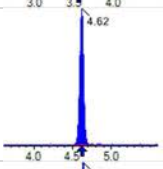
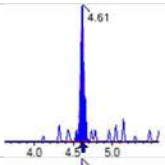
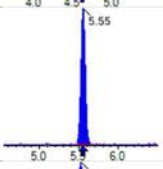
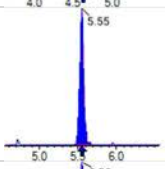
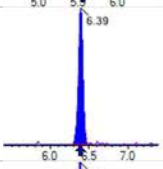
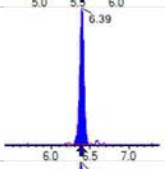
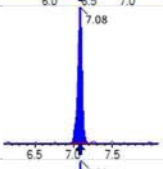
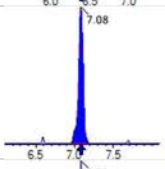
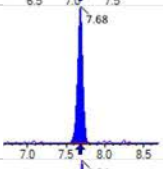
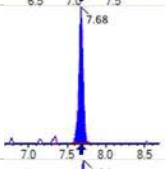
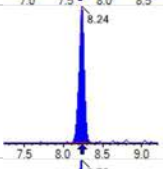
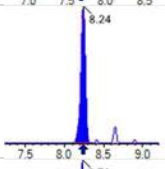
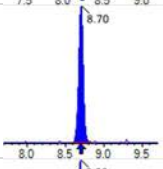
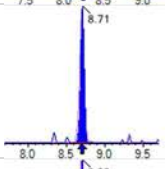
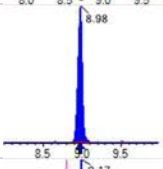
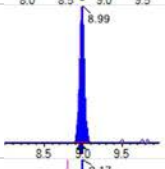
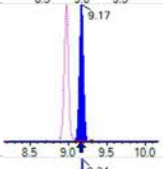
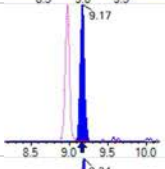
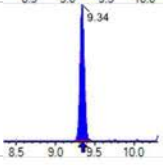
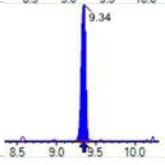
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 850761	(8.35 , N/A) (N/A , 0.00 , N/A)	768.2	N/A	3.7553 [4.0000]	93.9% { 88.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 770765	(8.59 , N/A) (N/A , -0.01 , N/A)	1542.6	N/A	3.7995 [4.0000]	95.0% { 98.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4175088	(10.35 , N/A) (N/A , 0.00 , N/A)	1337.5	N/A	21.3116 [20.0000]	106.6% { 100.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4534368	(10.51 , N/A) (N/A , -0.01 , N/A)	1796.9	N/A	17.8016 [20.0000]	89.0% { 79.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2396898	(5.87 , N/A) (N/A , 0.00 , N/A)	1997.4	N/A	8.1621 [8.0000]	102.0% { 95.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

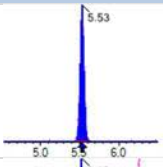
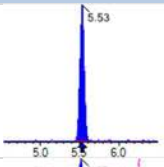
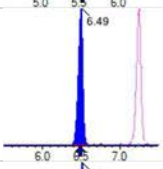
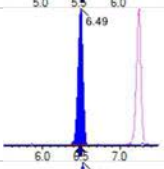
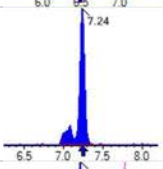
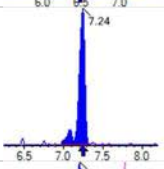
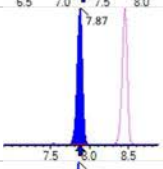
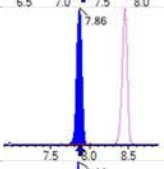
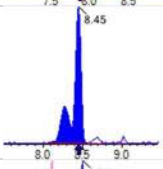
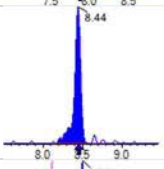
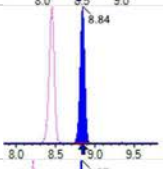
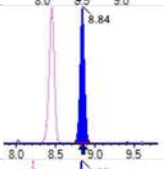
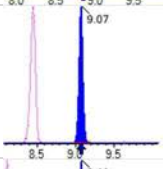
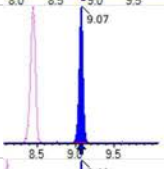
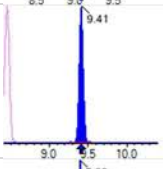
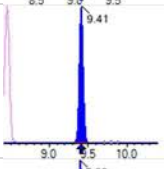
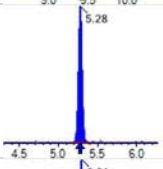
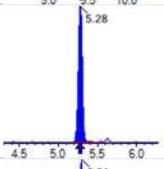
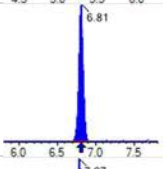
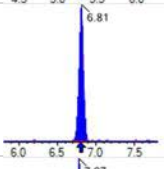
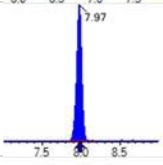
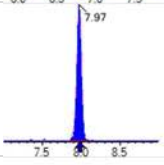
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 255559	(3.55 , 1.00) (0.00 , N/A , 0.0)	132.8	N/A 0.0 0.0	1.8946 [2.0000]	94.7%			
PFPeA	(263.0 / 219.0) 269819 (263.0 / 69.0) 3906	(4.62 , 1.00) (0.00 , N/A , 0.2)	1008.5 78.5	0.0145 98.7 98.7	0.9507 [1.0000]	95.1%			
PFHxA	(313.0 / 269.0) 223824 (313.0 / 119.0) 21620	(5.55 , 1.00) (0.00 , N/A , 0.3)	1343.9 944056.5	0.0966 85.1 85.1	0.4848 [0.5000]	97.0%			
PFHpA	(363.0 / 319.0) 185654 (363.0 / 169.0) 63754	(6.39 , 1.00) (0.00 , N/A , -0.1)	3388.4 888.8	0.3434 109.2 109.2	0.4731 [0.5000]	94.6%			
PFOA	(413.0 / 369.0) 178794 (413.0 / 169.0) 66178	(7.08 , 1.00) (0.01 , N/A , 0.1)	1493.7 59947.1	0.3701 110.6 110.6	0.4578 [0.5000]	91.6%			
PFNA	(463.0 / 419.0) 115593 (463.0 / 169.0) 32640	(7.68 , 1.00) (0.00 , N/A , 0.3)	2331.5 1132.0	0.2824 123.8 123.8	0.4570 [0.5000]	91.4%			
PFDA	(513.0 / 469.0) 169631 (513.0 / 169.0) 22030	(8.24 , 1.00) (0.00 , N/A , -0.4)	306.6 555.7	0.1299 117.7 117.7	0.4614 [0.5000]	92.3%			
PFUnA	(563.0 / 519.0) 214393 (563.0 / 169.0) 21989	(8.70 , 1.00) (0.00 , N/A , -0.3)	568.8 195.6	0.1026 100.1 100.1	0.4636 [0.5000]	92.7%			
PFDoA	(613.0 / 569.0) 274415 (613.0 / 169.0) 25330	(8.98 , 1.00) (0.00 , N/A , -0.8)	732.2 660.7	0.0923 64.4 64.4	0.5750 [0.5000]	115.0%			
PFTrDA	(663.0 / 619.0) 216707 (663.0 / 169.0) 44271	(9.17 , 1.02) (N/A , 0.00 , 0.1)	946.4 260.2	0.2043 89.7 89.7	0.5436 [0.5000]	108.7%			
PFTeDA	(713.0 / 669.0) 194512 (713.0 / 169.0) 43600	(9.34 , 1.00) (0.00 , N/A , -0.4)	600.8 604.7	0.2242 109.2 109.2	0.5604 [0.5000]	112.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

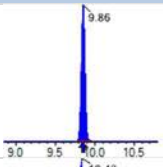
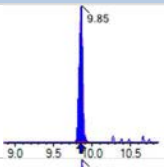
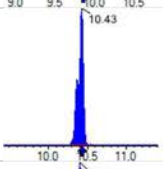
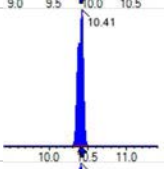
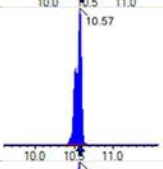
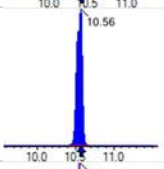
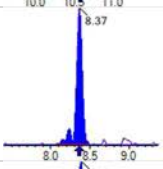
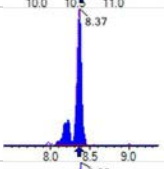
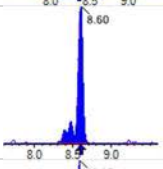
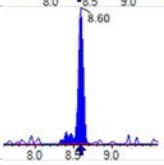
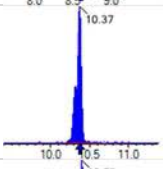
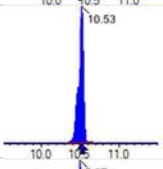
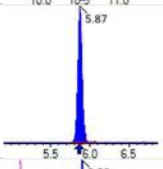
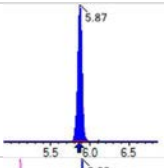
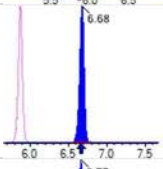
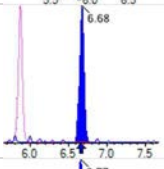
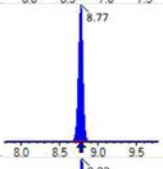
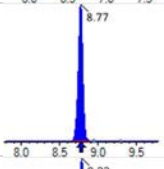
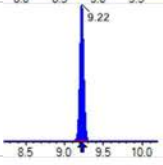
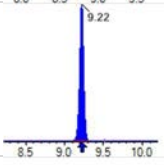
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 296738 (299.0 / 99.0) 196881	(5.53 , 1.00) (0.00 , N/A , 0.0)	1107.2 473.7	0.6635 114.4 114.4	0.4131 [0.4424]	93.4%			
PFPeS	(349.0 / 80.0) 550408 (349.0 / 99.0) 210593	(6.49 , 0.90) (N/A , 0.01 , 0.1)	519798.8 1871.2	0.3826 111.7 111.7	0.4269 [0.4692]	91.0%			
PFHxS	(399.0 / 80.0) 437468 (399.0 / 99.0) 117013	(7.24 , 1.00) (0.00 , N/A , -0.1)	1445.7 1631225.3	0.2675 84.9 84.9	0.4503 [0.4555]	98.9%			
PFHpS	(449.0 / 80.0) 371779 (449.0 / 99.0) 103631	(7.87 , 0.93) (N/A , 0.00 , 0.4)	6505080.6 10019.6	0.2787 104.9 104.9	0.4629 [0.4757]	97.3%			
PFOS	(499.0 / 80.0) 486456 (499.0 / 99.0) 112820	(8.45 , 1.00) (0.00 , N/A , 0.4)	320.2 142.6	0.2319 104.3 104.3	0.4593 [0.4637]	99.0%			
PFNS	(549.0 / 80.0) 635914 (549.0 / 99.0) 169572	(8.84 , 1.05) (N/A , 0.00 , 0.1)	4081689.9 1653096.7	0.2667 109.9 109.9	0.5123 [0.4799]	106.7%			
PFDS	(599.0 / 80.0) 806227 (599.0 / 99.0) 185714	(9.07 , 1.07) (N/A , 0.00 , -0.1)	837.6 786.6	0.2303 113.9 113.9	0.4931 [0.4816]	102.4%			
PFDoS	(699.0 / 80.0) 605454 (699.0 / 99.0) 119459	(9.41 , 1.11) (N/A , 0.00 , 0.0)	768.4 935.4	0.1973 96.7 96.7	0.4789 [0.4848]	98.8%			
4:2FTS	(327.0 / 307.0) 340432 (327.0 / 81.0) 214631	(5.28 , 1.00) (0.00 , N/A , -0.1)	1168.5 636.5	0.6305 110.0 110.0	1.7597 [1.8691]	94.1%			
6:2FTS	(427.0 / 407.0) 185234 (427.0 / 81.0) 144486	(6.81 , 1.00) (0.00 , N/A , 0.0)	726.8 534.8	0.7800 102.4 102.4	1.9187 [1.8981]	101.1%			
8:2FTS	(527.0 / 507.0) 186985 (527.0 / 81.0) 138868	(7.97 , 1.00) (0.00 , N/A , 0.1)	836.9 845.3	0.7427 113.9 113.9	1.8547 [1.9166]	96.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

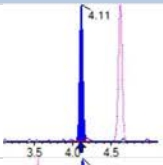
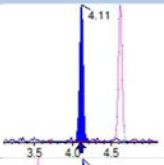
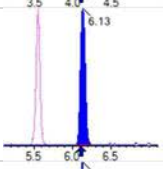
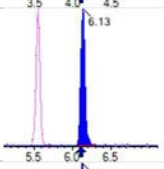
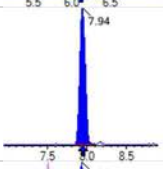
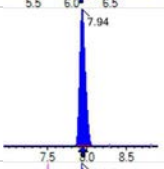
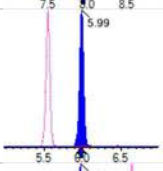
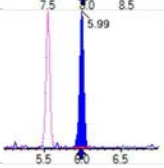
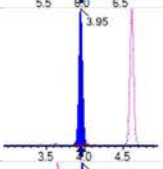
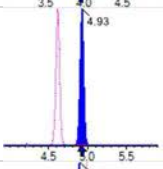
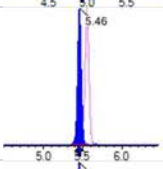
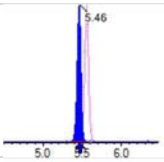
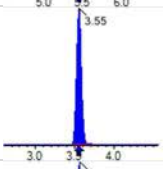
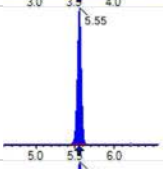
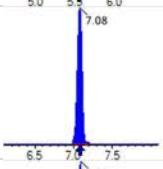
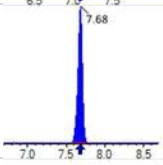
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 945724 (498.0 / 478.0) 17397	(9.86 , 1.00) (0.00 , N/A , 0.1)	1374.8 369.5	0.0184 87.8 87.8	0.4964 [0.5000]	99.3%			
NMeFOSA	(512.0 / 219.0) 910676 (512.0 / 169.0) 723198	(10.43 , 1.00) (0.00 , N/A , 1.0)	3413.6 3209.6	0.7941 96.7 96.7	1.9586 [2.0000]	97.9%			
NEtFOSA	(526.0 / 219.0) 989166 (526.0 / 169.0) 1232449	(10.57 , 1.00) (0.00 , N/A , 0.9)	3752.1 4328.6	1.2459 99.4 99.4	1.9601 [2.0000]	98.0%			
NMeFOSAA	(570.0 / 419.0) 89646 (570.0 / 483.0) 57744	(8.37 , 1.00) (0.01 , N/A , 0.0)	632.9 187.0	0.6441 118.7 118.7	0.4826 [0.5000]	96.5%			
NEtFOSAA	(584.0 / 419.0) 73408 (584.0 / 526.0) 38569	(8.60 , 1.00) (0.01 , N/A , 0.1)	1565.3 156.7	0.5254 78.0 78.0	0.4904 [0.5000]	98.1%			
NMeFOSE	(616.0 / 59.0) 434225	(10.37 , 1.00) (0.01 , N/A , 0.0)	654.9	N/A 0.0 0.0	1.9897 [2.0000]	99.5%			
NEtFOSE	(630.0 / 59.0) 549719	(10.53 , 1.00) (0.01 , N/A , 0.0)	577.2	N/A 0.0 0.0	1.8923 [2.0000]	94.6%			
HFPO-DA	(285.0 / 169.0) 183369 (285.0 / 185.0) 557247	(5.87 , 1.00) (0.00 , N/A , 0.0)	3658.6 1240.1	3.0389 107.2 107.2	0.9131 [1.0000]	91.3%			
ADONA	(377.0 / 85.0) 619838 (377.0 / 251.0) 74522	(6.68 , 1.14) (N/A , 0.01 , 0.0)	968.5 206.0	0.1202 112.4 112.4	0.8631 [0.9427]	91.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 1918465 (533.0 / 353.0) 551537	(8.77 , 1.49) (N/A , 0.00 , 0.1)	1427.2 772.0	0.2875 92.1 92.1	0.9225 [0.9333]	98.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 1554533 (633.0 / 453.0) 438560	(9.22 , 1.57) (N/A , 0.00 , 0.1)	1139.6 887.0	0.2821 88.8 88.8	0.9575 [0.9432]	101.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

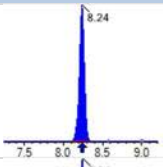
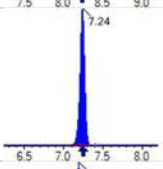
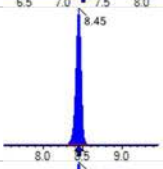
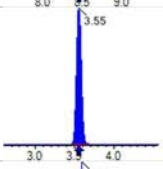
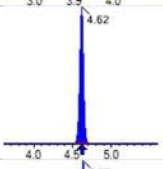
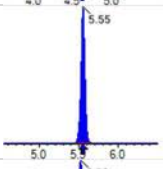
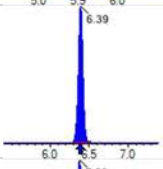
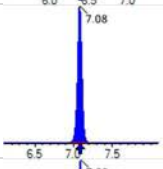
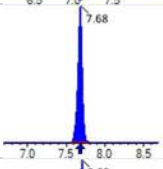
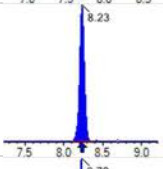
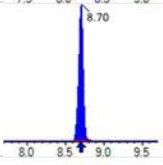
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 13927 (241.0 / 117.0) 22656	(4.11 , 0.89) (N/A , 0.00 , -0.2)	344.3 192.7	1.6268 96.6 96.6	1.6593 [2.0000]	83.0%			
5:3FTCA	(341.0 / 236.7) 136771 (341.0 / 217.0) 271378	(6.13 , 1.10) (N/A , 0.02 , -0.1)	732.1 476.2	1.9842 110.6 110.6	1.6487 [2.0000]	82.4%			
7:3FTCA	(441.0 / 317.0) 170266 (441.0 / 337.0) 128698	(7.94 , 1.43) (N/A , 0.00 , 0.1)	446.9 3407.9	0.7559 90.1 90.1	1.8360 [2.0000]	91.8%			
PFEESA	(315.0 / 135.0) 409819 (315.0 / 83.0) 116384	(5.99 , 1.08) (N/A , 0.01 , -0.1)	1420.4 203.3	0.2840 93.0 93.0	0.8660 [0.8925]	97.0%			
PFMPA	(229.0 / 85.0) 53038	(3.95 , 0.86) (N/A , 0.00 , 0.0)	939.7	N/A 0.0 0.0	0.9750 [1.0000]	97.5%			
PFMBA	(279.0 / 85.0) 248689	(4.93 , 1.07) (N/A , 0.01 , 0.0)	1064.1	N/A 0.0 0.0	0.9638 [1.0000]	96.4%			
NFDHA	(295.0 / 201.0) 232018 (295.0 / 85.0) 257938	(5.46 , 0.98) (N/A , 0.01 , -0.1)	16704.1 983.8	1.1117 111.6 111.6	0.8888 [1.0000]	88.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 134128	(3.55 , N/A) (N/A , 0.00 , N/A)	1314.8	N/A	1.0879 [1.0000]	108.8% { 107.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 468497	(5.55 , N/A) (N/A , 0.01 , N/A)	1934.7	N/A	1.0877 [1.0000]	108.8% { 101.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 338211	(7.08 , N/A) (N/A , 0.00 , N/A)	2142.8	N/A	1.0361 [1.0000]	103.6% { 95.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 273442	(7.68 , N/A) (N/A , 0.00 , N/A)	1313.4	N/A	1.0779 [1.0000]	107.8% { 116.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

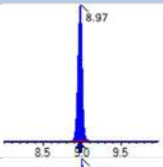
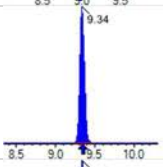
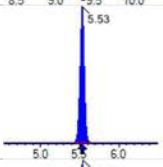
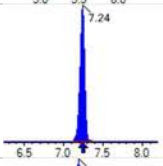
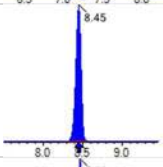
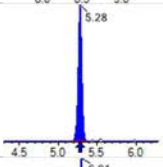
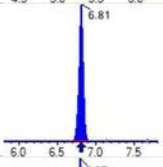
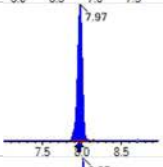
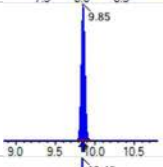
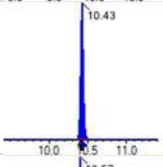
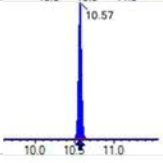
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 306851	(8.24 , N/A) (N/A , 0.00 , N/A)	494.4	N/A	0.9822 [1.0000]	98.2% { 89.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 575459	(7.24 , N/A) (N/A , 0.00 , N/A)	892.4	N/A	0.9152 [1.0000]	91.5% { 86.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 685626	(8.45 , N/A) (N/A , 0.00 , N/A)	827.3	N/A	1.0117 [1.0000]	101.2% { 87.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1314690	(3.55 , N/A) (N/A , 0.00 , N/A)	3292.0	N/A	8.2962 [8.0000]	103.7% { 108.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1357338	(4.62 , N/A) (N/A , 0.00 , N/A)	2421.9	N/A	4.0023 [4.0000]	100.1% { 107.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1033226	(5.55 , N/A) (N/A , 0.01 , N/A)	1957.4	N/A	2.0660 [2.0000]	103.3% { 103.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 809585	(6.39 , N/A) (N/A , 0.01 , N/A)	1247.9	N/A	1.9162 [2.0000]	95.8% { 106.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 769237	(7.08 , N/A) (N/A , 0.00 , N/A)	1267.6	N/A	2.0892 [2.0000]	104.5% { 104.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 268942	(7.68 , N/A) (N/A , 0.00 , N/A)	211.7	N/A	0.9283 [1.0000]	92.8% { 92.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 396181	(8.23 , N/A) (N/A , 0.00 , N/A)	706.3	N/A	1.0512 [1.0000]	105.1% { 95.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 560560	(8.70 , N/A) (N/A , 0.01 , N/A)	917.0	N/A	1.0894 [1.0000]	108.9% { 100.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

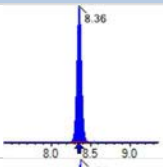
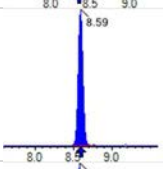
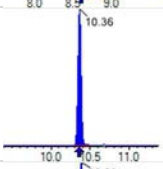
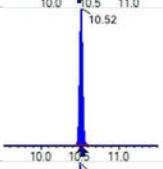
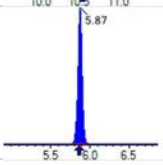
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 553979	(8.97 , N/A) (N/A , 0.01 , N/A)	1197.3	N/A	1.0421 [1.0000]	104.2% { 96.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 381354	(9.34 , N/A) (N/A , 0.00 , N/A)	844.1	N/A	0.9941 [1.0000]	99.4% { 88.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2546331	(5.53 , N/A) (N/A , 0.01 , N/A)	2646.9	N/A	2.3116 [2.0000]	115.6% { 102.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1317755	(7.24 , N/A) (N/A , 0.01 , N/A)	1321.6	N/A	2.4428 [2.0000]	122.1% { 110.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1952930	(8.45 , N/A) (N/A , 0.01 , N/A)	871.5	N/A	2.1332 [2.0000]	106.7% { 100.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 269791	(5.28 , N/A) (N/A , 0.00 , N/A)	1192.1	N/A	4.4882 [4.0000]	112.2% { 105.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 279399	(6.81 , N/A) (N/A , 0.01 , N/A)	799.5	N/A	4.6463 [4.0000]	116.2% { 115.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 336114	(7.97 , N/A) (N/A , 0.00 , N/A)	789.9	N/A	4.6238 [4.0000]	115.6% { 117.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3940429	(9.85 , N/A) (N/A , 0.00 , N/A)	2189.0	N/A	2.2743 [2.0000]	113.7% { 108.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1175590	(10.43 , N/A) (N/A , 0.00 , N/A)	2467.6	N/A	2.2646 [2.0000]	113.2% { 109.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1056572	(10.57 , N/A) (N/A , 0.00 , N/A)	3217.1	N/A	2.2258 [2.0000]	111.3% { 104.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (2)
Acquired: 2023/02/09 - 12:30

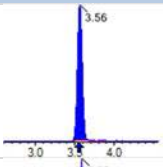
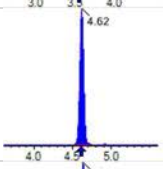
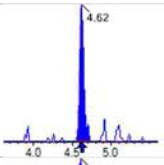
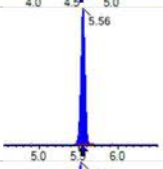
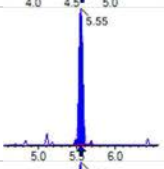
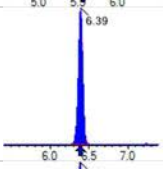
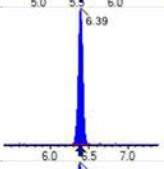
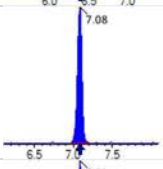
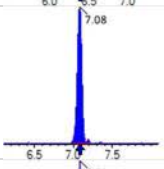
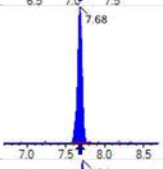
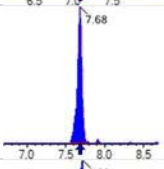
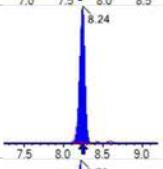
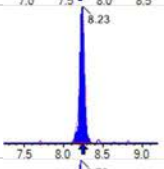
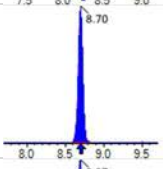
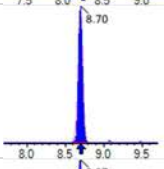
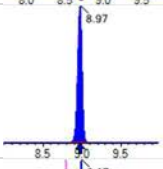
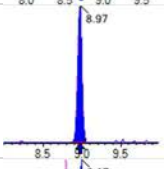
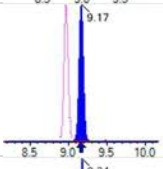
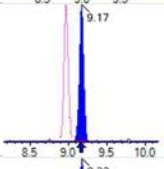
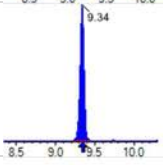
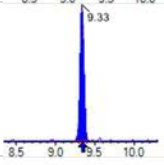
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 950577	(8.36 , N/A) (N/A , 0.00 , N/A)	1034.2	N/A	4.3250 [4.0000]	108.1% { 98.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 745259	(8.59 , N/A) (N/A , 0.00 , N/A)	1166.0	N/A	3.7869 [4.0000]	94.7% { 95.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4211532	(10.36 , N/A) (N/A , 0.00 , N/A)	1571.0	N/A	22.1592 [20.0000]	110.8% { 101.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5994296	(10.52 , N/A) (N/A , 0.00 , N/A)	1850.0	N/A	24.2575 [20.0000]	121.3% { 104.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2561806	(5.87 , N/A) (N/A , 0.01 , N/A)	1873.5	N/A	7.8849 [8.0000]	98.6% { 102.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

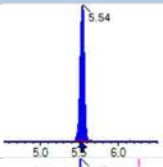
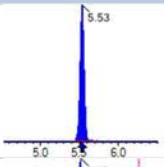
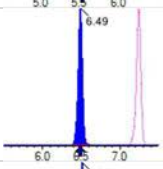
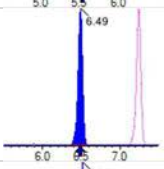
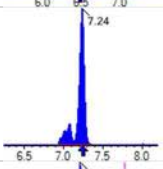
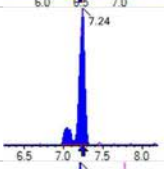
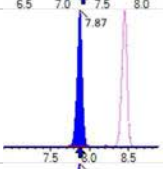
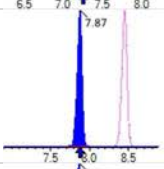
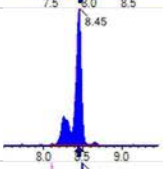
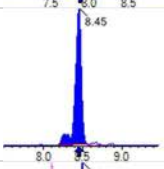
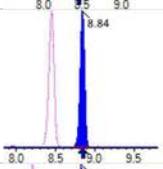
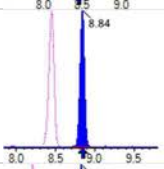
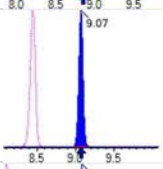
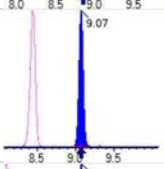
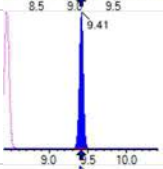
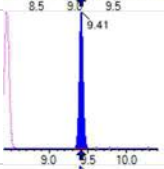
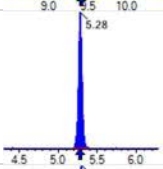
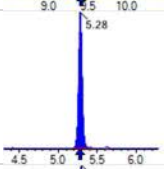
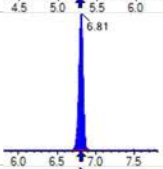
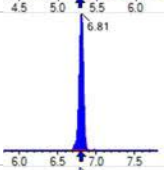
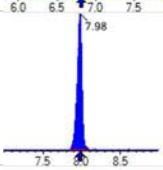
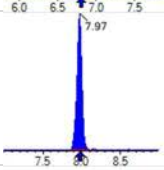
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 537861	(3.56 , 1.00) (0.00 , N/A , 0.0)	176.7	N/A 0.0 0.0	4.0924 [4.0000]	102.3%			
PFPeA	(263.0 / 219.0) 562962 (263.0 / 69.0) 7017	(4.62 , 1.00) (0.00 , N/A , -0.2)	2160.8 99.0	0.0125 85.0 85.0	2.0241 [2.0000]	101.2%			
PFHxA	(313.0 / 269.0) 442718 (313.0 / 119.0) 40568	(5.56 , 1.00) (0.00 , N/A , 0.3)	2841.6 23036484.7	0.0916 80.8 80.8	1.0121 [1.0000]	101.2%			
PFHpA	(363.0 / 319.0) 417223 (363.0 / 169.0) 103145	(6.39 , 1.00) (0.00 , N/A , 0.0)	3208.1 3048.8	0.2472 78.6 78.6	1.0179 [1.0000]	101.8%			
PFOA	(413.0 / 369.0) 390905 (413.0 / 169.0) 145428	(7.08 , 1.00) (0.00 , N/A , 0.1)	4050.7 3258.6	0.3720 111.1 111.1	0.9979 [1.0000]	99.8%			
PFNA	(463.0 / 419.0) 267652 (463.0 / 169.0) 66538	(7.68 , 1.00) (0.00 , N/A , 0.1)	6200.2 52129.2	0.2486 109.0 109.0	1.0475 [1.0000]	104.7%			
PFDA	(513.0 / 469.0) 378091 (513.0 / 169.0) 42024	(8.24 , 1.00) (0.00 , N/A , 0.4)	550.7 625.6	0.1111 100.7 100.7	1.0313 [1.0000]	103.1%			
PFUnA	(563.0 / 519.0) 468790 (563.0 / 169.0) 49409	(8.70 , 1.00) (0.00 , N/A , 0.2)	908.5 2362.7	0.1054 102.9 102.9	1.0067 [1.0000]	100.7%			
PFDoA	(613.0 / 569.0) 526282 (613.0 / 169.0) 73903	(8.97 , 1.00) (0.00 , N/A , 0.0)	973.2 636.7	0.1404 97.9 97.9	1.0281 [1.0000]	102.8%			
PFTrDA	(663.0 / 619.0) 422854 (663.0 / 169.0) 92609	(9.17 , 1.02) (N/A , 0.00 , -0.3)	1095.6 535.0	0.2190 96.2 96.2	0.9888 [1.0000]	98.9%			
PFTeDA	(713.0 / 669.0) 367650 (713.0 / 169.0) 65142	(9.34 , 1.00) (0.00 , N/A , 0.2)	1035.6 466.1	0.1772 86.3 86.3	0.8955 [1.0000]	89.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

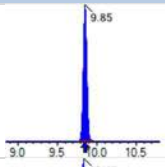
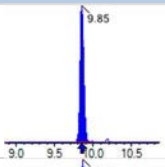
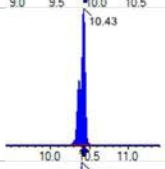
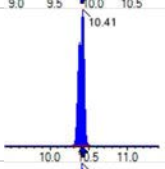
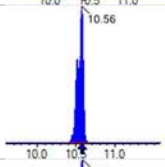
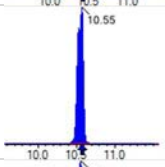
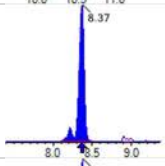
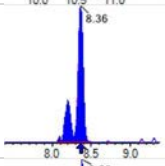
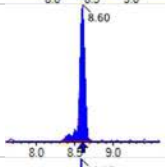
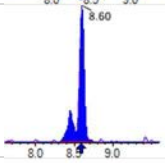
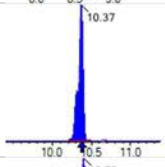
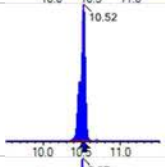
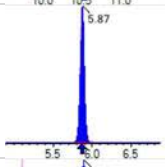
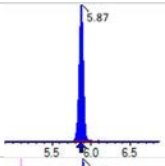
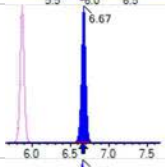
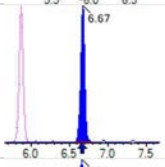
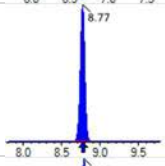
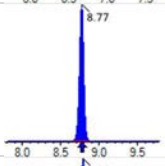
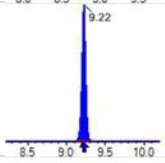
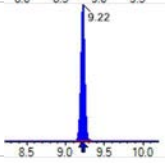
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 661978 (299.0 / 99.0) 425544	(5.54 , 1.00) (0.00 , N/A , 0.1)	1110.5 870.8	0.6428 110.8 110.8	0.9570 [0.8847]	108.2%			
PFPeS	(349.0 / 80.0) 1159361 (349.0 / 99.0) 423929	(6.49 , 0.90) (N/A , 0.01 , -0.1)	784431.7 2264.7	0.3657 106.8 106.8	0.9462 [0.9384]	100.8%			
PFHxS	(399.0 / 80.0) 869668 (399.0 / 99.0) 275189	(7.24 , 1.00) (0.00 , N/A , -0.2)	9640.7 753.0	0.3164 100.4 100.4	0.9419 [0.9110]	103.4%			
PFHpS	(449.0 / 80.0) 705745 (449.0 / 99.0) 206414	(7.87 , 0.93) (N/A , 0.00 , 0.0)	13129626.8 306284.8	0.2925 110.1 110.1	0.8567 [0.9514]	90.0%			
PFOS	(499.0 / 80.0) 982656 (499.0 / 99.0) 209448	(8.45 , 1.00) (0.00 , N/A , 0.2)	617.2 301.5	0.2131 95.9 95.9	0.9047 [0.9275]	97.5%			
PFNS	(549.0 / 80.0) 1160443 (549.0 / 99.0) 280591	(8.84 , 1.05) (N/A , 0.01 , 0.1)	119108.0 4532.3	0.2418 99.6 99.6	0.9116 [0.9599]	95.0%			
PFDS	(599.0 / 80.0) 1550325 (599.0 / 99.0) 351296	(9.07 , 1.07) (N/A , 0.00 , -0.1)	1395.5 1011.4	0.2266 112.0 112.0	0.9245 [0.9631]	96.0%			
PFDoS	(699.0 / 80.0) 1246746 (699.0 / 99.0) 251641	(9.41 , 1.11) (N/A , 0.01 , 0.2)	1575.7 748.6	0.2018 98.9 98.9	0.9616 [0.9696]	99.2%			
4:2FTS	(327.0 / 307.0) 726943 (327.0 / 81.0) 411993	(5.28 , 1.00) (0.00 , N/A , -0.1)	1419.4 870.8	0.5667 98.9 98.9	3.7669 [3.7381]	100.8%			
6:2FTS	(427.0 / 407.0) 359402 (427.0 / 81.0) 249899	(6.81 , 1.00) (0.00 , N/A , 0.2)	1311.8 903.5	0.6953 91.2 91.2	4.0617 [3.7962]	107.0%			
8:2FTS	(527.0 / 507.0) 406184 (527.0 / 81.0) 242387	(7.98 , 1.00) (0.00 , N/A , 0.3)	786.4 968.5	0.5967 91.5 91.5	4.4160 [3.8332]	115.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

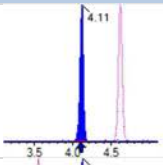
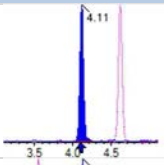
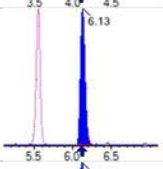
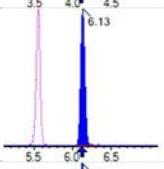
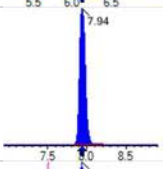
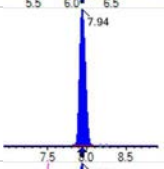
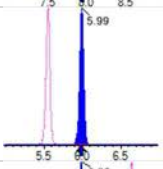
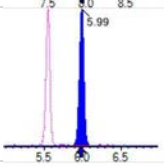
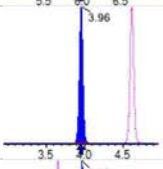
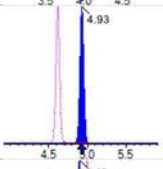
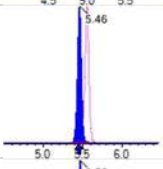
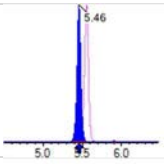
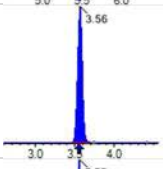
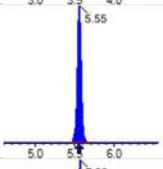
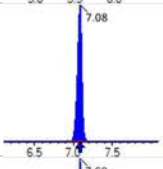
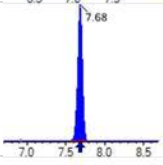
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1779808 (498.0 / 478.0) 43821	(9.85 , 1.00) (0.00 , N/A , 0.2)	2049.7 76195.9	0.0246 117.6 117.6	0.9860 [1.0000]	98.6%			
NMeFOSA	(512.0 / 219.0) 1830364 (512.0 / 169.0) 1484610	(10.43 , 1.00) (0.00 , N/A , 0.9)	3817.8 4207.9	0.8111 98.8 98.8	4.3665 [4.0000]	109.2%			
NEtFOSA	(526.0 / 219.0) 2043754 (526.0 / 169.0) 2659727	(10.56 , 1.00) (0.00 , N/A , 0.7)	4075.7 8504.4	1.3014 103.8 103.8	3.9449 [4.0000]	98.6%			
NMeFOSAA	(570.0 / 419.0) 153194 (570.0 / 483.0) 85644	(8.37 , 1.00) (0.01 , N/A , 0.1)	14047.6 10231.7	0.5591 103.0 103.0	0.9595 [1.0000]	95.9%			
NEtFOSAA	(584.0 / 419.0) 152282 (584.0 / 526.0) 97468	(8.60 , 1.00) (0.00 , N/A , -0.2)	2429.9 505.3	0.6401 95.1 95.1	1.0032 [1.0000]	100.3%			
NMeFOSE	(616.0 / 59.0) 859750	(10.37 , 1.00) (0.01 , N/A , 0.0)	1296.7	N/A 0.0 0.0	4.0738 [4.0000]	101.8%			
NEtFOSE	(630.0 / 59.0) 1102161	(10.52 , 1.00) (0.01 , N/A , 0.0)	975.3	N/A 0.0 0.0	3.8490 [4.0000]	96.2%			
HFPO-DA	(285.0 / 169.0) 419789 (285.0 / 185.0) 1081581	(5.87 , 1.00) (0.00 , N/A , 0.1)	1065.7 1386.1	2.5765 90.9 90.9	2.1179 [2.0000]	105.9%			
ADONA	(377.0 / 85.0) 1438498 (377.0 / 251.0) 157316	(6.67 , 1.14) (N/A , 0.01 , -0.1)	1852.9 630.3	0.1094 102.2 102.2	2.0294 [1.8854]	107.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 3554505 (533.0 / 353.0) 1226907	(8.77 , 1.49) (N/A , 0.00 , -0.1)	1374.2 1151.0	0.3452 110.5 110.5	1.7315 [1.8665]	92.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 3128846 (633.0 / 453.0) 946868	(9.22 , 1.57) (N/A , 0.00 , 0.0)	2160.2 1560.0	0.3026 95.3 95.3	1.9448 [1.8864]	103.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

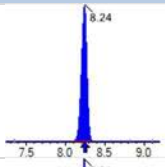
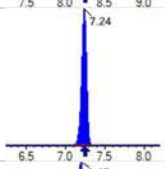
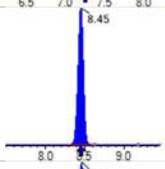
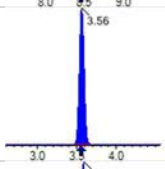
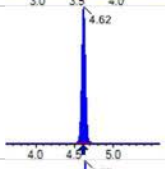
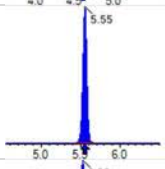
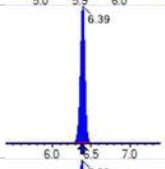
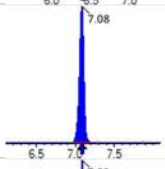
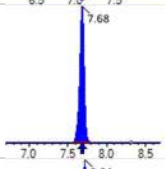
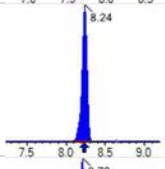
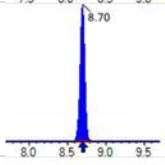
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 29852 (241.0 / 117.0) 52328	(4.11 , 0.89) (N/A , 0.01 , 0.1)	926.2 447.0	1.7529 104.1 104.1	3.6292 [4.0000]	90.7%			
5:3FTCA	(341.0 / 236.7) 301337 (341.0 / 217.0) 542698	(6.13 , 1.10) (N/A , 0.01 , -0.1)	842.6 1053.8	1.8010 100.4 100.4	3.8341 [4.0000]	95.9%			
7:3FTCA	(441.0 / 317.0) 343282 (441.0 / 337.0) 296569	(7.94 , 1.43) (N/A , 0.00 , 0.0)	703.7 591.2	0.8639 102.9 102.9	3.9071 [4.0000]	97.7%			
PFEESA	(315.0 / 135.0) 812162 (315.0 / 83.0) 254960	(5.99 , 1.08) (N/A , 0.01 , 0.0)	1119.8 457.4	0.3139 102.9 102.9	1.8114 [1.7849]	101.5%			
PFMPA	(229.0 / 85.0) 111481	(3.96 , 0.86) (N/A , 0.01 , 0.0)	1604.2	N/A 0.0 0.0	2.0912 [2.0000]	104.6%			
PFMBA	(279.0 / 85.0) 474060	(4.93 , 1.07) (N/A , 0.01 , 0.0)	1012.3	N/A 0.0 0.0	1.8748 [2.0000]	93.7%			
NFDHA	(295.0 / 201.0) 490707 (295.0 / 85.0) 495199	(5.46 , 0.98) (N/A , 0.01 , 0.1)	1488.8 1216.1	1.0092 101.3 101.3	1.9841 [2.0000]	99.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 128916	(3.56 , N/A) (N/A , 0.01 , N/A)	1216.7	N/A	1.0456 [1.0000]	104.6% { 103.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 431708	(5.55 , N/A) (N/A , 0.01 , N/A)	2814.0	N/A	1.0023 [1.0000]	100.2% { 93.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 357999	(7.08 , N/A) (N/A , 0.00 , N/A)	1131.6	N/A	1.0968 [1.0000]	109.7% { 101.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 228923	(7.68 , N/A) (N/A , 0.00 , N/A)	5906.8	N/A	0.9024 [1.0000]	90.2% { 97.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

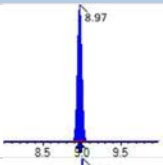
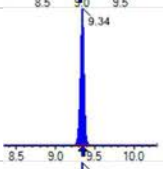
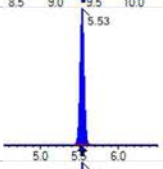
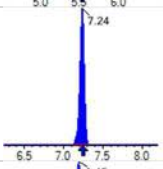
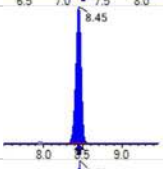
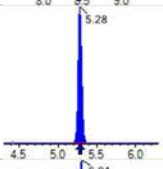
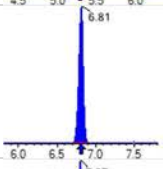
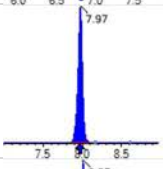
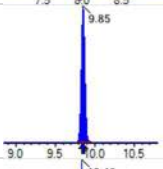
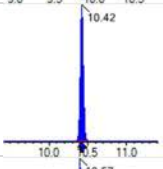
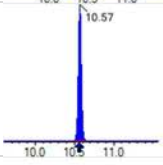
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 325594	(8.24 , N/A) (N/A , 0.00 , N/A)	918.5	N/A	1.0422 [1.0000]	104.2% { 94.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 618661	(7.24 , N/A) (N/A , 0.00 , N/A)	778.2	N/A	0.9839 [1.0000]	98.4% { 92.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 685647	(8.45 , N/A) (N/A , 0.00 , N/A)	621.8	N/A	1.0118 [1.0000]	101.2% { 87.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1280997	(3.56 , N/A) (N/A , 0.01 , N/A)	4245.6	N/A	8.4104 [8.0000]	105.1% { 106.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1330214	(4.62 , N/A) (N/A , 0.00 , N/A)	3209.2	N/A	4.2566 [4.0000]	106.4% { 104.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 978886	(5.55 , N/A) (N/A , 0.01 , N/A)	1885.9	N/A	2.1242 [2.0000]	106.2% { 98.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 845702	(6.39 , N/A) (N/A , 0.01 , N/A)	1757.2	N/A	2.1723 [2.0000]	108.6% { 111.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 771648	(7.08 , N/A) (N/A , 0.00 , N/A)	948.4	N/A	1.9799 [2.0000]	99.0% { 104.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 271673	(7.68 , N/A) (N/A , 0.00 , N/A)	1462.3	N/A	1.1201 [1.0000]	112.0% { 93.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 395089	(8.24 , N/A) (N/A , 0.00 , N/A)	700.3	N/A	0.9879 [1.0000]	98.8% { 95.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 564501	(8.70 , N/A) (N/A , 0.00 , N/A)	826.4	N/A	1.0339 [1.0000]	103.4% { 101.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

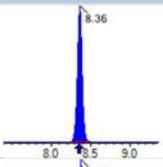
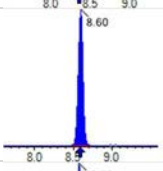
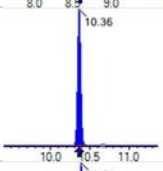
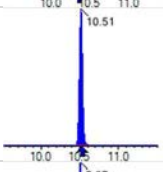
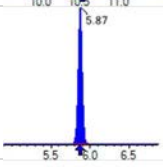
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 594216	(8.97 , N/A) (N/A , 0.00 , N/A)	1675.0	N/A	1.0535 [1.0000]	105.3% { 103.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 451130	(9.34 , N/A) (N/A , 0.01 , N/A)	1083.4	N/A	1.1083 [1.0000]	110.8% { 104.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2452002	(5.53 , N/A) (N/A , 0.01 , N/A)	1786.5	N/A	2.0705 [2.0000]	103.5% { 98.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1252253	(7.24 , N/A) (N/A , 0.01 , N/A)	1572.6	N/A	2.1592 [2.0000]	108.0% { 105.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2002898	(8.45 , N/A) (N/A , 0.00 , N/A)	1162.7	N/A	2.1877 [2.0000]	109.4% { 103.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 269125	(5.28 , N/A) (N/A , 0.00 , N/A)	1361.9	N/A	4.1645 [4.0000]	104.1% { 104.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 256086	(6.81 , N/A) (N/A , 0.01 , N/A)	790.9	N/A	3.9612 [4.0000]	99.0% { 105.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 306662	(7.97 , N/A) (N/A , 0.01 , N/A)	718.9	N/A	3.9240 [4.0000]	98.1% { 107.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3733352	(9.85 , N/A) (N/A , 0.00 , N/A)	1449.4	N/A	2.1548 [2.0000]	107.7% { 102.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1059874	(10.42 , N/A) (N/A , 0.00 , N/A)	2507.2	N/A	2.0416 [2.0000]	102.1% { 98.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1084660	(10.57 , N/A) (N/A , 0.00 , N/A)	2540.6	N/A	2.2849 [2.0000]	114.2% { 107.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (3)
Acquired: 2023/02/09 - 12:43

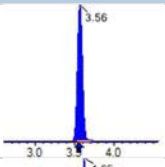
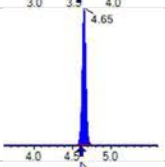
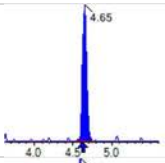
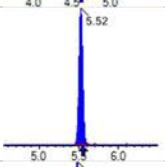
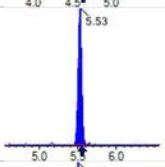
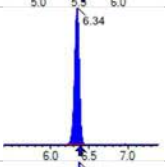
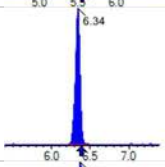
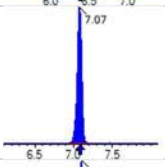
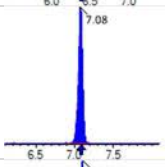
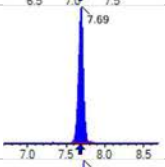
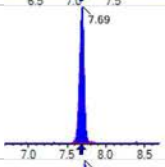
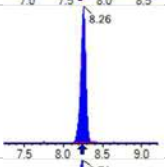
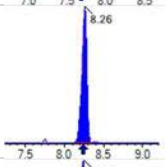
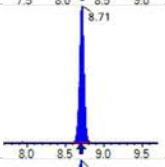
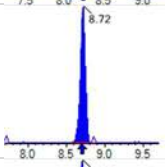
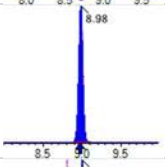
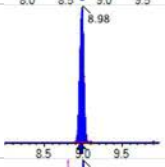
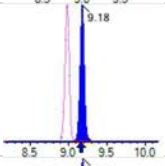
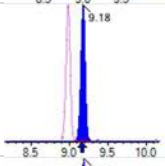
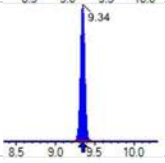
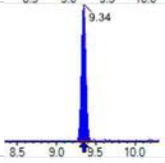
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 817058	(8.36 , N/A) (N/A , 0.00 , N/A)	1131.1	N/A	3.7174 [4.0000]	92.9% { 84.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 755750	(8.60 , N/A) (N/A , 0.00 , N/A)	1443.9	N/A	3.8400 [4.0000]	96.0% { 96.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4072791	(10.36 , N/A) (N/A , 0.00 , N/A)	1860.9	N/A	21.4286 [20.0000]	107.1% { 98.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5908683	(10.51 , N/A) (N/A , 0.00 , N/A)	2006.7	N/A	23.9103 [20.0000]	119.6% { 103.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2528576	(5.87 , N/A) (N/A , 0.01 , N/A)	2455.8	N/A	8.4458 [8.0000]	105.6% { 100.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

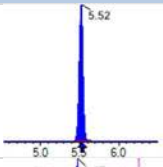
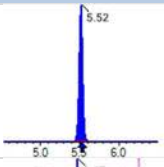
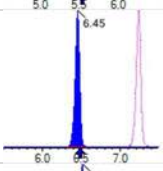
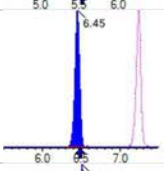
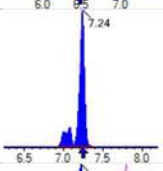
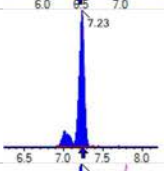
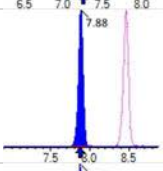
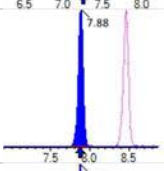
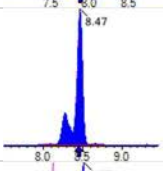
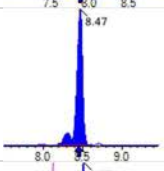
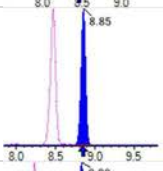
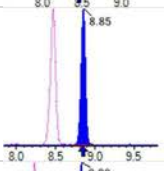
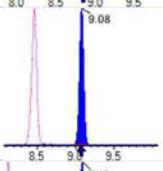
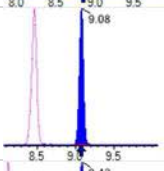
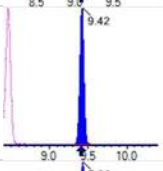
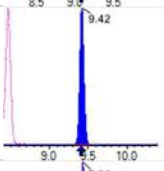
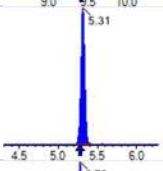
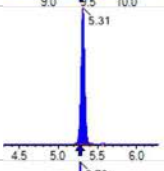
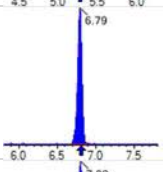
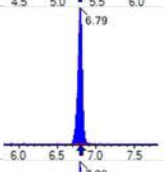
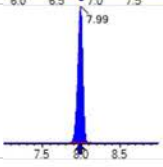
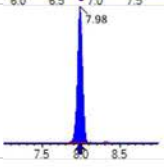
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1049429	(3.56 , 1.00) (0.00 , N/A , 0.0)	200.0	N/A 0.0 0.0	8.1773 [8.0000]	102.2%			
PFPeA	(263.0 / 219.0) 1155994 (263.0 / 69.0) 14970	(4.65 , 1.00) (0.00 , N/A , 0.2)	3491.0 280.8	0.0129 88.3 88.3	4.2781 [4.0000]	107.0%			
PFHxA	(313.0 / 269.0) 896982 (313.0 / 119.0) 86926	(5.52 , 1.00) (0.00 , N/A , -0.1)	6419.1 3682.3	0.0969 85.4 85.4	2.2623 [2.0000]	113.1%			
PFHpA	(363.0 / 319.0) 714539 (363.0 / 169.0) 226526	(6.34 , 1.00) (0.00 , N/A , 0.2)	4342.4 3100.0	0.3170 100.8 100.8	1.8876 [2.0000]	94.4%			
PFOA	(413.0 / 369.0) 710984 (413.0 / 169.0) 256517	(7.07 , 1.00) (0.00 , N/A , -0.1)	1864.7 2274.6	0.3608 107.8 107.8	1.9293 [2.0000]	96.5%			
PFNA	(463.0 / 419.0) 552568 (463.0 / 169.0) 125371	(7.69 , 1.00) (0.00 , N/A , 0.0)	37472.1 154171.5	0.2269 99.5 99.5	2.2128 [2.0000]	110.6%			
PFDA	(513.0 / 469.0) 658065 (513.0 / 169.0) 75922	(8.26 , 1.00) (0.00 , N/A , -0.3)	627.1 63855.6	0.1154 104.5 104.5	1.7283 [2.0000]	86.4%			
PFUnA	(563.0 / 519.0) 844269 (563.0 / 169.0) 89375	(8.71 , 1.00) (0.00 , N/A , -0.1)	1078.1 417.1	0.1059 103.3 103.3	1.8987 [2.0000]	94.9%			
PFDoA	(613.0 / 569.0) 952862 (613.0 / 169.0) 136693	(8.98 , 1.00) (0.00 , N/A , -0.1)	1333.2 945.2	0.1435 100.0 100.0	2.0878 [2.0000]	104.4%			
PFTrDA	(663.0 / 619.0) 827526 (663.0 / 169.0) 175026	(9.18 , 1.02) (N/A , 0.01 , 0.1)	1289.8 631.7	0.2115 92.9 92.9	2.1705 [2.0000]	108.5%			
PFTeDA	(713.0 / 669.0) 696441 (713.0 / 169.0) 149723	(9.34 , 1.00) (0.00 , N/A , 0.1)	1061.0 440.9	0.2150 104.7 104.7	1.9243 [2.0000]	96.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

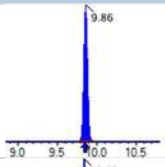
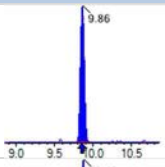
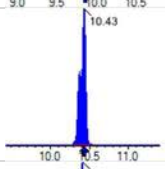
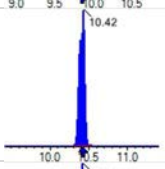
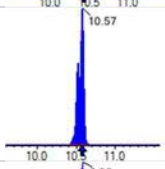
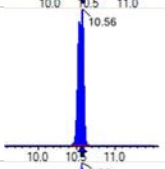
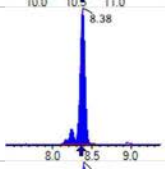
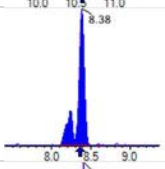
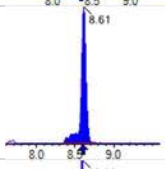
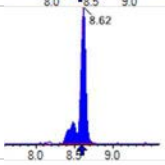
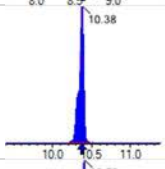
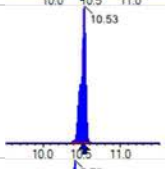
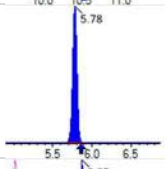
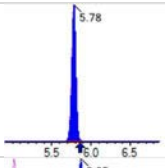
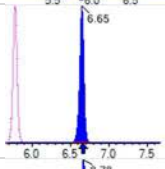
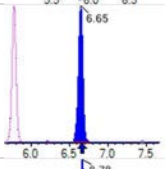
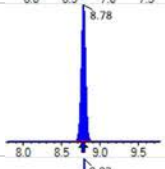
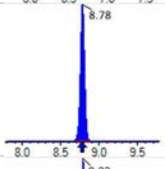
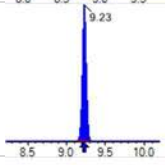
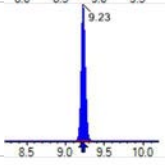
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1332214 (299.0 / 99.0) 851231	(5.52 , 1.00) (0.00 , N/A , 0.2)	2051.9 1762.5	0.6390 110.2 110.2	1.7198 [1.7695]	97.2%			
PFPeS	(349.0 / 80.0) 2181026 (349.0 / 99.0) 790567	(6.45 , 0.89) (N/A , -0.03 , 0.2)	119861.1 901486.4	0.3625 105.9 105.9	1.8775 [1.8768]	100.0%			
PFHxS	(399.0 / 80.0) 1554264 (399.0 / 99.0) 538282	(7.24 , 1.00) (0.00 , N/A , 0.4)	3167.6 1049.1	0.3463 109.9 109.9	1.7756 [1.8220]	97.5%			
PFHpS	(449.0 / 80.0) 1451393 (449.0 / 99.0) 410061	(7.88 , 0.93) (N/A , 0.01 , 0.1)	8931981.3 28260.2	0.2825 106.4 106.4	2.0432 [1.9028]	107.4%			
PFOS	(499.0 / 80.0) 1964056 (499.0 / 99.0) 422334	(8.47 , 1.00) (0.00 , N/A , 0.0)	559.0 348.4	0.2150 96.7 96.7	2.0969 [1.8550]	113.0%			
PFNS	(549.0 / 80.0) 2555991 (549.0 / 99.0) 571108	(8.85 , 1.05) (N/A , 0.02 , 0.0)	26023.4 53744.4	0.2234 92.0 92.0	2.3283 [1.9198]	121.3%			
PFDS	(599.0 / 80.0) 3112819 (599.0 / 99.0) 684459	(9.08 , 1.07) (N/A , 0.01 , 0.1)	2060.8 968.7	0.2199 108.7 108.7	2.1527 [1.9262]	111.8%			
PFDoS	(699.0 / 80.0) 2386084 (699.0 / 99.0) 534432	(9.42 , 1.11) (N/A , 0.01 , 0.1)	1645.3 1078.7	0.2240 109.8 109.8	2.1341 [1.9391]	110.1%			
4:2FTS	(327.0 / 307.0) 1389389 (327.0 / 81.0) 885717	(5.31 , 1.00) (0.00 , N/A , 0.0)	1888.9 1195.7	0.6375 111.2 111.2	7.3974 [7.4762]	98.9%			
6:2FTS	(427.0 / 407.0) 676037 (427.0 / 81.0) 481888	(6.79 , 1.00) (0.00 , N/A , 0.0)	883.8 1003.0	0.7128 93.5 93.5	7.5531 [7.5923]	99.5%			
8:2FTS	(527.0 / 507.0) 772829 (527.0 / 81.0) 525029	(7.99 , 1.00) (0.00 , N/A , 0.4)	685.1 559.2	0.6794 104.2 104.2	8.2133 [7.6663]	107.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

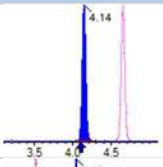
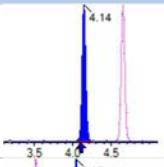
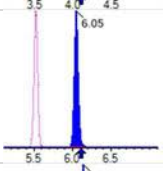
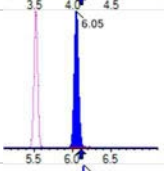
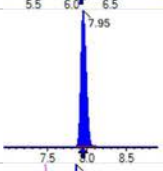
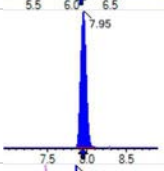
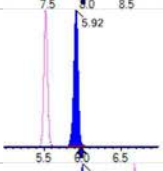
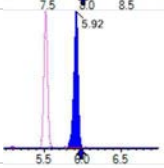
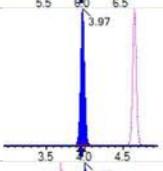
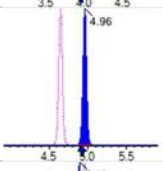
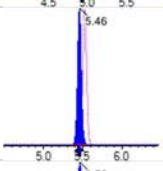
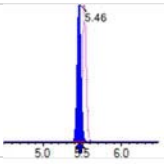
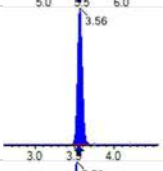
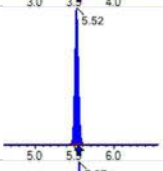
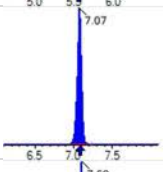
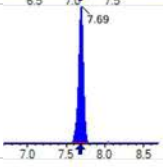
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3794973 (498.0 / 478.0) 67740	(9.86 , 1.00) (0.00 , N/A , 0.1)	1890.9 1018.9	0.0179 85.2 85.2	2.2240 [2.0000]	111.2%			
NMeFOSA	(512.0 / 219.0) 3733034 (512.0 / 169.0) 3024553	(10.43 , 1.00) (0.00 , N/A , 0.9)	3039.6 3897.0	0.8102 98.7 98.7	8.6738 [8.0000]	108.4%			
NEtFOSA	(526.0 / 219.0) 4070054 (526.0 / 169.0) 4964296	(10.57 , 1.00) (0.00 , N/A , 0.7)	11327.5 7695.9	1.2197 97.3 97.3	8.2788 [8.0000]	103.5%			
NMeFOSAA	(570.0 / 419.0) 360906 (570.0 / 483.0) 169089	(8.38 , 1.00) (0.00 , N/A , -0.2)	1516.9 2088.5	0.4685 86.3 86.3	2.0214 [2.0000]	101.1%			
NEtFOSAA	(584.0 / 419.0) 360550 (584.0 / 526.0) 211710	(8.61 , 1.00) (0.00 , N/A , -0.3)	1269.3 765.0	0.5872 87.2 87.2	2.1426 [2.0000]	107.1%			
NMeFOSE	(616.0 / 59.0) 1736919	(10.38 , 1.00) (0.01 , N/A , 0.0)	1987.1	N/A 0.0 0.0	8.1567 [8.0000]	102.0%			
NEtFOSE	(630.0 / 59.0) 2115545	(10.53 , 1.00) (0.01 , N/A , 0.0)	1136.1	N/A 0.0 0.0	8.3220 [8.0000]	104.0%			
HFPO-DA	(285.0 / 169.0) 782943 (285.0 / 185.0) 2346322	(5.78 , 1.00) (0.00 , N/A , -0.1)	1300.8 1855.1	2.9968 105.7 105.7	4.0737 [4.0000]	101.8%			
ADONA	(377.0 / 85.0) 2769016 (377.0 / 251.0) 296853	(6.65 , 1.15) (N/A , -0.02 , 0.2)	1949.5 827.9	0.1072 100.2 100.2	4.0287 [3.7708]	106.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 7957298 (533.0 / 353.0) 2353266	(8.78 , 1.52) (N/A , 0.02 , 0.0)	1708.9 1752.3	0.2957 94.7 94.7	4.0397 [3.7330]	108.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 5808107 (633.0 / 453.0) 1805218	(9.23 , 1.60) (N/A , 0.01 , 0.1)	2152.5 1979.2	0.3108 97.9 97.9	3.7402 [3.7728]	99.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

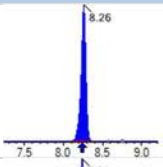
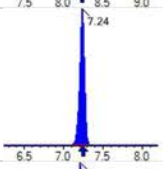
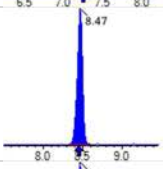
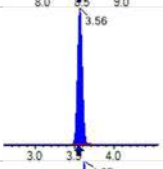
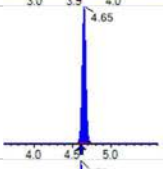
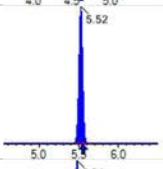
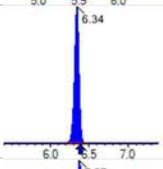
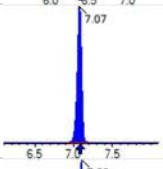
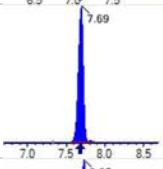
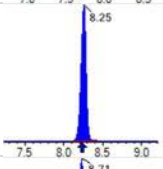
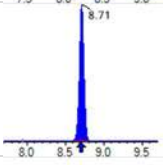
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 62205 (241.0 / 117.0) 105760	(4.14 , 0.89) (N/A , 0.04 , 0.1)	1018.1 742.3	1.7002 101.0 101.0	7.7841 [8.0000]	97.3%			
5:3FTCA	(341.0 / 236.7) 601834 (341.0 / 217.0) 1019421	(6.05 , 1.09) (N/A , -0.07 , -0.1)	1241.3 1378.7	1.6939 94.4 94.4	8.4479 [8.0000]	105.6%			
7:3FTCA	(441.0 / 317.0) 627948 (441.0 / 337.0) 525352	(7.95 , 1.44) (N/A , 0.01 , 0.0)	1345.9 1009.2	0.8366 99.7 99.7	7.8847 [8.0000]	98.6%			
PFEESA	(315.0 / 135.0) 1637139 (315.0 / 83.0) 448287	(5.92 , 1.07) (N/A , -0.07 , -0.1)	1593.0 673.5	0.2738 89.7 89.7	4.0284 [3.5698]	112.8%			
PFMPA	(229.0 / 85.0) 221109	(3.97 , 0.85) (N/A , 0.03 , 0.0)	2066.3	N/A 0.0 0.0	4.2692 [4.0000]	106.7%			
PFMBA	(279.0 / 85.0) 965909	(4.96 , 1.07) (N/A , 0.04 , 0.0)	2876.5	N/A 0.0 0.0	3.9318 [4.0000]	98.3%			
NFDHA	(295.0 / 201.0) 1039351 (295.0 / 85.0) 982204	(5.46 , 0.99) (N/A , 0.01 , 0.0)	1800.9 1528.2	0.9450 94.9 94.9	4.6363 [4.0000]	115.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 138844	(3.56 , N/A) (N/A , 0.01 , N/A)	1190.3	N/A	1.1262 [1.0000]	112.6% { 111.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 450659	(5.52 , N/A) (N/A , -0.02 , N/A)	3476.8	N/A	1.0463 [1.0000]	104.6% { 97.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 340706	(7.07 , N/A) (N/A , 0.00 , N/A)	750.9	N/A	1.0438 [1.0000]	104.4% { 96.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 267133	(7.69 , N/A) (N/A , 0.01 , N/A)	3472.2	N/A	1.0531 [1.0000]	105.3% { 114.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

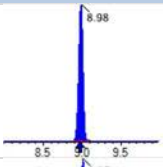
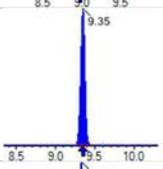
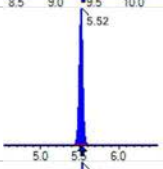
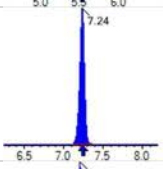
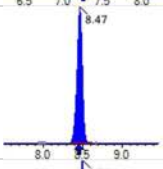
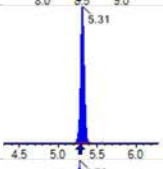
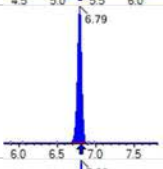
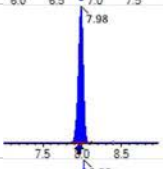
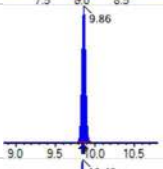
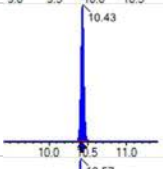
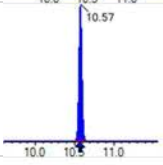
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 331296	(8.26 , N/A) (N/A , 0.02 , N/A)	843.3	N/A	1.0605 [1.0000]	106.0% { 96.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 625488	(7.24 , N/A) (N/A , 0.00 , N/A)	1022.6	N/A	0.9947 [1.0000]	99.5% { 93.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 700642	(8.47 , N/A) (N/A , 0.02 , N/A)	569.7	N/A	1.0339 [1.0000]	103.4% { 89.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1250830	(3.56 , N/A) (N/A , 0.02 , N/A)	4566.2	N/A	7.6251 [8.0000]	95.3% { 103.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1292356	(4.65 , N/A) (N/A , 0.04 , N/A)	2333.4	N/A	3.9615 [4.0000]	99.0% { 101.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 887302	(5.52 , N/A) (N/A , -0.02 , N/A)	2201.1	N/A	1.8445 [2.0000]	92.2% { 88.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 781029	(6.34 , N/A) (N/A , -0.04 , N/A)	1291.4	N/A	1.9218 [2.0000]	96.1% { 103.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 725897	(7.07 , N/A) (N/A , 0.00 , N/A)	1717.2	N/A	1.9571 [2.0000]	97.9% { 98.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 265501	(7.69 , N/A) (N/A , 0.01 , N/A)	2668.2	N/A	0.9381 [1.0000]	93.8% { 91.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 410331	(8.25 , N/A) (N/A , 0.02 , N/A)	1241.6	N/A	1.0084 [1.0000]	100.8% { 99.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 538996	(8.71 , N/A) (N/A , 0.01 , N/A)	1333.5	N/A	0.9702 [1.0000]	97.0% { 96.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

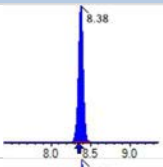
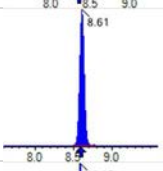
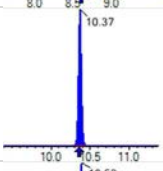
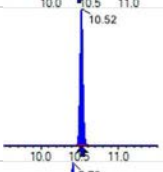
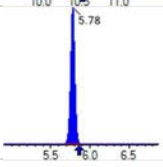
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 529800	(8.98 , N/A) (N/A , 0.02 , N/A)	2238.7	N/A	0.9231 [1.0000]	92.3% { 92.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 397658	(9.35 , N/A) (N/A , 0.01 , N/A)	1338.0	N/A	0.9601 [1.0000]	96.0% { 92.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2745923	(5.52 , N/A) (N/A , -0.01 , N/A)	4095.1	N/A	2.2934 [2.0000]	114.7% { 110.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1187285	(7.24 , N/A) (N/A , 0.00 , N/A)	1496.9	N/A	2.0249 [2.0000]	101.2% { 99.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1727158	(8.47 , N/A) (N/A , 0.02 , N/A)	556.2	N/A	1.8461 [2.0000]	92.3% { 88.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 261926	(5.31 , N/A) (N/A , 0.03 , N/A)	983.4	N/A	4.0089 [4.0000]	100.2% { 102.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 259038	(6.79 , N/A) (N/A , -0.01 , N/A)	744.7	N/A	3.9631 [4.0000]	99.1% { 106.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 313713	(7.98 , N/A) (N/A , 0.02 , N/A)	1071.0	N/A	3.9704 [4.0000]	99.3% { 109.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3529289	(9.86 , N/A) (N/A , 0.01 , N/A)	1720.5	N/A	1.9934 [2.0000]	99.7% { 96.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1088172	(10.43 , N/A) (N/A , 0.01 , N/A)	2494.8	N/A	2.0512 [2.0000]	102.6% { 100.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1029285	(10.57 , N/A) (N/A , 0.01 , N/A)	2818.0	N/A	2.1219 [2.0000]	106.1% { 101.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (4)
Acquired: 2023/02/09 - 12:56

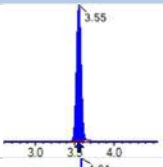
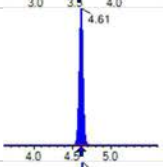
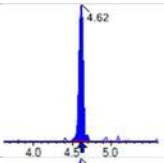
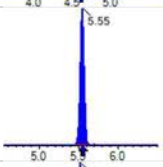
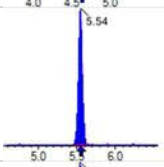
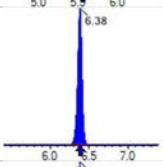
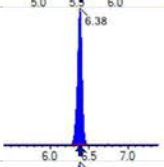
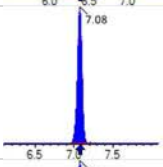
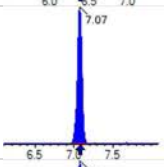
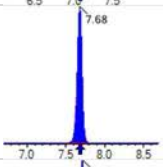
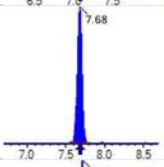
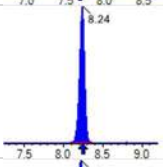
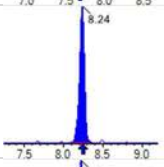
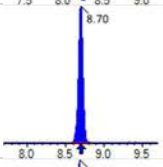
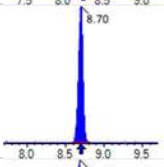
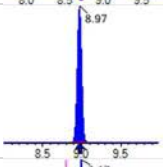
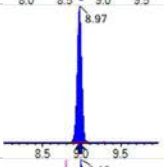
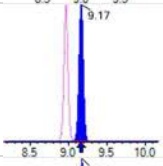
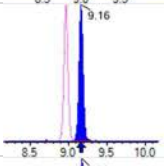
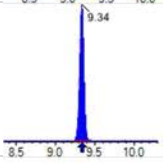
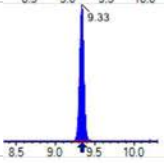
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 913651	(8.38 , N/A) (N/A , 0.02 , N/A)	1214.3	N/A	4.0679 [4.0000]	101.7% { 94.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 837846	(8.61 , N/A) (N/A , 0.02 , N/A)	1455.0	N/A	4.1661 [4.0000]	104.2% { 107.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4109437	(10.37 , N/A) (N/A , 0.01 , N/A)	2337.0	N/A	21.1586 [20.0000]	105.8% { 99.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5245535	(10.52 , N/A) (N/A , 0.01 , N/A)	1709.9	N/A	20.7725 [20.0000]	103.9% { 91.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2451822	(5.78 , N/A) (N/A , -0.08 , N/A)	2691.2	N/A	7.8451 [8.0000]	98.1% { 97.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

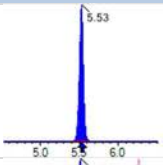
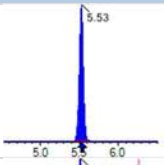
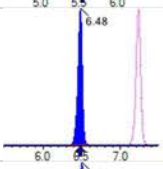
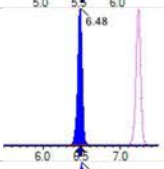
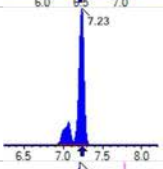
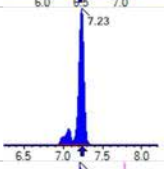
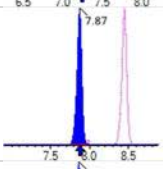
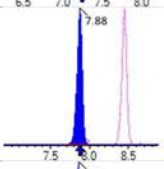
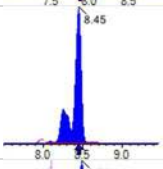
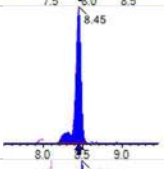
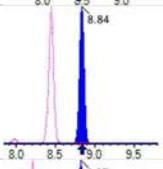
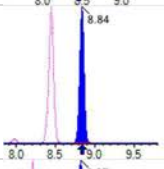
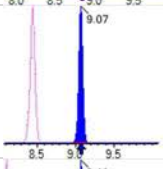
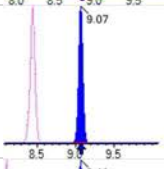
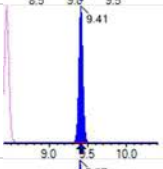
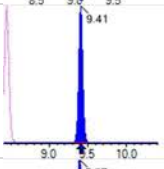
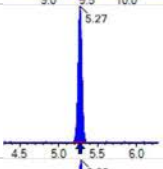
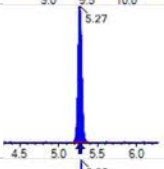
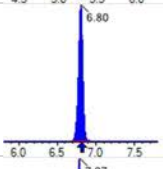
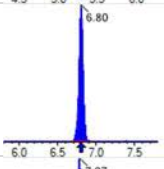
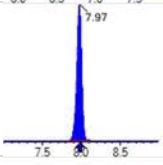
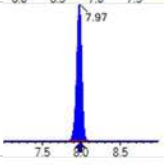
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2121700	(3.55 , 1.00) (0.00 , N/A , 0.0)	222.9	N/A 0.0 0.0	17.1260 [20.0000]	85.6%			
PFPeA	(263.0 / 219.0) 2275662 (263.0 / 69.0) 33369	(4.61 , 1.00) (0.00 , N/A , -0.3)	4174.5 419.3	0.0147 100.0 100.0	8.5802 [10.0000]	85.8%			
PFHxA	(313.0 / 269.0) 1824211 (313.0 / 119.0) 206947	(5.55 , 1.00) (0.00 , N/A , 0.1)	2788.5 4127.6	0.1134 100.0 100.0	4.0920 [5.0000]	81.8%			
PFHpA	(363.0 / 319.0) 1576322 (363.0 / 169.0) 495650	(6.38 , 1.00) (0.00 , N/A , 0.0)	3409.2 18716.9	0.3144 100.0 100.0	4.2902 [5.0000]	85.8%			
PFOA	(413.0 / 369.0) 1532161 (413.0 / 169.0) 512956	(7.08 , 1.00) (0.00 , N/A , 0.0)	3315.3 4389161.8	0.3348 100.0 100.0	4.0954 [5.0000]	81.9%			
PFNA	(463.0 / 419.0) 1063466 (463.0 / 169.0) 242609	(7.68 , 1.00) (0.00 , N/A , 0.0)	12222.3 423615.2	0.2281 100.0 100.0	3.8794 [5.0000]	77.6%			
PFDA	(513.0 / 469.0) 1526867 (513.0 / 169.0) 168511	(8.24 , 1.00) (0.00 , N/A , 0.0)	1361.0 469.8	0.1104 100.0 100.0	3.9842 [5.0000]	79.7%			
PFUnA	(563.0 / 519.0) 1990542 (563.0 / 169.0) 203909	(8.70 , 1.00) (0.00 , N/A , -0.1)	1279.6 1425.8	0.1024 100.0 100.0	4.3365 [5.0000]	86.7%			
PFDoA	(613.0 / 569.0) 1935397 (613.0 / 169.0) 277590	(8.97 , 1.00) (0.00 , N/A , 0.0)	1346.7 1100.1	0.1434 100.0 100.0	3.9008 [5.0000]	78.0%			
PFTrDA	(663.0 / 619.0) 1790493 (663.0 / 169.0) 407659	(9.17 , 1.02) (N/A , 0.00 , 0.1)	1612.5 1106.6	0.2277 100.0 100.0	4.3198 [5.0000]	86.4%			
PFTeDA	(713.0 / 669.0) 1528519 (713.0 / 169.0) 313881	(9.34 , 1.00) (0.00 , N/A , 0.1)	1690.2 952.1	0.2053 100.0 100.0	3.8853 [5.0000]	77.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

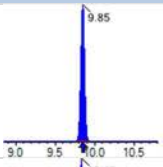
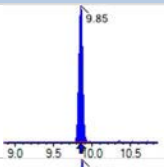
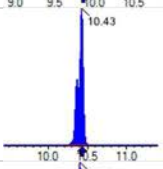
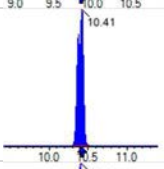
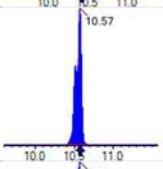
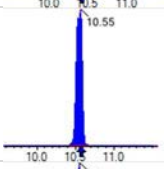
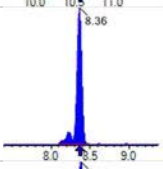
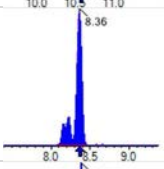
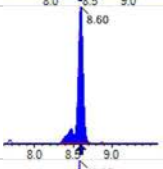
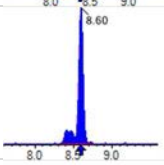
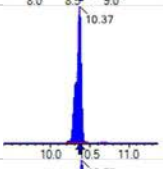
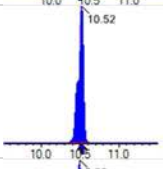
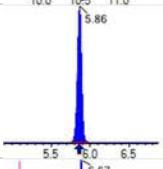
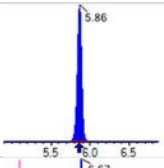
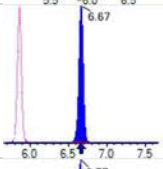
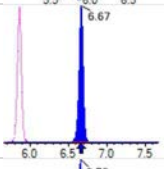
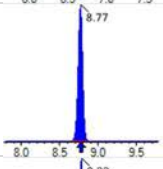
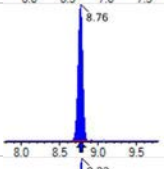
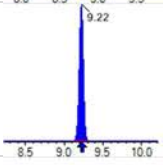
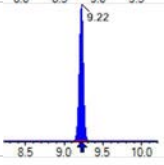
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2559406 (299.0 / 99.0) 1484631	(5.53 , 1.00) (0.00 , N/A , 0.1)	2216.4 1401.3	0.5801 100.0 100.0	3.6490 [4.4237]	82.5%			
PFPeS	(349.0 / 80.0) 4915746 (349.0 / 99.0) 1683183	(6.48 , 0.90) (N/A , 0.00 , 0.2)	26603.9 15518.4	0.3424 100.0 100.0	4.2164 [4.6919]	89.9%			
PFHxS	(399.0 / 80.0) 3505190 (399.0 / 99.0) 1104453	(7.23 , 1.00) (0.00 , N/A , 0.1)	3870.1 42481.0	0.3151 100.0 100.0	3.9899 [4.5549]	87.6%			
PFHpS	(449.0 / 80.0) 3079270 (449.0 / 99.0) 817926	(7.87 , 0.93) (N/A , 0.00 , -0.3)	15047.5 2290.7	0.2656 100.0 100.0	3.8491 [4.7570]	80.9%			
PFOS	(499.0 / 80.0) 4049150 (499.0 / 99.0) 900238	(8.45 , 1.00) (0.00 , N/A , 0.0)	1160.9 561.7	0.2223 100.0 100.0	3.8387 [4.6375]	82.8%			
PFNS	(549.0 / 80.0) 5077785 (549.0 / 99.0) 1232613	(8.84 , 1.05) (N/A , 0.00 , -0.1)	5064.1 548187.3	0.2427 100.0 100.0	4.1073 [4.7994]	85.6%			
PFDS	(599.0 / 80.0) 7258794 (599.0 / 99.0) 1468314	(9.07 , 1.07) (N/A , 0.00 , 0.0)	1850.6 1899.0	0.2023 100.0 100.0	4.4574 [4.8155]	92.6%			
PFDoS	(699.0 / 80.0) 5397015 (699.0 / 99.0) 1100887	(9.41 , 1.11) (N/A , 0.00 , 0.1)	2176.1 1215.9	0.2040 100.0 100.0	4.2863 [4.8478]	88.4%			
4:2FTS	(327.0 / 307.0) 2962545 (327.0 / 81.0) 1697643	(5.27 , 1.00) (0.00 , N/A , 0.1)	2594.0 1780.0	0.5730 100.0 100.0	16.0844 [18.6906]	86.1%			
6:2FTS	(427.0 / 407.0) 1460968 (427.0 / 81.0) 1113306	(6.80 , 1.00) (0.00 , N/A , 0.0)	1232.3 1560.9	0.7620 100.0 100.0	17.4432 [18.9808]	91.9%			
8:2FTS	(527.0 / 507.0) 1595758 (527.0 / 81.0) 1040431	(7.97 , 1.00) (0.00 , N/A , 0.0)	1060.7 1302.9	0.6520 100.0 100.0	18.5685 [19.1658]	96.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

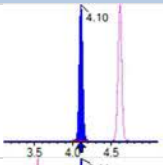
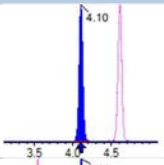
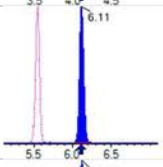
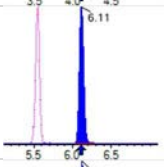
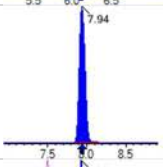
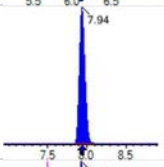
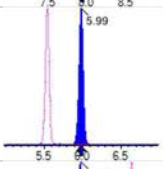
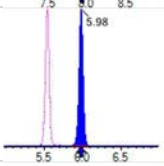
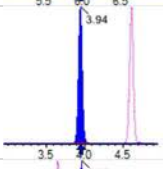
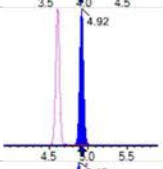
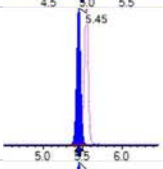
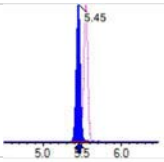
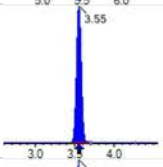
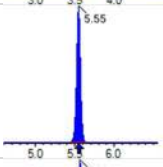
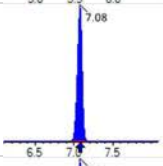
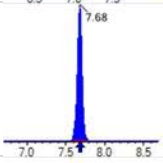
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7967983 (498.0 / 478.0) 166867	(9.85 , 1.00) (0.00 , N/A , 0.0)	2840.3 854.6	0.0209 100.0 100.0	4.5190 [5.0000]	90.4%			
NMeFOSA	(512.0 / 219.0) 7915253 (512.0 / 169.0) 6498774	(10.43 , 1.00) (0.00 , N/A , 1.1)	4501.0 2387.5	0.8210 100.0 100.0	18.5583 [20.0000]	92.8%			
NEtFOSA	(526.0 / 219.0) 8678969 (526.0 / 169.0) 10878699	(10.57 , 1.00) (0.00 , N/A , 0.9)	10482.6 11580.3	1.2535 100.0 100.0	17.9627 [20.0000]	89.8%			
NMeFOSAA	(570.0 / 419.0) 725888 (570.0 / 483.0) 394006	(8.36 , 1.00) (0.01 , N/A , 0.0)	1093.4 1087.6	0.5428 100.0 100.0	3.8466 [5.0000]	76.9%			
NEtFOSAA	(584.0 / 419.0) 704006 (584.0 / 526.0) 473980	(8.60 , 1.00) (0.00 , N/A , 0.1)	1076.0 1015.8	0.6733 100.0 100.0	4.4837 [5.0000]	89.7%			
NMeFOSE	(616.0 / 59.0) 3648416	(10.37 , 1.00) (0.01 , N/A , 0.0)	2404.4	N/A 0.0 0.0	16.9918 [20.0000]	85.0%			
NEtFOSE	(630.0 / 59.0) 4709955	(10.52 , 1.00) (0.01 , N/A , 0.0)	1169.9	N/A 0.0 0.0	16.9972 [20.0000]	85.0%			
HFPO-DA	(285.0 / 169.0) 1690526 (285.0 / 185.0) 4791652	(5.86 , 1.00) (0.00 , N/A , 0.0)	2099.9 2267.4	2.8344 100.0 100.0	8.5910 [10.0000]	85.9%			
ADONA	(377.0 / 85.0) 6179471 (377.0 / 251.0) 661113	(6.67 , 1.14) (N/A , 0.00 , -0.1)	2128.9 1414.0	0.1070 100.0 100.0	8.7811 [9.4270]	93.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 15707172 (533.0 / 353.0) 4904306	(8.77 , 1.50) (N/A , 0.00 , 0.0)	1697.7 1492.7	0.3122 100.0 100.0	7.9637 [9.3325]	85.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 12342549 (633.0 / 453.0) 3919091	(9.22 , 1.57) (N/A , 0.00 , 0.0)	1594.9 1349.7	0.3175 100.0 100.0	7.9035 [9.4321]	83.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

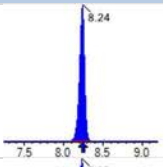
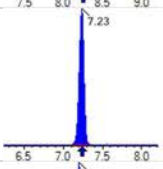
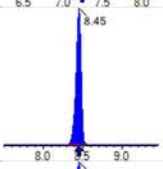
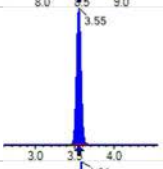
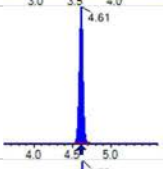
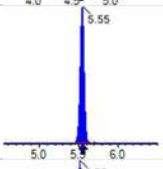
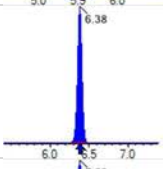
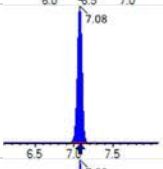
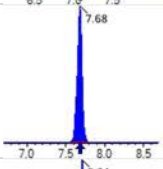
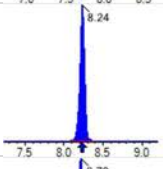
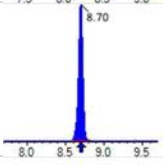
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 127886 (241.0 / 117.0) 215325	(4.10 , 0.89) (N/A , 0.00 , 0.0)	1863.4 1325.4	1.6837 100.0 100.0	16.3040 [20.0000]	81.5%			
5:3FTCA	(341.0 / 236.7) 1256970 (341.0 / 217.0) 2254803	(6.11 , 1.10) (N/A , 0.00 , 0.1)	1205.4 1929.7	1.7938 100.0 100.0	15.6926 [20.0000]	78.5%			
7:3FTCA	(441.0 / 317.0) 1421037 (441.0 / 337.0) 1192664	(7.94 , 1.43) (N/A , 0.00 , 0.1)	1428.2 1330.8	0.8393 100.0 100.0	15.8695 [20.0000]	79.3%			
PFEESA	(315.0 / 135.0) 3320276 (315.0 / 83.0) 1013380	(5.99 , 1.08) (N/A , 0.00 , 0.0)	1751.5 1565.6	0.3052 100.0 100.0	7.2663 [8.9246]	81.4%			
PFMPA	(229.0 / 85.0) 419009	(3.94 , 0.86) (N/A , 0.00 , 0.0)	3411.1	N/A 0.0 0.0	8.2424 [10.0000]	82.4%			
PFMBA	(279.0 / 85.0) 2014983	(4.92 , 1.07) (N/A , 0.00 , 0.0)	1926.5	N/A 0.0 0.0	8.3564 [10.0000]	83.6%			
NFDHA	(295.0 / 201.0) 1985014 (295.0 / 85.0) 1977132	(5.45 , 0.98) (N/A , 0.00 , 0.0)	1983.1 2774.9	0.9960 100.0 100.0	7.8753 [10.0000]	78.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 124683	(3.55 , N/A) (N/A , 0.00 , N/A)	1164.6	N/A	1.0113 [1.0000]	101.1% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 460426	(5.55 , N/A) (N/A , 0.00 , N/A)	902.6	N/A	1.0690 [1.0000]	106.9% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 354332	(7.08 , N/A) (N/A , 0.00 , N/A)	1592.6	N/A	1.0855 [1.0000]	108.6% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 234066	(7.68 , N/A) (N/A , 0.00 , N/A)	146.1	N/A	0.9227 [1.0000]	92.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

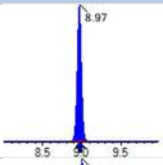
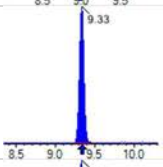
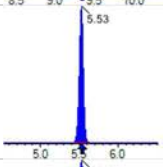
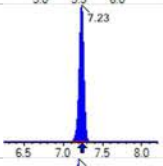
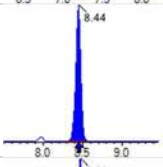
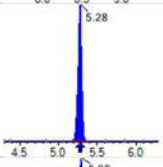
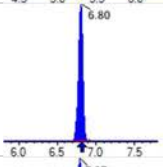
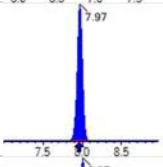
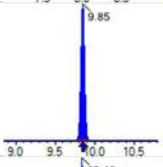
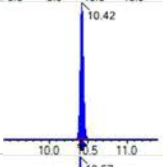
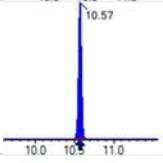
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 343367	(8.24 , N/A) (N/A , 0.00 , N/A)	1064.0	N/A	1.0991 [1.0000]	109.9% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 666443	(7.23 , N/A) (N/A , 0.00 , N/A)	1427.9	N/A	1.0599 [1.0000]	106.0% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 784707	(8.45 , N/A) (N/A , 0.00 , N/A)	650.0	N/A	1.1579 [1.0000]	115.8% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1207483	(3.55 , N/A) (N/A , 0.00 , N/A)	3694.9	N/A	8.1968 [8.0000]	102.5% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1268501	(4.61 , N/A) (N/A , 0.00 , N/A)	2456.9	N/A	3.8059 [4.0000]	95.1% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 997647	(5.55 , N/A) (N/A , 0.00 , N/A)	1177.9	N/A	2.0299 [2.0000]	101.5% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 758072	(6.38 , N/A) (N/A , 0.00 , N/A)	1589.4	N/A	1.8258 [2.0000]	91.3% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 736948	(7.08 , N/A) (N/A , 0.00 , N/A)	1261.9	N/A	1.9105 [2.0000]	95.5% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 291460	(7.68 , N/A) (N/A , 0.00 , N/A)	20154.0	N/A	1.1753 [1.0000]	117.5% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 412999	(8.24 , N/A) (N/A , 0.00 , N/A)	695.8	N/A	0.9793 [1.0000]	97.9% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 556424	(8.70 , N/A) (N/A , 0.00 , N/A)	3537.6	N/A	0.9664 [1.0000]	96.6% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

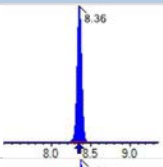
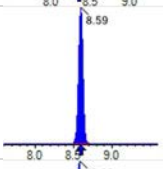
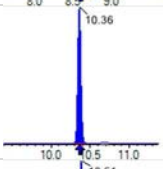
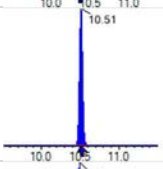
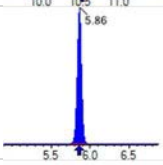
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 575960	(8.97 , N/A) (N/A , 0.00 , N/A)	1037.0	N/A	0.9683 [1.0000]	96.8% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 432274	(9.33 , N/A) (N/A , 0.00 , N/A)	1279.7	N/A	1.0070 [1.0000]	100.7% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2486389	(5.53 , N/A) (N/A , 0.00 , N/A)	2243.1	N/A	1.9490 [2.0000]	97.5% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1191556	(7.23 , N/A) (N/A , 0.00 , N/A)	1452.8	N/A	1.9073 [2.0000]	95.4% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1945097	(8.44 , N/A) (N/A , 0.00 , N/A)	809.8	N/A	1.8563 [2.0000]	92.8% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 256858	(5.28 , N/A) (N/A , 0.00 , N/A)	624.7	N/A	3.6897 [4.0000]	92.2% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 242400	(6.80 , N/A) (N/A , 0.00 , N/A)	1622.8	N/A	3.4807 [4.0000]	87.0% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 286519	(7.97 , N/A) (N/A , 0.00 , N/A)	1649.6	N/A	3.4034 [4.0000]	85.1% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3646825	(9.85 , N/A) (N/A , 0.00 , N/A)	2092.6	N/A	1.8391 [2.0000]	92.0% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1078382	(10.42 , N/A) (N/A , 0.00 , N/A)	2379.4	N/A	1.8150 [2.0000]	90.8% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1011576	(10.57 , N/A) (N/A , 0.00 , N/A)	2866.3	N/A	1.8620 [2.0000]	93.1% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (5)
Acquired: 2023/02/09 - 13:09

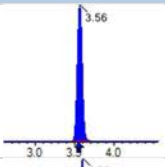
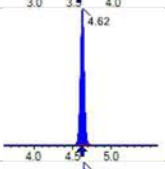
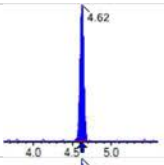
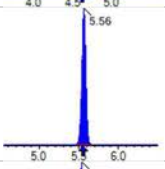
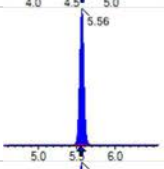
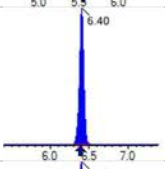
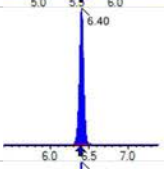
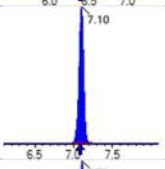
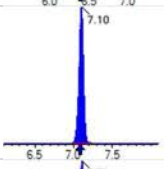
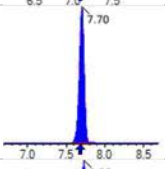
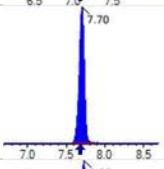
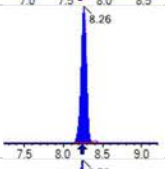
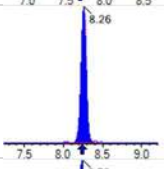
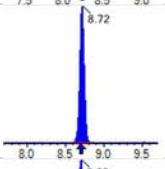
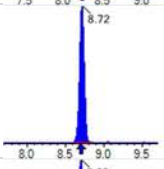
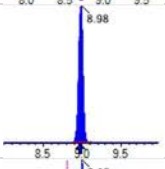
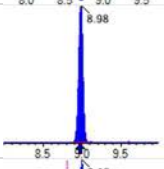
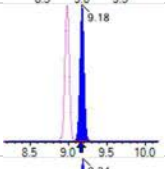
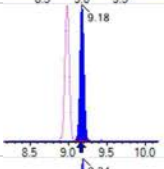
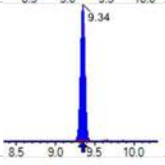
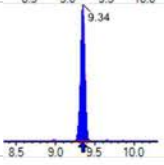
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 965700	(8.36 , N/A) (N/A , 0.00 , N/A)	1027.5	N/A	3.8390 [4.0000]	96.0% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 781761	(8.59 , N/A) (N/A , 0.00 , N/A)	1563.7	N/A	3.4708 [4.0000]	86.8% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4143661	(10.36 , N/A) (N/A , 0.00 , N/A)	1435.0	N/A	19.0493 [20.0000]	95.2% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5717912	(10.51 , N/A) (N/A , 0.00 , N/A)	1797.4	N/A	20.2174 [20.0000]	101.1% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2510317	(5.86 , N/A) (N/A , 0.00 , N/A)	1588.7	N/A	7.8619 [8.0000]	98.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

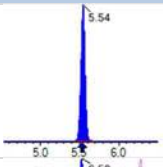
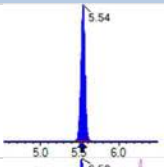
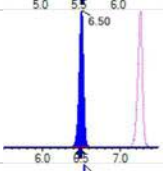
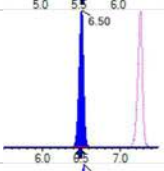
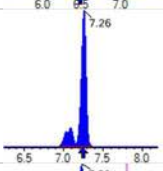
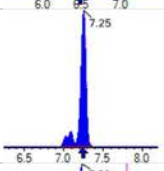
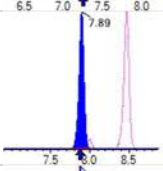
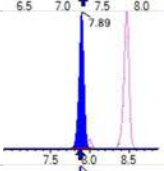
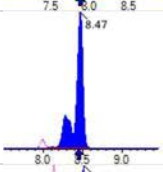
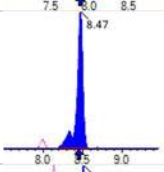
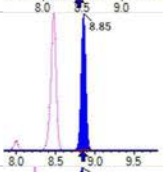
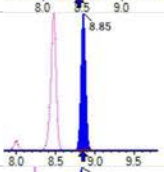
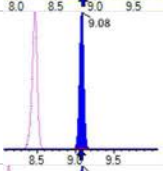
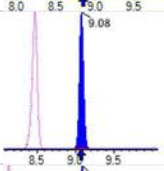
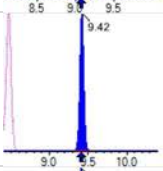
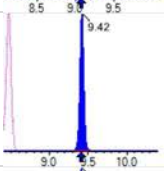
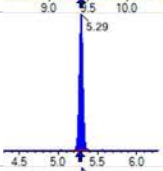
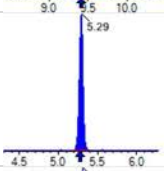
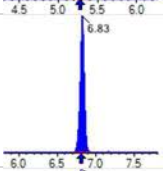
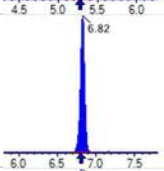
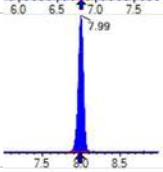
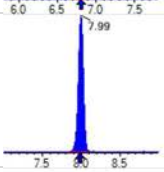
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 5125964	(3.56 , 1.00) (0.00 , N/A , 0.0)	227.1	N/A 0.0 0.0	45.7639 [40.0000]	114.4%			
PFPeA	(263.0 / 219.0) 5703432 (263.0 / 69.0) 61173	(4.62 , 1.00) (0.00 , N/A , 0.0)	4768.2 617.7	0.0107 73.1 73.1	22.9636 [20.0000]	114.8%			
PFHxA	(313.0 / 269.0) 4617167 (313.0 / 119.0) 383287	(5.56 , 1.00) (0.00 , N/A , 0.0)	3732.6 363.0	0.0830 73.2 73.2	11.5445 [10.0000]	115.4%			
PFHpA	(363.0 / 319.0) 3926715 (363.0 / 169.0) 1185353	(6.40 , 1.00) (0.00 , N/A , 0.1)	4422.0 92348.5	0.3019 96.0 96.0	11.0930 [10.0000]	110.9%			
PFOA	(413.0 / 369.0) 3604165 (413.0 / 169.0) 1181229	(7.10 , 1.00) (0.00 , N/A , 0.0)	3034.0 100184.1	0.3277 97.9 97.9	10.9274 [10.0000]	109.3%			
PFNA	(463.0 / 419.0) 2788715 (463.0 / 169.0) 622424	(7.70 , 1.00) (0.00 , N/A , 0.0)	4055.0 2106.3	0.2232 97.8 97.8	11.6699 [10.0000]	116.7%			
PFDA	(513.0 / 469.0) 3567616 (513.0 / 169.0) 365018	(8.26 , 1.00) (-0.01 , N/A , 0.1)	1340.2 611.7	0.1023 92.7 92.7	11.0729 [10.0000]	110.7%			
PFUnA	(563.0 / 519.0) 4517294 (563.0 / 169.0) 427726	(8.72 , 1.00) (0.00 , N/A , 0.0)	1727.3 1145.0	0.0947 92.4 92.4	11.7114 [10.0000]	117.1%			
PFDoA	(613.0 / 569.0) 4851788 (613.0 / 169.0) 648295	(8.98 , 1.00) (0.00 , N/A , 0.0)	2094.5 997.5	0.1336 93.2 93.2	11.2237 [10.0000]	112.2%			
PFTrDA	(663.0 / 619.0) 3896819 (663.0 / 169.0) 895776	(9.18 , 1.02) (N/A , 0.01 , 0.1)	1367.8 686.5	0.2299 101.0 101.0	10.7906 [10.0000]	107.9%			
PFTeDA	(713.0 / 669.0) 3789973 (713.0 / 169.0) 781569	(9.34 , 1.00) (0.00 , N/A , 0.0)	1731.5 1128.9	0.2062 100.4 100.4	12.4895 [10.0000]	124.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

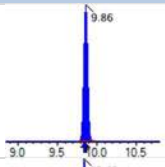
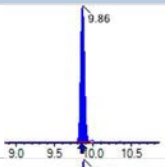
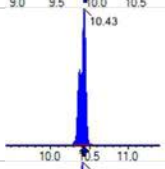
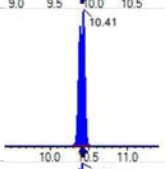
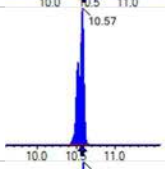
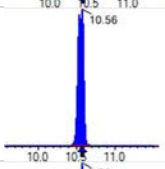
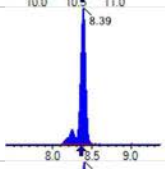
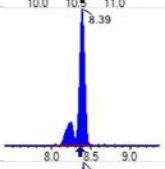
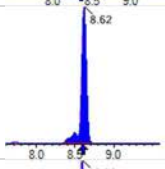
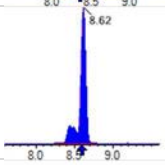
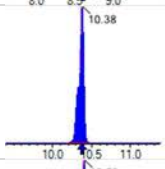
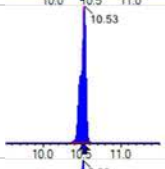
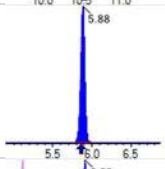
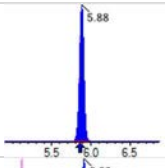
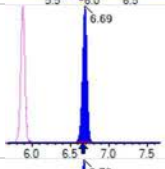
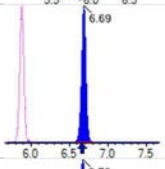
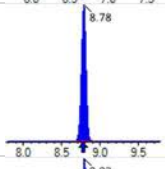
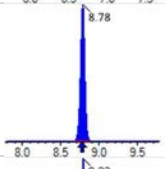
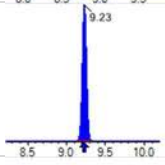
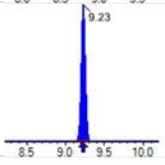
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 6355475 (299.0 / 99.0) 3954107	(5.54 , 1.00) (0.00 , N/A , 0.0)	2048.1 2660.4	0.6222 107.3 107.3	10.7286 [8.8473]	121.3%			
PFPeS	(349.0 / 80.0) 12369454 (349.0 / 99.0) 4294930	(6.50 , 0.90) (N/A , 0.02 , 0.0)	12583.8 14122.4	0.3472 101.4 101.4	11.5047 [9.3838]	122.6%			
PFHxS	(399.0 / 80.0) 8678185 (399.0 / 99.0) 2845876	(7.26 , 1.00) (0.00 , N/A , 0.2)	4359.0 1292.2	0.3279 104.1 104.1	10.7114 [9.1098]	117.6%			
PFHpS	(449.0 / 80.0) 7976404 (449.0 / 99.0) 2075049	(7.89 , 0.93) (N/A , 0.02 , 0.0)	25875.8 67080.8	0.2601 97.9 97.9	11.3959 [9.5141]	119.8%			
PFOS	(499.0 / 80.0) 9097135 (499.0 / 99.0) 2059028	(8.47 , 1.00) (0.00 , N/A , -0.2)	1229.4 580.1	0.2263 101.8 101.8	9.8572 [9.2749]	106.3%			
PFNS	(549.0 / 80.0) 11720926 (549.0 / 99.0) 2920584	(8.85 , 1.04) (N/A , 0.02 , 0.1)	6534.7 111892.7	0.2492 102.6 102.6	10.8360 [9.5989]	112.9%			
PFDS	(599.0 / 80.0) 14994107 (599.0 / 99.0) 3462344	(9.08 , 1.07) (N/A , 0.01 , 0.2)	2588.0 1485.7	0.2309 114.2 114.2	10.5237 [9.6311]	109.3%			
PFDoS	(699.0 / 80.0) 11988879 (699.0 / 99.0) 2603418	(9.42 , 1.11) (N/A , 0.01 , 0.0)	2236.2 1861.4	0.2172 106.5 106.5	10.8825 [9.6956]	112.2%			
4:2FTS	(327.0 / 307.0) 7960622 (327.0 / 81.0) 4966305	(5.29 , 1.00) (0.00 , N/A , -0.1)	2833.4 2377.4	0.6239 108.9 108.9	43.3084 [37.3811]	115.9%			
6:2FTS	(427.0 / 407.0) 3672260 (427.0 / 81.0) 2683860	(6.83 , 1.00) (0.00 , N/A , 0.1)	2465.5 1916.7	0.7308 95.9 95.9	44.8486 [37.9617]	118.1%			
8:2FTS	(527.0 / 507.0) 3932150 (527.0 / 81.0) 2851109	(7.99 , 1.00) (0.00 , N/A , 0.0)	913.0 1744.6	0.7251 111.2 111.2	42.5113 [38.3315]	110.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

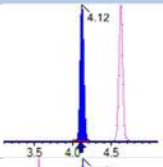
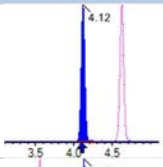
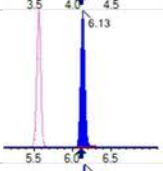
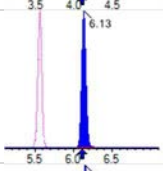
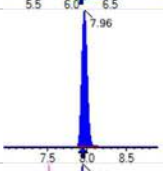
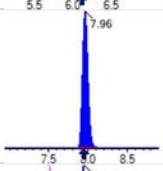
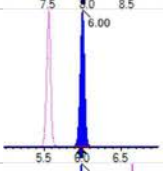
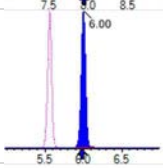
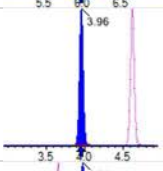
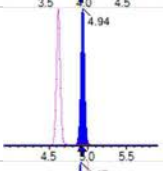
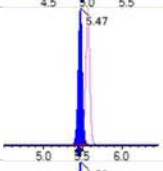
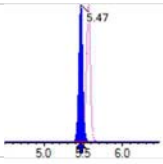
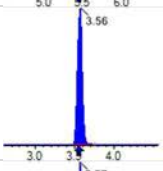
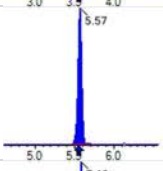
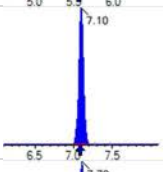
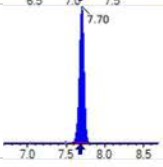
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 16567862 (498.0 / 478.0) 335143	(9.86 , 1.00) (0.00 , N/A , 0.1)	1777.0 848.0	0.0202 96.6 96.6	11.6326 [10.0000]	116.3%			
NMeFOSA	(512.0 / 219.0) 16889365 (512.0 / 169.0) 13834832	(10.43 , 1.00) (0.00 , N/A , 1.0)	3404.1 3766.6	0.8191 99.8 99.8	46.8793 [40.0000]	117.2%			
NEtFOSA	(526.0 / 219.0) 18721050 (526.0 / 169.0) 22828824	(10.57 , 1.00) (0.00 , N/A , 0.8)	12031.1 12485.0	1.2194 97.3 97.3	47.2748 [40.0000]	118.2%			
NMeFOSAA	(570.0 / 419.0) 1765207 (570.0 / 483.0) 970415	(8.39 , 1.00) (0.00 , N/A , 0.0)	1607.6 934.7	0.5497 101.3 101.3	12.1019 [10.0000]	121.0%			
NEtFOSAA	(584.0 / 419.0) 1738729 (584.0 / 526.0) 1037762	(8.62 , 1.00) (0.01 , N/A , -0.1)	1562.5 1027.3	0.5969 88.7 88.7	11.1312 [10.0000]	111.3%			
NMeFOSE	(616.0 / 59.0) 8097673	(10.38 , 1.00) (0.01 , N/A , 0.0)	3150.4	N/A 0.0 0.0	44.2191 [40.0000]	110.5%			
NEtFOSE	(630.0 / 59.0) 9984332	(10.53 , 1.00) (0.01 , N/A , 0.0)	1170.5	N/A 0.0 0.0	46.9942 [40.0000]	117.5%			
HFPO-DA	(285.0 / 169.0) 4136001 (285.0 / 185.0) 11292855	(5.88 , 1.00) (0.00 , N/A , 0.1)	1566.8 3933.3	2.7304 96.3 96.3	22.7426 [20.0000]	113.7%			
ADONA	(377.0 / 85.0) 13621513 (377.0 / 251.0) 1590093	(6.69 , 1.14) (N/A , 0.02 , 0.0)	2469.3 1467.9	0.1167 109.1 109.1	20.9442 [18.8540]	111.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 34847899 (533.0 / 353.0) 12589782	(8.78 , 1.49) (N/A , 0.02 , 0.1)	1123.0 1633.6	0.3613 115.7 115.7	20.6942 [18.6651]	110.9%			
11Cl-PF3OUDS	(631.0 / 451.0) 27799081 (633.0 / 453.0) 9176021	(9.23 , 1.57) (N/A , 0.01 , 0.1)	1346.0 2078.0	0.3301 104.0 104.0	20.5036 [18.8642]	108.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

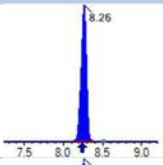
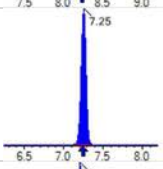
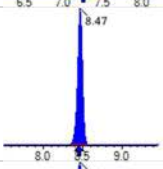
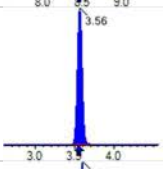
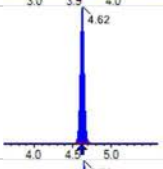
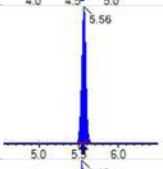
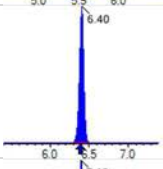
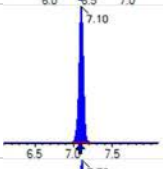
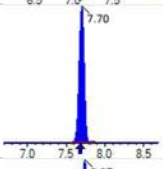
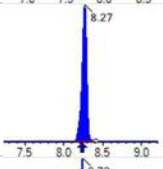
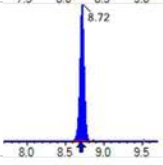
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 326759 (241.0 / 117.0) 523637	(4.12 , 0.89) (N/A , 0.01 , -0.1)	2136.5 2116.1	1.6025 95.2 95.2	44.4853 [40.0000]	111.2%			
5:3FTCA	(341.0 / 236.7) 3295688 (341.0 / 217.0) 5527093	(6.13 , 1.10) (N/A , 0.02 , 0.0)	1908.4 1914.8	1.6771 93.5 93.5	45.8626 [40.0000]	114.7%			
7:3FTCA	(441.0 / 317.0) 3500956 (441.0 / 337.0) 2909489	(7.96 , 1.43) (N/A , 0.02 , 0.2)	1517.9 1144.4	0.8311 99.0 99.0	43.5801 [40.0000]	109.0%			
PFEESA	(315.0 / 135.0) 8081254 (315.0 / 83.0) 2417458	(6.00 , 1.08) (N/A , 0.02 , 0.0)	2606.7 1836.3	0.2991 98.0 98.0	19.7133 [17.8492]	110.4%			
PFMPA	(229.0 / 85.0) 1090908	(3.96 , 0.86) (N/A , 0.01 , 0.0)	4120.8	N/A 0.0 0.0	22.9158 [20.0000]	114.6%			
PFMBA	(279.0 / 85.0) 5217650	(4.94 , 1.07) (N/A , 0.02 , 0.0)	3190.9	N/A 0.0 0.0	23.1067 [20.0000]	115.5%			
NFDHA	(295.0 / 201.0) 5083612 (295.0 / 85.0) 4872845	(5.47 , 0.98) (N/A , 0.02 , 0.0)	3287.4 2931.5	0.9585 96.2 96.2	22.4812 [20.0000]	112.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 125135	(3.56 , N/A) (N/A , 0.01 , N/A)	1204.3	N/A	1.0150 [1.0000]	101.5% { 100.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 442323	(5.57 , N/A) (N/A , 0.02 , N/A)	1172.3	N/A	1.0270 [1.0000]	102.7% { 96.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 302761	(7.10 , N/A) (N/A , 0.02 , N/A)	2927.9	N/A	0.9275 [1.0000]	92.8% { 85.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 267150	(7.70 , N/A) (N/A , 0.02 , N/A)	1452.2	N/A	1.0531 [1.0000]	105.3% { 114.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

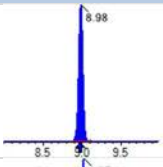
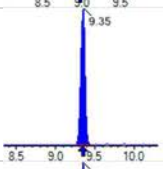
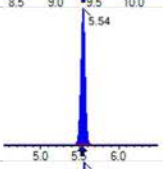
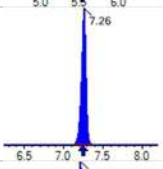
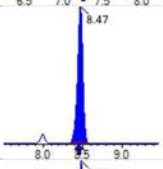
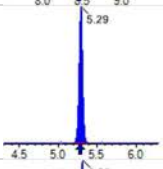
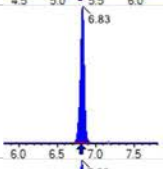
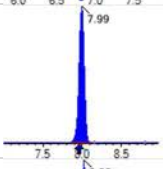
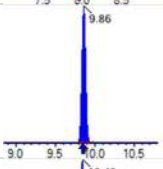
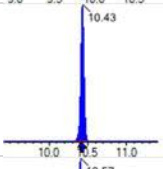
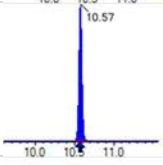
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 292453	(8.26 , N/A) (N/A , 0.02 , N/A)	960.3	N/A	0.9361 [1.0000]	93.6% { 85.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 636184	(7.25 , N/A) (N/A , 0.02 , N/A)	568.6	N/A	1.0118 [1.0000]	101.2% { 95.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 705264	(8.47 , N/A) (N/A , 0.02 , N/A)	725.3	N/A	1.0407 [1.0000]	104.1% { 89.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1091706	(3.56 , N/A) (N/A , 0.01 , N/A)	3691.5	N/A	7.3841 [8.0000]	92.3% { 90.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1187888	(4.62 , N/A) (N/A , 0.01 , N/A)	2703.4	N/A	3.7099 [4.0000]	92.7% { 93.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 895019	(5.56 , N/A) (N/A , 0.02 , N/A)	2025.4	N/A	1.8956 [2.0000]	94.8% { 89.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 730339	(6.40 , N/A) (N/A , 0.02 , N/A)	1575.0	N/A	1.8310 [2.0000]	91.5% { 96.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 649702	(7.10 , N/A) (N/A , 0.02 , N/A)	1725.4	N/A	1.9712 [2.0000]	98.6% { 88.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 254070	(7.70 , N/A) (N/A , 0.02 , N/A)	2049.8	N/A	0.8976 [1.0000]	89.8% { 87.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 347222	(8.27 , N/A) (N/A , 0.03 , N/A)	1079.2	N/A	0.9666 [1.0000]	96.7% { 84.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 467563	(8.72 , N/A) (N/A , 0.02 , N/A)	964.1	N/A	0.9534 [1.0000]	95.3% { 84.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

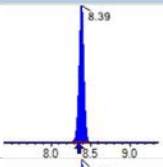
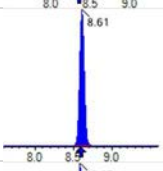
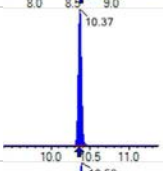
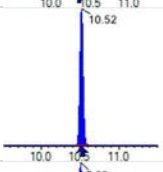
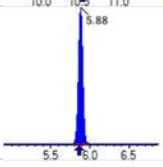
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 501818	(8.98 , N/A) (N/A , 0.02 , N/A)	1025.9	N/A	0.9905 [1.0000]	99.0% { 87.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 333426	(9.35 , N/A) (N/A , 0.01 , N/A)	764.8	N/A	0.9120 [1.0000]	91.2% { 77.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2099928	(5.54 , N/A) (N/A , 0.02 , N/A)	2799.4	N/A	1.7244 [2.0000]	86.2% { 84.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1098866	(7.26 , N/A) (N/A , 0.03 , N/A)	1284.7	N/A	1.8426 [2.0000]	92.1% { 92.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1701824	(8.47 , N/A) (N/A , 0.03 , N/A)	617.1	N/A	1.8071 [2.0000]	90.4% { 87.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 256335	(5.29 , N/A) (N/A , 0.01 , N/A)	1404.0	N/A	3.8573 [4.0000]	96.4% { 99.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 236975	(6.83 , N/A) (N/A , 0.02 , N/A)	1404.0	N/A	3.5646 [4.0000]	89.1% { 97.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 308383	(7.99 , N/A) (N/A , 0.03 , N/A)	725.6	N/A	3.8374 [4.0000]	95.9% { 107.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2945751	(9.86 , N/A) (N/A , 0.01 , N/A)	1400.1	N/A	1.6529 [2.0000]	82.6% { 80.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 910917	(10.43 , N/A) (N/A , 0.01 , N/A)	2038.7	N/A	1.7059 [2.0000]	85.3% { 84.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 829090	(10.57 , N/A) (N/A , 0.01 , N/A)	2226.5	N/A	1.6980 [2.0000]	84.9% { 82.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (6)
Acquired: 2023/02/09 - 13:22

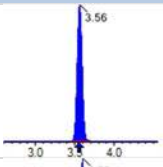
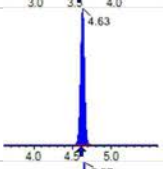
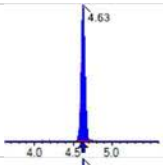
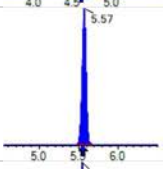
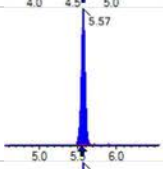
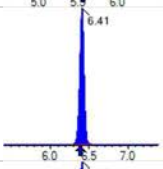
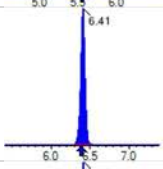
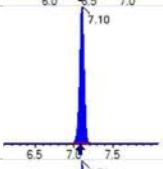
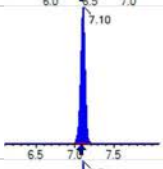
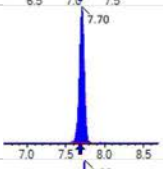
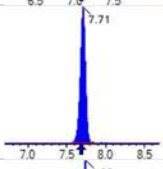
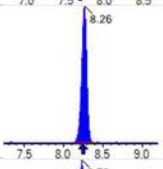
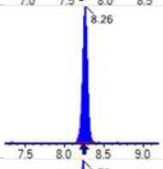
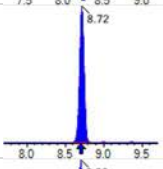
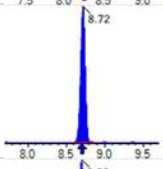
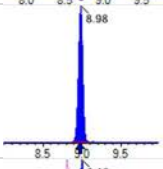
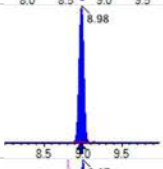
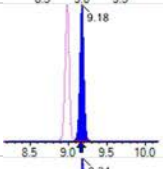
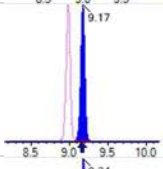
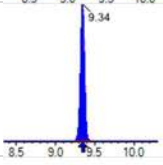
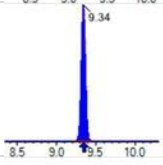
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 746429	(8.39 , N/A) (N/A , 0.03 , N/A)	1059.5	N/A	3.3016 [4.0000]	82.5% { 77.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 777729	(8.61 , N/A) (N/A , 0.02 , N/A)	1815.1	N/A	3.8418 [4.0000]	96.0% { 99.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3534023	(10.37 , N/A) (N/A , 0.01 , N/A)	2046.5	N/A	18.0767 [20.0000]	90.4% { 85.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4384012	(10.52 , N/A) (N/A , 0.01 , N/A)	1478.6	N/A	17.2470 [20.0000]	86.2% { 76.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2319999	(5.88 , N/A) (N/A , 0.02 , N/A)	2306.1	N/A	7.5632 [8.0000]	94.5% { 92.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

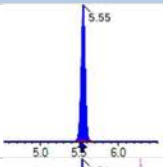
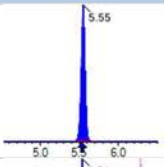
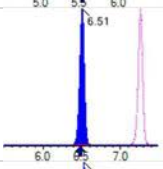
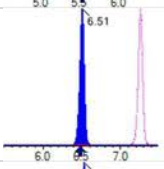
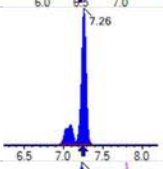
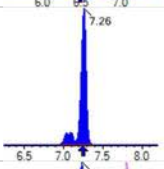
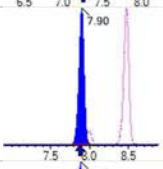
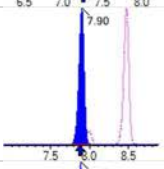
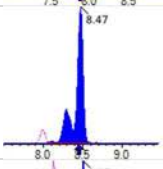
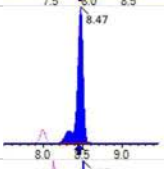
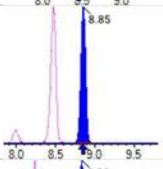
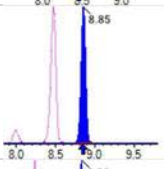
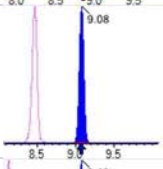
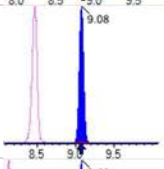
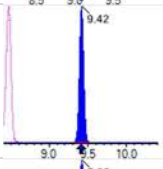
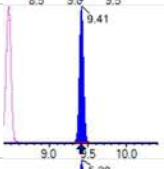
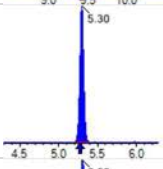
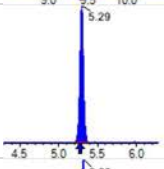
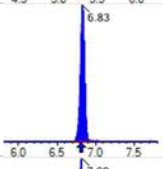
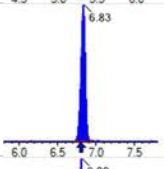
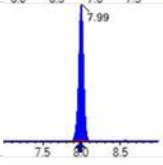
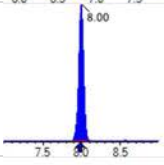
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 8930277	(3.56 , 1.00) (0.00 , N/A , 0.0)	190.5	N/A 0.0 0.0	83.2153 [80.0000]	104.0%			
PFPeA	(263.0 / 219.0) 10151226 (263.0 / 69.0) 120020	(4.63 , 1.00) (0.00 , N/A , 0.1)	6232.1 1282.7	0.0118 80.6 80.6	42.8333 [40.0000]	107.1%			
PFHxA	(313.0 / 269.0) 7842191 (313.0 / 119.0) 789465	(5.57 , 1.00) (0.00 , N/A , 0.0)	7848.9 311461.9	0.1007 88.7 88.7	20.9971 [20.0000]	105.0%			
PFHpA	(363.0 / 319.0) 7773145 (363.0 / 169.0) 2216704	(6.41 , 1.00) (0.00 , N/A , 0.1)	8021.5 20168.8	0.2852 90.7 90.7	20.8742 [20.0000]	104.4%			
PFOA	(413.0 / 369.0) 6518410 (413.0 / 169.0) 2115865	(7.10 , 1.00) (0.00 , N/A , 0.0)	6195.5 3356.3	0.3246 97.0 97.0	19.6883 [20.0000]	98.4%			
PFNA	(463.0 / 419.0) 5135886 (463.0 / 169.0) 1092248	(7.70 , 1.00) (0.00 , N/A , -0.1)	3922.1 5742456.5	0.2127 93.2 93.2	21.0907 [20.0000]	105.5%			
PFDA	(513.0 / 469.0) 6990047 (513.0 / 169.0) 660674	(8.26 , 1.00) (0.00 , N/A , 0.2)	1773.0 1554.7	0.0945 85.6 85.6	21.0446 [20.0000]	105.2%			
PFUnA	(563.0 / 519.0) 8744715 (563.0 / 169.0) 807787	(8.72 , 1.00) (0.00 , N/A , -0.1)	1375.3 1101.8	0.0924 90.2 90.2	22.3122 [20.0000]	111.6%			
PFDoA	(613.0 / 569.0) 8623688 (613.0 / 169.0) 1107700	(8.98 , 1.00) (0.00 , N/A , 0.2)	2072.4 1062.8	0.1284 89.6 89.6	20.1197 [20.0000]	100.6%			
PFTrDA	(663.0 / 619.0) 7433476 (663.0 / 169.0) 1570834	(9.18 , 1.02) (N/A , 0.01 , 0.0)	1805.0 1299.4	0.2113 92.8 92.8	20.7596 [20.0000]	103.8%			
PFTeDA	(713.0 / 669.0) 6924386 (713.0 / 169.0) 1342096	(9.34 , 1.00) (-0.01 , N/A , 0.1)	1643.0 1441.0	0.1938 94.4 94.4	19.3995 [20.0000]	97.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

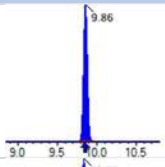
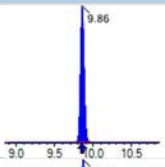
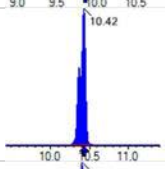
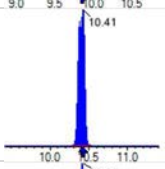
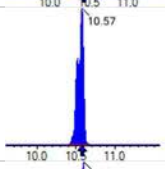
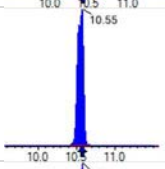
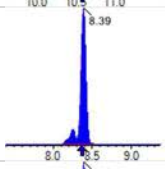
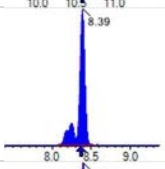
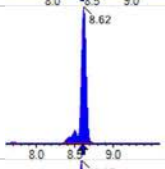
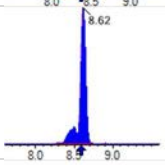
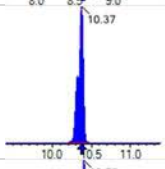
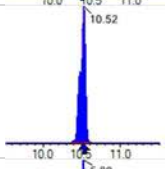
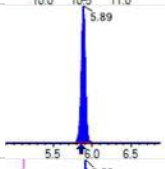
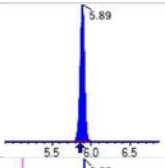
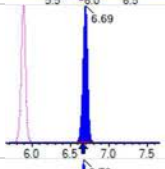
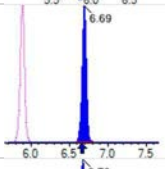
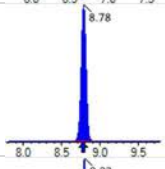
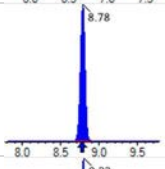
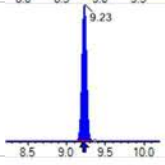
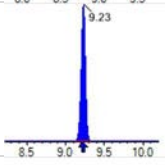
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 11444388 (299.0 / 99.0) 7553061	(5.55 , 1.00) (0.00 , N/A , 0.0)	2282.8 2840.1	0.6600 113.8 113.8	18.4000 [17.6947]	104.0%			
PFPeS	(349.0 / 80.0) 21574569 (349.0 / 99.0) 8067476	(6.51 , 0.90) (N/A , 0.02 , 0.0)	22251.6 11154.4	0.3739 109.2 109.2	20.1588 [18.7676]	107.4%			
PFHxS	(399.0 / 80.0) 15822054 (399.0 / 99.0) 5329268	(7.26 , 1.00) (0.00 , N/A , 0.0)	4126.0 34263.1	0.3368 106.9 106.9	19.6191 [18.2197]	107.7%			
PFHpS	(449.0 / 80.0) 14385764 (449.0 / 99.0) 3559519	(7.90 , 0.93) (N/A , 0.03 , 0.0)	10625.2 1111975.2	0.2474 93.2 93.2	21.3265 [19.0281]	112.1%			
PFOS	(499.0 / 80.0) 17379063 (499.0 / 99.0) 3726617	(8.47 , 1.00) (0.00 , N/A , -0.1)	1595.7 841.2	0.2144 96.4 96.4	19.5398 [18.5499]	105.3%			
PFNS	(549.0 / 80.0) 21375048 (549.0 / 99.0) 5403463	(8.85 , 1.04) (N/A , 0.02 , -0.1)	6283.3 9494.7	0.2528 104.1 104.1	20.5049 [19.1977]	106.8%			
PFDS	(599.0 / 80.0) 27686004 (599.0 / 99.0) 6914121	(9.08 , 1.07) (N/A , 0.01 , 0.2)	1608.4 2232.3	0.2497 123.5 123.5	20.1628 [19.2621]	104.7%			
PFDoS	(699.0 / 80.0) 22241071 (699.0 / 99.0) 5141926	(9.42 , 1.11) (N/A , 0.01 , 0.1)	1987.6 2070.2	0.2312 113.3 113.3	20.9484 [19.3913]	108.0%			
4:2FTS	(327.0 / 307.0) 14063925 (327.0 / 81.0) 9033669	(5.30 , 1.00) (0.00 , N/A , 0.1)	3114.6 2375.0	0.6423 112.1 112.1	74.2142 [74.7622]	99.3%			
6:2FTS	(427.0 / 407.0) 7084219 (427.0 / 81.0) 5171018	(6.83 , 1.00) (0.00 , N/A , 0.0)	1994.9 2296.5	0.7299 95.8 95.8	79.4222 [75.9234]	104.6%			
8:2FTS	(527.0 / 507.0) 7411866 (527.0 / 81.0) 5283614	(7.99 , 1.00) (0.00 , N/A , 0.0)	1518.3 1723.8	0.7129 109.3 109.3	78.5610 [76.6631]	102.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

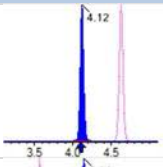
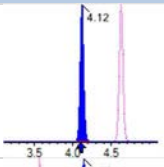
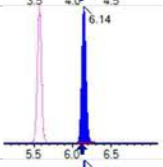
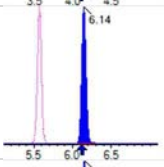
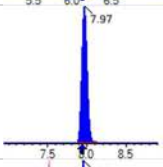
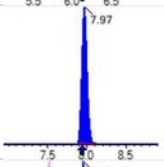
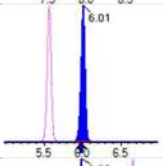
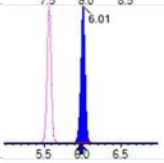
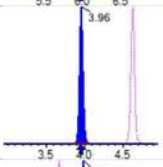
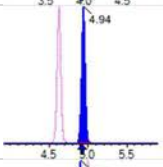
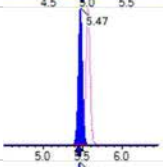
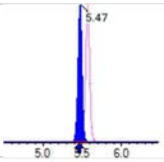
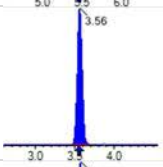
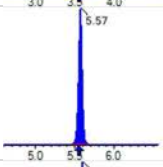
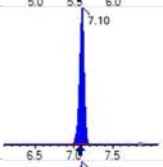
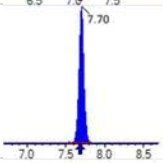
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 28985272 (498.0 / 478.0) 635059	(9.86 , 1.00) (0.00 , N/A , 0.1)	3490.8 1720.3	0.0219 104.6 104.6	19.0050 [20.0000]	95.0%			
NMeFOSA	(512.0 / 219.0) 29568766 (512.0 / 169.0) 24360717	(10.42 , 1.00) (0.00 , N/A , 0.9)	2663.8 2941.4	0.8239 100.3 100.3	80.5054 [80.0000]	100.6%			
NEtFOSA	(526.0 / 219.0) 32464434 (526.0 / 169.0) 37049121	(10.57 , 1.00) (-0.01 , N/A , 0.6)	17167.4 14920.1	1.1412 91.0 91.0	81.1090 [80.0000]	101.4%			
NMeFOSAA	(570.0 / 419.0) 3390305 (570.0 / 483.0) 1689464	(8.39 , 1.00) (0.01 , N/A , 0.1)	1627.8 1005.8	0.4983 91.8 91.8	21.1108 [20.0000]	105.6%			
NEtFOSAA	(584.0 / 419.0) 3277486 (584.0 / 526.0) 1936413	(8.62 , 1.00) (0.01 , N/A , -0.1)	1188.2 1274.2	0.5908 87.8 87.8	21.8729 [20.0000]	109.4%			
NMeFOSE	(616.0 / 59.0) 14456199	(10.37 , 1.00) (0.01 , N/A , 0.0)	2501.3	N/A 0.0 0.0	83.1210 [80.0000]	103.9%			
NEtFOSE	(630.0 / 59.0) 17538770	(10.52 , 1.00) (0.01 , N/A , 0.0)	1275.0	N/A 0.0 0.0	84.4864 [80.0000]	105.6%			
HFPO-DA	(285.0 / 169.0) 7375338 (285.0 / 185.0) 21070046	(5.89 , 1.00) (0.00 , N/A , 0.0)	2348.2 3301.6	2.8568 100.8 100.8	42.4069 [40.0000]	106.0%			
ADONA	(377.0 / 85.0) 24741463 (377.0 / 251.0) 3221951	(6.69 , 1.14) (N/A , 0.03 , 0.0)	1642.3 1981.0	0.1302 121.7 121.7	39.7795 [37.7080]	105.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 52675265 (533.0 / 353.0) 20406796	(8.78 , 1.49) (N/A , 0.02 , -0.1)	1554.4 1665.6	0.3874 124.1 124.1	36.4625 [37.3302]	97.7%			
11Cl-PF3OUDS	(631.0 / 451.0) 44887141 (633.0 / 453.0) 16092670	(9.23 , 1.57) (N/A , 0.01 , -0.1)	1785.3 1423.0	0.3585 112.9 112.9	38.1134 [37.7283]	101.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

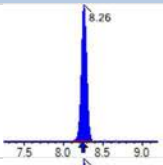
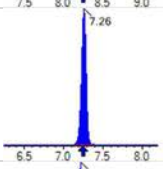
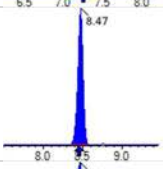
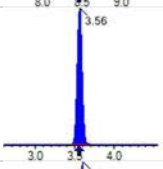
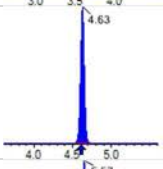
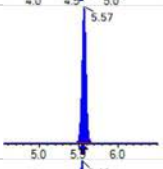
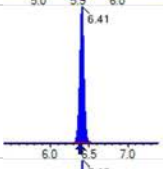
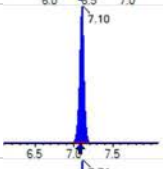
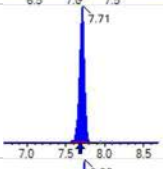
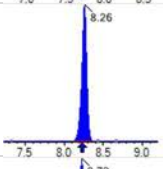
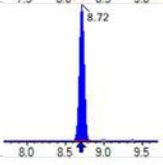
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 611130 (241.0 / 117.0) 1043558	(4.12 , 0.89) (N/A , 0.01 , 0.0)	2694.8 2458.1	1.7076 101.4 101.4	87.1930 [80.0000]	109.0%			
5:3FTCA	(341.0 / 236.7) 6286139 (341.0 / 217.0) 10720570	(6.14 , 1.10) (N/A , 0.03 , 0.0)	2021.4 1904.7	1.7054 95.1 95.1	93.6738 [80.0000]	117.1%			
7:3FTCA	(441.0 / 317.0) 6953238 (441.0 / 337.0) 5543730	(7.97 , 1.43) (N/A , 0.03 , 0.0)	1507.9 1413.1	0.7973 95.0 95.0	92.6851 [80.0000]	115.9%			
PFEESA	(315.0 / 135.0) 14577368 (315.0 / 83.0) 4510756	(6.01 , 1.08) (N/A , 0.03 , 0.1)	2312.5 2395.8	0.3094 101.4 101.4	38.0787 [35.6984]	106.7%			
PFMPA	(229.0 / 85.0) 1957884	(3.96 , 0.85) (N/A , 0.01 , 0.0)	4945.8	N/A 0.0 0.0	43.1016 [40.0000]	107.8%			
PFMBA	(279.0 / 85.0) 9576624	(4.94 , 1.07) (N/A , 0.02 , 0.0)	2594.3	N/A 0.0 0.0	44.4463 [40.0000]	111.1%			
NFDHA	(295.0 / 201.0) 9281350 (295.0 / 85.0) 9039542	(5.47 , 0.98) (N/A , 0.02 , 0.0)	2275.5 2272.8	0.9739 97.8 97.8	43.9522 [40.0000]	109.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 109611	(3.56 , N/A) (N/A , 0.01 , N/A)	1260.2	N/A	0.8890 [1.0000]	88.9% { 87.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 384077	(5.57 , N/A) (N/A , 0.02 , N/A)	1310.8	N/A	0.8917 [1.0000]	89.2% { 83.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 309585	(7.10 , N/A) (N/A , 0.03 , N/A)	659.8	N/A	0.9484 [1.0000]	94.8% { 87.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 254529	(7.70 , N/A) (N/A , 0.02 , N/A)	2372.4	N/A	1.0034 [1.0000]	100.3% { 108.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

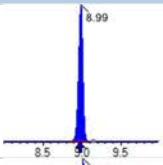
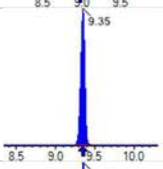
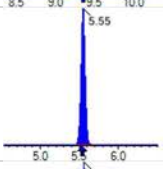
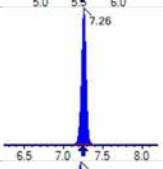
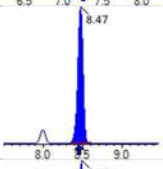
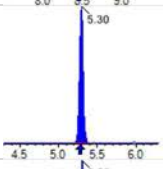
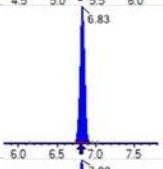
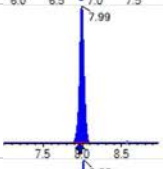
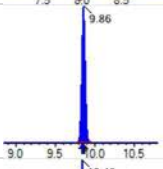
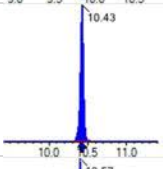
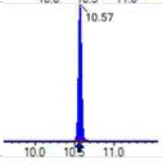
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 279669	(8.26 , N/A) (N/A , 0.02 , N/A)	843.2	N/A	0.8952 [1.0000]	89.5% { 81.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 616125	(7.26 , N/A) (N/A , 0.03 , N/A)	878.1	N/A	0.9799 [1.0000]	98.0% { 92.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 615077	(8.47 , N/A) (N/A , 0.02 , N/A)	664.5	N/A	0.9076 [1.0000]	90.8% { 78.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1045960	(3.56 , N/A) (N/A , 0.01 , N/A)	3207.9	N/A	8.0767 [8.0000]	101.0% { 86.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1133485	(4.63 , N/A) (N/A , 0.02 , N/A)	2271.5	N/A	4.0769 [4.0000]	101.9% { 89.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 835817	(5.57 , N/A) (N/A , 0.02 , N/A)	1733.7	N/A	2.0386 [2.0000]	101.9% { 83.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 768299	(6.41 , N/A) (N/A , 0.03 , N/A)	2436.1	N/A	2.2182 [2.0000]	110.9% { 101.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 652167	(7.10 , N/A) (N/A , 0.03 , N/A)	1068.6	N/A	1.9351 [2.0000]	96.8% { 88.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 258904	(7.71 , N/A) (N/A , 0.03 , N/A)	777.9	N/A	0.9600 [1.0000]	96.0% { 88.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 357956	(8.26 , N/A) (N/A , 0.02 , N/A)	609.9	N/A	1.0421 [1.0000]	104.2% { 86.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 475087	(8.72 , N/A) (N/A , 0.02 , N/A)	569.2	N/A	1.0131 [1.0000]	101.3% { 85.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

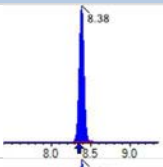
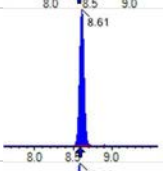
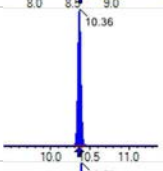
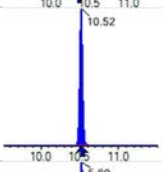
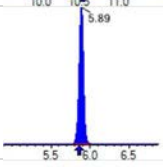
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 497568	(8.99 , N/A) (N/A , 0.02 , N/A)	986.0	N/A	1.0270 [1.0000]	102.7% { 86.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 392193	(9.35 , N/A) (N/A , 0.01 , N/A)	972.1	N/A	1.1217 [1.0000]	112.2% { 90.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2204820	(5.55 , N/A) (N/A , 0.02 , N/A)	1638.3	N/A	1.8695 [2.0000]	93.5% { 88.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1093823	(7.26 , N/A) (N/A , 0.03 , N/A)	1046.9	N/A	1.8938 [2.0000]	94.7% { 91.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1640103	(8.47 , N/A) (N/A , 0.03 , N/A)	449.6	N/A	1.9969 [2.0000]	99.8% { 84.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 264273	(5.30 , N/A) (N/A , 0.02 , N/A)	2083.7	N/A	4.1063 [4.0000]	102.7% { 102.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 258147	(6.83 , N/A) (N/A , 0.03 , N/A)	969.8	N/A	4.0095 [4.0000]	100.2% { 106.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 314547	(7.99 , N/A) (N/A , 0.02 , N/A)	1178.7	N/A	4.0415 [4.0000]	101.0% { 109.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3154386	(9.86 , N/A) (N/A , 0.01 , N/A)	1852.8	N/A	2.0295 [2.0000]	101.5% { 86.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 928656	(10.43 , N/A) (N/A , 0.00 , N/A)	1621.6	N/A	1.9941 [2.0000]	99.7% { 86.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 837993	(10.57 , N/A) (N/A , 0.00 , N/A)	2437.6	N/A	1.9679 [2.0000]	98.4% { 82.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (7)
Acquired: 2023/02/09 - 13:35

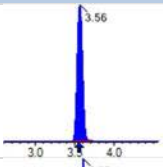
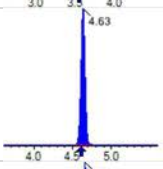
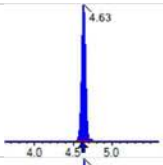
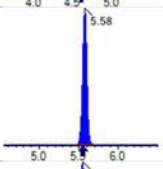
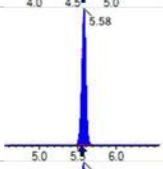
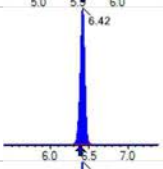
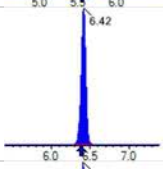
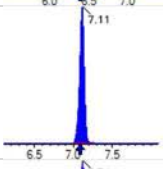
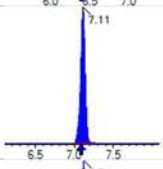
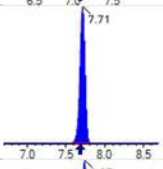
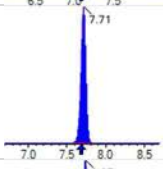
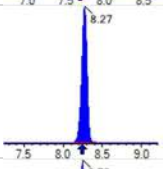
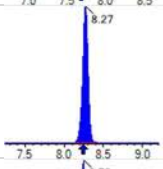
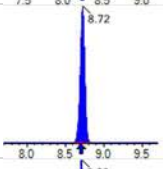
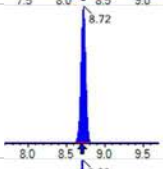
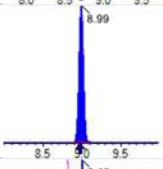
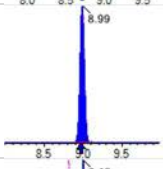
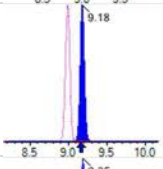
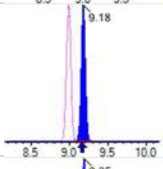
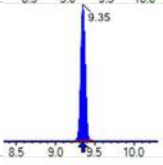
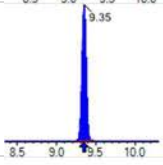
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 821828	(8.38 , N/A) (N/A , 0.03 , N/A)	1188.6	N/A	4.1681 [4.0000]	104.2% { 85.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 746056	(8.61 , N/A) (N/A , 0.02 , N/A)	1738.0	N/A	4.2257 [4.0000]	105.6% { 95.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3356313	(10.36 , N/A) (N/A , 0.00 , N/A)	1500.4	N/A	19.6850 [20.0000]	98.4% { 81.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4283608	(10.52 , N/A) (N/A , 0.00 , N/A)	1433.4	N/A	19.3230 [20.0000]	96.6% { 74.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2218671	(5.89 , N/A) (N/A , 0.03 , N/A)	2219.9	N/A	8.3297 [8.0000]	104.1% { 88.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

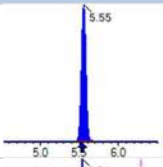
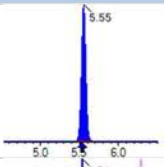
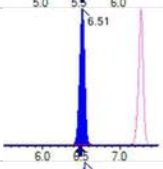
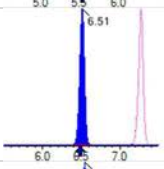
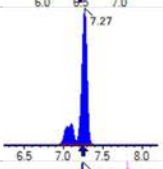
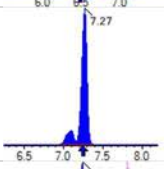
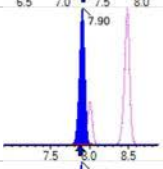
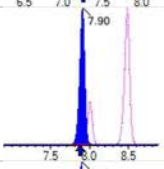
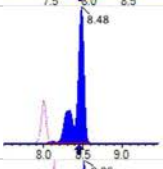
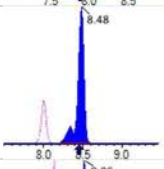
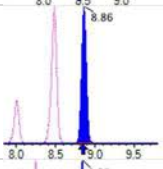
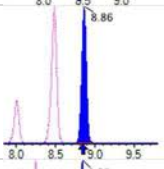
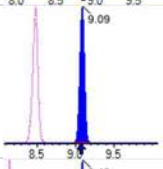
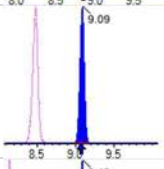
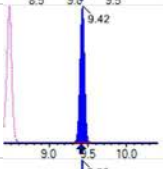
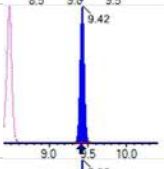
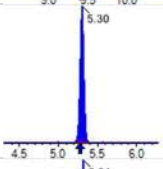
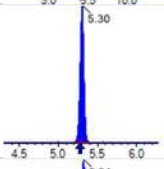
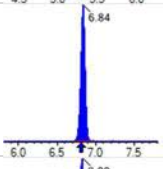
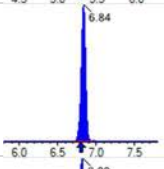
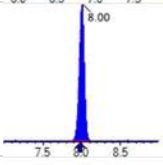
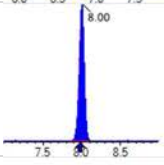
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 18108422	(3.56 , 1.00) (0.00 , N/A , 0.0)	191.7	N/A 0.0 0.0	202.4883 [200.0000]	101.2%			
PFPeA	(263.0 / 219.0) 21712692 (263.0 / 69.0) 263147	(4.63 , 1.00) (0.00 , N/A , 0.0)	6643.8 2043.1	0.0121 82.7 82.7	97.0747 [100.0000]	97.1%			
PFHxA	(313.0 / 269.0) 17277465 (313.0 / 119.0) 1616259	(5.58 , 1.00) (0.00 , N/A , -0.1)	5504.1 103196.7	0.0935 82.5 82.5	49.8395 [50.0000]	99.7%			
PFHpA	(363.0 / 319.0) 17222060 (363.0 / 169.0) 5133965	(6.42 , 1.00) (0.00 , N/A , 0.0)	6640.0 10732.7	0.2981 94.8 94.8	50.0204 [50.0000]	100.0%			
PFOA	(413.0 / 369.0) 15523988 (413.0 / 169.0) 5071353	(7.11 , 1.00) (0.00 , N/A , 0.1)	3479.7 4904.0	0.3267 97.6 97.6	50.0194 [50.0000]	100.0%			
PFNA	(463.0 / 419.0) 12303689 (463.0 / 169.0) 2559171	(7.71 , 1.00) (0.00 , N/A , 0.0)	4078.2 67520.1	0.2080 91.2 91.2	52.5990 [50.0000]	105.2%			
PFDA	(513.0 / 469.0) 16139089 (513.0 / 169.0) 1630965	(8.27 , 1.00) (0.00 , N/A , 0.0)	1740.4 844.6	0.1011 91.6 91.6	50.3327 [50.0000]	100.7%			
PFUnA	(563.0 / 519.0) 18713542 (563.0 / 169.0) 1779118	(8.72 , 1.00) (0.00 , N/A , 0.2)	1784.3 1226.4	0.0951 92.8 92.8	46.0875 [50.0000]	92.2%			
PFDoA	(613.0 / 569.0) 20713663 (613.0 / 169.0) 2730171	(8.99 , 1.00) (0.00 , N/A , 0.1)	2236.4 1489.2	0.1318 91.9 91.9	50.2460 [50.0000]	100.5%			
PFTrDA	(663.0 / 619.0) 15843010 (663.0 / 169.0) 3449333	(9.18 , 1.02) (N/A , 0.01 , -0.1)	1719.8 1430.2	0.2177 95.6 95.6	46.0026 [50.0000]	92.0%			
PFTeDA	(713.0 / 669.0) 15492426 (713.0 / 169.0) 3232046	(9.35 , 1.00) (0.00 , N/A , -0.1)	2237.9 1307.3	0.2086 101.6 101.6	46.2845 [50.0000]	92.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

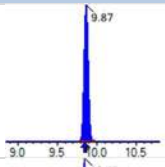
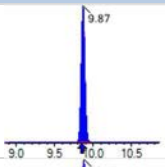
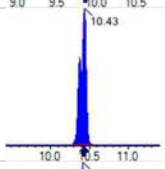
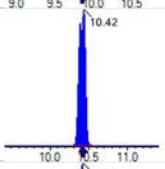
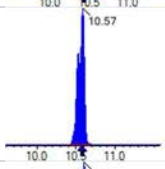
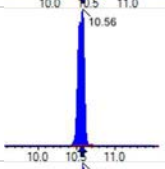
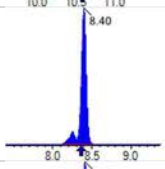
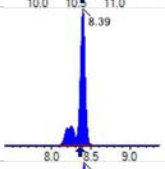
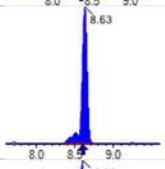
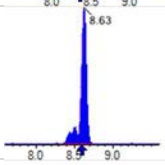
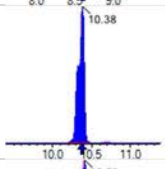
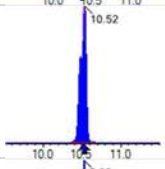
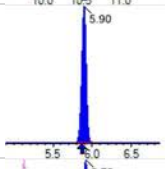
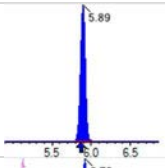
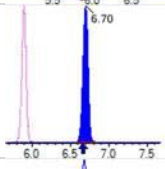
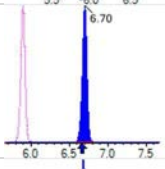
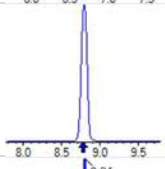
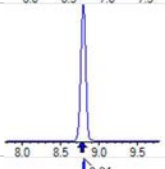
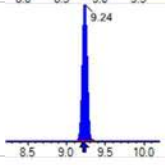
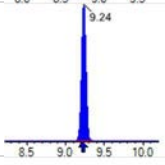
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 22873744 (299.0 / 99.0) 15885906	(5.55 , 1.00) (0.00 , N/A , 0.0)	3408.8 2934.0	0.6945 119.7 119.7	40.8232 [44.2367]	92.3%			
PFPeS	(349.0 / 80.0) 44251722 (349.0 / 99.0) 19040186	(6.51 , 0.90) (N/A , 0.03 , 0.1)	12939.9 20253.7	0.4303 125.7 125.7	41.0619 [46.9191]	87.5%			
PFHxS	(399.0 / 80.0) 36934856 (399.0 / 99.0) 12825246	(7.27 , 1.00) (0.00 , N/A , 0.1)	3673.7 9032.9	0.3472 110.2 110.2	45.4818 [45.5491]	99.9%			
PFHpS	(449.0 / 80.0) 32068720 (449.0 / 99.0) 9726819	(7.90 , 0.93) (N/A , 0.03 , -0.1)	8201.2 31007.1	0.3033 114.2 114.2	50.7990 [47.5703]	106.8%			
PFOS	(499.0 / 80.0) 38788176 (499.0 / 99.0) 8735846	(8.48 , 1.00) (0.00 , N/A , 0.0)	1604.0 1046.7	0.2252 101.3 101.3	46.5993 [46.3746]	100.5%			
PFNS	(549.0 / 80.0) 38379329 (549.0 / 99.0) 10334278	(8.86 , 1.04) (N/A , 0.02 , -0.1)	3889.9 7492.2	0.2693 110.9 110.9	39.3400 [47.9943]	82.0%			
PFDS	(599.0 / 80.0) 50168565 (599.0 / 99.0) 13076993	(9.09 , 1.07) (N/A , 0.02 , 0.0)	1786.7 2347.8	0.2607 128.9 128.9	39.0399 [48.1553]	81.1%			
PFDoS	(699.0 / 80.0) 44351196 (699.0 / 99.0) 11472007	(9.42 , 1.11) (N/A , 0.02 , 0.1)	1859.5 2383.1	0.2587 126.8 126.8	44.6362 [48.4781]	92.1%			
4:2FTS	(327.0 / 307.0) 33087773 (327.0 / 81.0) 21205112	(5.30 , 1.00) (0.00 , N/A , 0.0)	2859.5 3341.3	0.6409 111.8 111.8	168.4672 [186.9055]	90.1%			
6:2FTS	(427.0 / 407.0) 17841751 (427.0 / 81.0) 12913385	(6.84 , 1.00) (0.00 , N/A , 0.0)	2666.3 2810.9	0.7238 95.0 95.0	166.7220 [189.8085]	87.8%			
8:2FTS	(527.0 / 507.0) 18572125 (527.0 / 81.0) 12755976	(8.00 , 1.00) (0.00 , N/A , 0.0)	1280.7 2492.9	0.6868 105.3 105.3	165.8099 [191.6577]	86.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

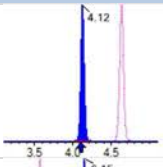
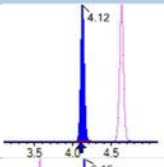
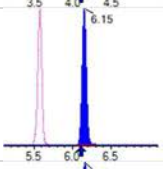
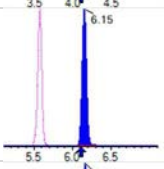
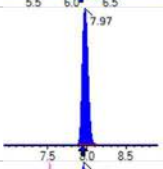
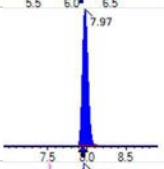
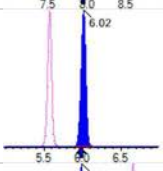
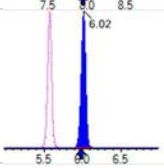
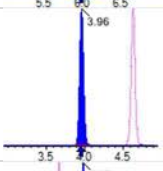
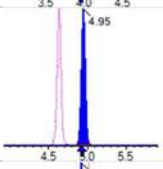
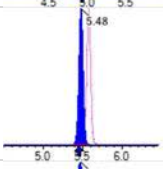
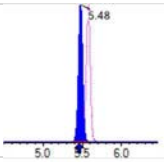
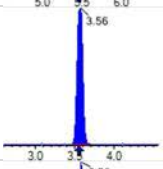
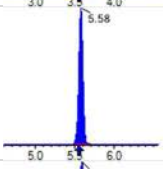
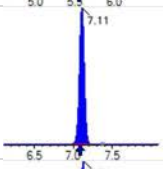
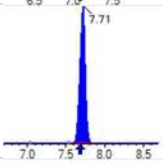
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 49548261 (498.0 / 478.0) 1351748	(9.87 , 1.00) (0.00 , N/A , 0.0)	1878.3 1372.6	0.0273 130.3 130.3	39.0963 [50.0000]	78.2%			
NMeFOSA	(512.0 / 219.0) 53692535 (512.0 / 169.0) 45435845	(10.43 , 1.00) (-0.01 , N/A , 0.6)	2467.3 2502.3	0.8462 103.1 103.1	153.2867 [200.0000]	76.6%			
NEtFOSA	(526.0 / 219.0) 62159922 (526.0 / 169.0) 67463423	(10.57 , 1.00) (-0.01 , N/A , 0.5)	19532.4 17331.3	1.0853 86.6 86.6	185.4778 [200.0000]	92.7%			
NMeFOSAA	(570.0 / 419.0) 8341166 (570.0 / 483.0) 4091041	(8.40 , 1.00) (0.00 , N/A , 0.1)	1828.8 1509.3	0.4905 90.4 90.4	51.3113 [50.0000]	102.6%			
NEtFOSAA	(584.0 / 419.0) 7946515 (584.0 / 526.0) 4992551	(8.63 , 1.00) (0.01 , N/A , 0.0)	1668.7 1557.2	0.6283 93.3 93.3	52.6427 [50.0000]	105.3%			
NMeFOSE	(616.0 / 59.0) 28534139	(10.38 , 1.00) (0.00 , N/A , 0.0)	2960.2	N/A 0.0 0.0	215.6414 [200.0000]	107.8%			
NEtFOSE	(630.0 / 59.0) 30779703	(10.52 , 1.00) (0.00 , N/A , 0.0)	1268.6	N/A 0.0 0.0	198.9625 [200.0000]	99.5%			
HFPO-DA	(285.0 / 169.0) 16425127 (285.0 / 185.0) 40616913	(5.90 , 1.00) (0.00 , N/A , 0.1)	2476.1 2886.9	2.4729 87.2 87.2	99.3629 [100.0000]	99.4%			
ADONA	(377.0 / 85.0) 46432330 (377.0 / 251.0) 6601525	(6.70 , 1.14) (N/A , 0.03 , -0.1)	2196.2 1709.9	0.1422 132.9 132.9	78.5443 [94.2700]	83.3%			
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) 71143198 (633.0 / 453.0) 32510577	(9.24 , 1.57) (N/A , 0.02 , 0.0)	1410.7 2088.1	0.4570 143.9 143.9	92.4215 [94.3208]	98.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

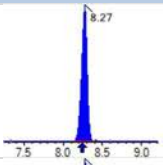
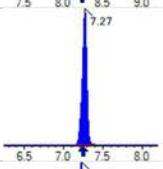
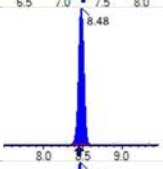
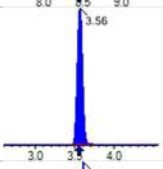
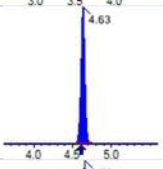
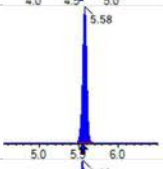
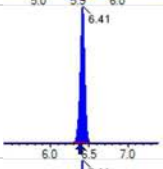
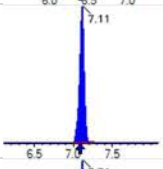
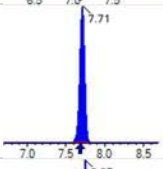
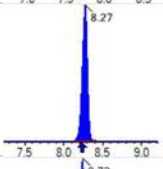
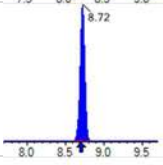
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1472528 (241.0 / 117.0) 2503828	(4.12 , 0.89) (N/A , 0.02 , 0.0)	3173.5 3069.5	1.7004 101.0 101.0	222.6079 [200.0000]	111.3%			
5:3FTCA	(341.0 / 236.7) 15271217 (341.0 / 217.0) 25025740	(6.15 , 1.10) (N/A , 0.04 , -0.1)	1750.9 2204.1	1.6388 91.4 91.4	245.1773 [200.0000]	122.6%			
7:3FTCA	(441.0 / 317.0) 17074584 (441.0 / 337.0) 14184372	(7.97 , 1.43) (N/A , 0.03 , 0.0)	1438.8 1596.9	0.8307 99.0 99.0	245.2140 [200.0000]	122.6%			
PFEESA	(315.0 / 135.0) 30554003 (315.0 / 83.0) 10205800	(6.02 , 1.08) (N/A , 0.03 , 0.0)	1644.2 2812.6	0.3340 109.4 109.4	85.9890 [89.2459]	96.4%			
PFMPA	(229.0 / 85.0) 4208561	(3.96 , 0.85) (N/A , 0.02 , 0.0)	3772.2	N/A 0.0 0.0	98.1678 [100.0000]	98.2%			
PFMBA	(279.0 / 85.0) 19098322	(4.95 , 1.07) (N/A , 0.03 , 0.0)	2821.7	N/A 0.0 0.0	93.9176 [100.0000]	93.9%			
NFDHA	(295.0 / 201.0) 19509785 (295.0 / 85.0) 18216632	(5.48 , 0.98) (N/A , 0.03 , 0.0)	1815.1 2595.7	0.9337 93.7 93.7	99.5391 [100.0000]	99.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 95415	(3.56 , N/A) (N/A , 0.01 , N/A)	1007.4	N/A	0.7739 [1.0000]	77.4% { 76.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 384555	(5.58 , N/A) (N/A , 0.03 , N/A)	2638.9	N/A	0.8928 [1.0000]	89.3% { 83.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 275154	(7.11 , N/A) (N/A , 0.03 , N/A)	1188.8	N/A	0.8430 [1.0000]	84.3% { 77.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 243897	(7.71 , N/A) (N/A , 0.04 , N/A)	884.5	N/A	0.9615 [1.0000]	96.1% { 104.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

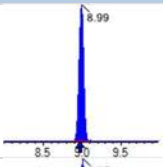
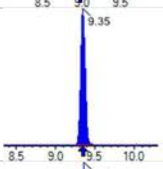
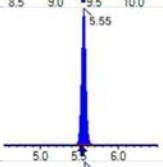
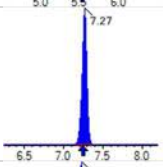
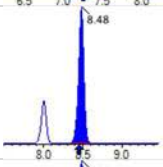
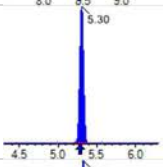
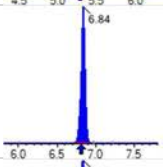
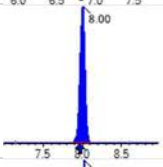
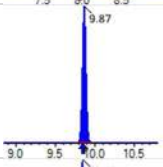
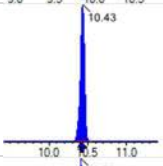
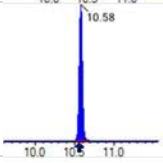
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 297596	(8.27 , N/A) (N/A , 0.03 , N/A)	841.2	N/A	0.9526 [1.0000]	95.3% { 86.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 660871	(7.27 , N/A) (N/A , 0.03 , N/A)	800.4	N/A	1.0510 [1.0000]	105.1% { 99.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 537739	(8.48 , N/A) (N/A , 0.03 , N/A)	759.8	N/A	0.7935 [1.0000]	79.4% { 68.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 871633	(3.56 , N/A) (N/A , 0.01 , N/A)	2987.6	N/A	7.7320 [8.0000]	96.7% { 72.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1069761	(4.63 , N/A) (N/A , 0.02 , N/A)	2674.5	N/A	3.8429 [4.0000]	96.1% { 84.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 775780	(5.58 , N/A) (N/A , 0.03 , N/A)	1323.7	N/A	1.8899 [2.0000]	94.5% { 77.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 710364	(6.41 , N/A) (N/A , 0.04 , N/A)	1198.4	N/A	2.0484 [2.0000]	102.4% { 93.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 611351	(7.11 , N/A) (N/A , 0.03 , N/A)	1282.5	N/A	2.0409 [2.0000]	102.0% { 83.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 248699	(7.71 , N/A) (N/A , 0.03 , N/A)	3861.3	N/A	0.9624 [1.0000]	96.2% { 85.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 345556	(8.27 , N/A) (N/A , 0.04 , N/A)	726.2	N/A	0.9454 [1.0000]	94.5% { 83.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 492202	(8.72 , N/A) (N/A , 0.03 , N/A)	962.0	N/A	0.9863 [1.0000]	98.6% { 88.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

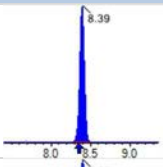
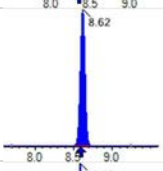
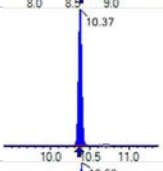
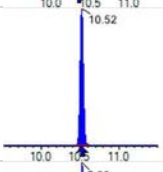
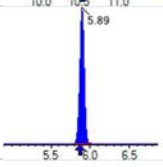
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 478560	(8.99 , N/A) (N/A , 0.02 , N/A)	1073.8	N/A	0.9283 [1.0000]	92.8% { 83.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 367784	(9.35 , N/A) (N/A , 0.01 , N/A)	711.8	N/A	0.9885 [1.0000]	98.9% { 85.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1986230	(5.55 , N/A) (N/A , 0.03 , N/A)	1873.1	N/A	1.5701 [2.0000]	78.5% { 79.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1101443	(7.27 , N/A) (N/A , 0.03 , N/A)	1511.1	N/A	1.7779 [2.0000]	88.9% { 92.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1534915	(8.48 , N/A) (N/A , 0.04 , N/A)	389.4	N/A	2.1377 [2.0000]	106.9% { 78.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 273896	(5.30 , N/A) (N/A , 0.03 , N/A)	1472.5	N/A	3.9676 [4.0000]	99.2% { 106.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 309714	(6.84 , N/A) (N/A , 0.03 , N/A)	886.2	N/A	4.4848 [4.0000]	112.1% { 127.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 373436	(8.00 , N/A) (N/A , 0.03 , N/A)	926.4	N/A	4.4733 [4.0000]	111.8% { 130.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2621188	(9.87 , N/A) (N/A , 0.02 , N/A)	1883.3	N/A	1.9290 [2.0000]	96.4% { 71.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 885637	(10.43 , N/A) (N/A , 0.01 , N/A)	1633.9	N/A	2.1752 [2.0000]	108.8% { 82.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 701649	(10.58 , N/A) (N/A , 0.01 , N/A)	2610.8	N/A	1.8846 [2.0000]	94.2% { 69.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (8)
Acquired: 2023/02/09 - 13:48

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 831880	(8.39 , N/A) (N/A , 0.04 , N/A)	874.3	N/A	4.8258 [4.0000]	120.6% { 86.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 751581	(8.62 , N/A) (N/A , 0.03 , N/A)	1821.3	N/A	4.8693 [4.0000]	121.7% { 96.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2553592	(10.37 , N/A) (N/A , 0.01 , N/A)	1304.3	N/A	17.1310 [20.0000]	85.7% { 61.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3192203	(10.52 , N/A) (N/A , 0.01 , N/A)	1593.4	N/A	16.4708 [20.0000]	82.4% { 55.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2108785	(5.89 , N/A) (N/A , 0.03 , N/A)	2032.2	N/A	7.9073 [8.0000]	98.8% { 84.0% }			

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2306010
Laboratory ID: SC00597-SCV1
Sequence: SC00597
Standard ID: 23B0089

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	7.95	-0.6	30.00
PFPEA	4.00	4.27	6.7	30.00
PFHXA	2.00	1.78	-11.2	30.00
PFHPA	2.00	1.83	-8.3	30.00
PFOA	2.00	2.04	1.8	30.00
PFNA	2.00	1.77	-11.7	30.00
PFDA	2.00	1.79	-10.5	30.00
PFUnA	2.00	1.72	-13.9	30.00
PFDOA	2.00	1.76	-12.2	30.00
PFTRDA	2.00	2.23	11.4	30.00
PFTEDA	2.00	2.01	0.7	30.00
PFBS	1.77	1.82	3.1	30.00
PFPES	1.88	1.89	0.6	30.00
PFHXS	1.83	1.74	-5.1	30.00
PFHPS	1.91	1.88	-1.7	30.00
PFOS	1.86	1.78	-4.6	30.00
PFNS	1.92	1.89	-1.3	30.00
PFDS	1.93	1.99	3.3	30.00
PFDOS	1.94	1.97	1.8	30.00
4:2FTS	7.50	7.52	0.3	30.00
6:2FTS	7.60	8.06	6.0	30.00
8:2FTS	7.68	8.86	15.3	30.00
PFOSA	2.00	1.91	-4.7	30.00
NMeFOSA	8.00	8.45	5.6	30.00
NEtFOSA	8.00	7.40	-7.6	30.00
NMeFOSAA	2.00	2.12	5.9	30.00
NEtFOSAA	2.00	1.98	-0.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2306010
Laboratory ID: SC00597-SCV1
Sequence: SC00597
Standard ID: 23B0089

NMeFOSE	8.00	8.48	6.0	30.00
NEtFOSE	8.00	8.53	6.6	30.00
HFPO-DA	4.00	3.80	-4.9	30.00
ADONA	3.78	3.79	0.4	30.00
PFEESA	3.56	3.29	-7.5	30.00
PFMPA	4.00	4.21	5.3	30.00
PFMBA	4.00	4.15	3.7	30.00
NFDHA	4.00	3.96	-0.9	30.00
9CL-PF3ONS	3.74	3.72	-0.6	30.00
11CL-PF3OUDS	3.78	3.66	-3.3	30.00
3:3FTCA	8.00	7.97	-0.4	30.00
5:3FTCA	8.00	7.13	-10.8	30.00
7:3FTCA	8.00	7.90	-1.2	30.00
13C4-PFBA	8.00	8.05	0.6	30.00
13C5-PFPEA	4.00	3.94	-1.4	30.00
13C5-PFHXA	2.00	2.23	11.7	30.00
13C4-PFHPA	2.00	2.20	10.0	30.00
13C8-PFOA	2.00	2.00	0.007	30.00
13C9-PFNA	1.00	1.03	2.6	30.00
13C6-PFDA	1.00	0.980	-2.0	30.00
13C7-PFUnA	1.00	1.02	2.3	30.00
13C2-PFDOA	1.00	0.982	-1.8	30.00
13C2-PFTEDA	1.00	1.03	2.9	30.00
13C3-PFBS	2.00	1.95	-2.7	30.00
13C3-PFHXS	2.00	2.01	0.3	30.00
13C8-PFOS	2.00	2.09	4.6	30.00
13C2-4:2FTS	4.00	3.34	-16.5	30.00
13C2-6:2FTS	4.00	3.44	-13.9	30.00
13C2-8:2FTS	4.00	3.53	-11.8	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2306010
Laboratory ID: SC00597-SCV1
Sequence: SC00597
Standard ID: 23B0089

13C8-PFOSA	2.00	2.26	13.2	30.00
D3-NMEFOSA	2.00	1.98	-0.8	30.00
D5-NETFOSA	2.00	2.15	7.7	30.00
D3-NMEFOSAA	4.00	4.21	5.3	30.00
D5-NETFOSAA	4.00	3.78	-5.4	30.00
D7-NMEFOSE	20.0	21.4	6.9	30.00
D9-NETFOSE	20.0	20.3	1.7	30.00
13C3-HFPO-DA	8.00	8.97	12.1	30.00

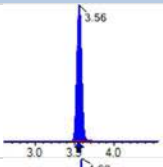
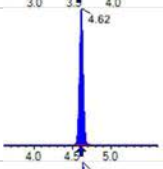
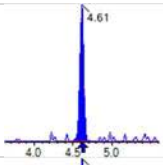
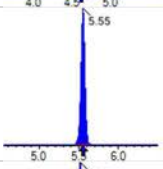
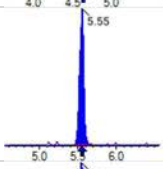
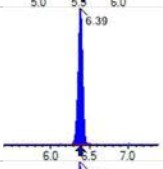
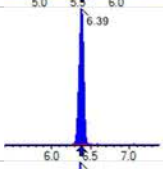
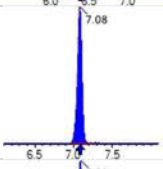
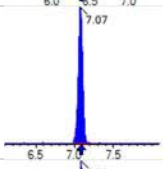
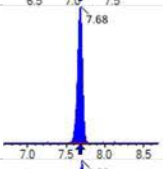
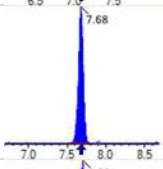
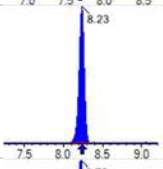
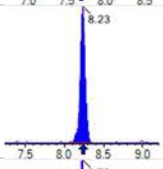
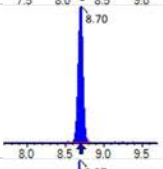
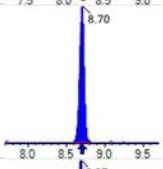
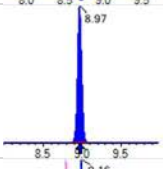
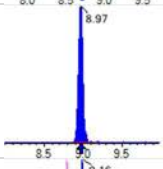
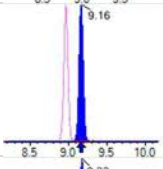
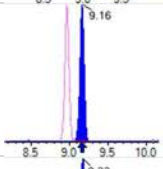
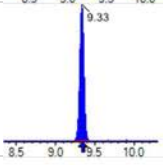
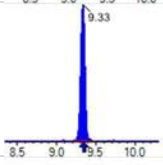
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

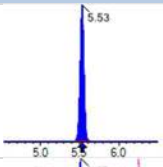
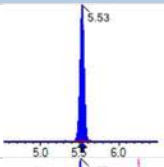
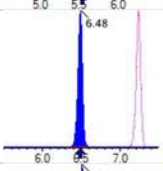
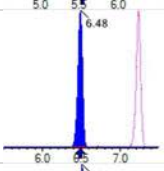
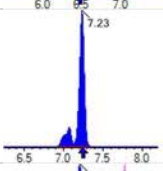
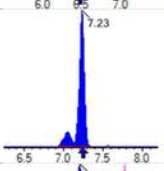
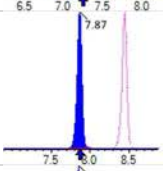
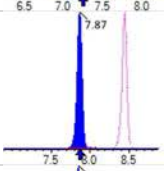
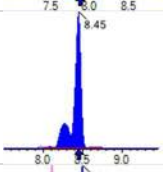
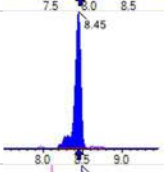
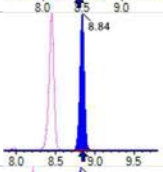
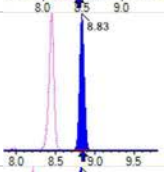
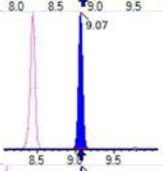
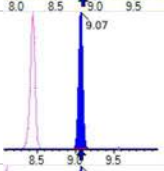
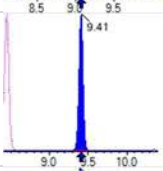
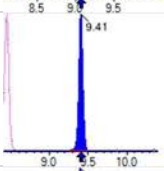
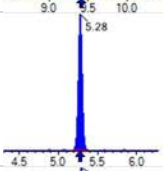
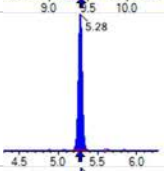
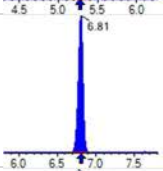
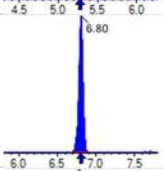
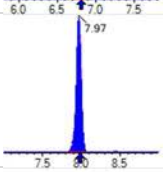
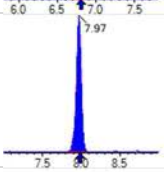
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1021088	(3.56 , 1.00) (0.00 , N/A , 0.0)	205.4	N/A 0.0 0.0	7.9535 [8.0000]	99.4%			
PFPeA	(263.0 / 219.0) 1071473 (263.0 / 69.0) 10978	(4.62 , 1.00) (0.00 , N/A , 0.1)	2510.0 124.8	0.0102 69.9 69.9	4.2694 [4.0000]	106.7%			
PFHxA	(313.0 / 269.0) 796051 (313.0 / 119.0) 80024	(5.55 , 1.00) (0.00 , N/A , 0.1)	2706.8 1013.5	0.1005 88.6 88.6	1.7759 [2.0000]	88.8%			
PFHpA	(363.0 / 319.0) 741396 (363.0 / 169.0) 244590	(6.39 , 1.00) (0.00 , N/A , -0.1)	1931.6 5326.2	0.3299 104.9 104.9	1.8339 [2.0000]	91.7%			
PFOA	(413.0 / 369.0) 730926 (413.0 / 169.0) 239433	(7.08 , 1.00) (0.00 , N/A , 0.3)	2101.9 1842.4	0.3276 97.8 97.8	2.0362 [2.0000]	101.8%			
PFNA	(463.0 / 419.0) 513891 (463.0 / 169.0) 115707	(7.68 , 1.00) (0.00 , N/A , 0.1)	2681.3 1276.0	0.2252 98.7 98.7	1.7659 [2.0000]	88.3%			
PFDA	(513.0 / 469.0) 663634 (513.0 / 169.0) 75400	(8.23 , 1.00) (0.00 , N/A , 0.1)	809.3 449.9	0.1136 102.9 102.9	1.7903 [2.0000]	89.5%			
PFUnA	(563.0 / 519.0) 809089 (563.0 / 169.0) 72954	(8.70 , 1.00) (0.00 , N/A , -0.3)	830.3 1981.1	0.0902 88.0 88.0	1.7229 [2.0000]	86.1%			
PFDoA	(613.0 / 569.0) 853972 (613.0 / 169.0) 116685	(8.97 , 1.00) (0.00 , N/A , -0.1)	914.0 726.1	0.1366 95.3 95.3	1.7564 [2.0000]	87.8%			
PFTrDA	(663.0 / 619.0) 904879 (663.0 / 169.0) 185448	(9.16 , 1.02) (N/A , 0.00 , 0.0)	1049.0 849.8	0.2049 90.0 90.0	2.2277 [2.0000]	111.4%			
PFTeDA	(713.0 / 669.0) 782663 (713.0 / 169.0) 151847	(9.33 , 1.00) (0.00 , N/A , 0.1)	1188.5 598.6	0.1940 94.5 94.5	2.0137 [2.0000]	100.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

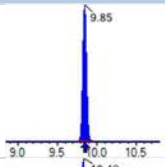
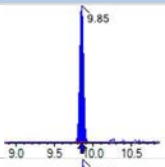
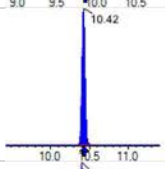
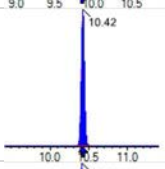
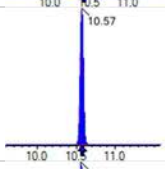
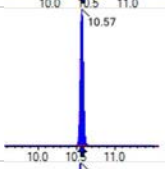
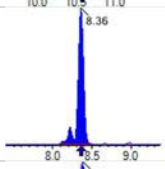
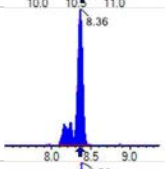
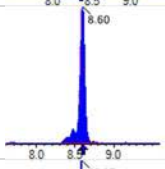
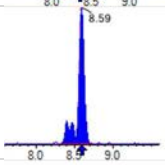
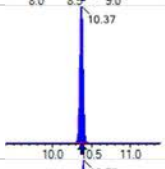
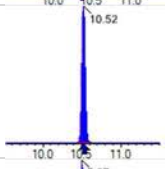
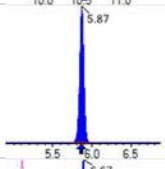
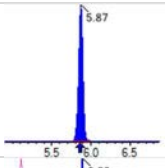
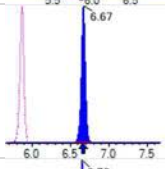
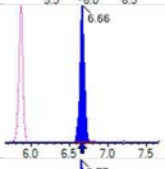
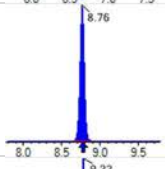
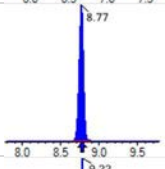
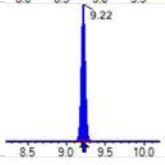
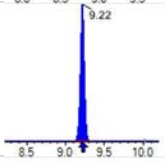
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1287701 (299.0 / 99.0) 815110	(5.53 , 1.00) (0.00 , N/A , 0.0)	1681.1 1124.8	0.6330 109.1 109.1	1.8242 [1.7695]	103.1%			
PFPeS	(349.0 / 80.0) 2339159 (349.0 / 99.0) 790770	(6.48 , 0.90) (N/A , 0.00 , 0.0)	18014.4 14929209.0	0.3381 98.7 98.7	1.8920 [1.8768]	100.8%			
PFHxS	(399.0 / 80.0) 1617513 (399.0 / 99.0) 548643	(7.23 , 1.00) (0.00 , N/A , 0.0)	3549.9 1589.4	0.3392 107.6 107.6	1.7362 [1.8220]	95.3%			
PFHpS	(449.0 / 80.0) 1511677 (449.0 / 99.0) 424140	(7.87 , 0.93) (N/A , 0.00 , 0.0)	1209016.8 2154.0	0.2806 105.6 105.6	1.8784 [1.9028]	98.7%			
PFOS	(499.0 / 80.0) 1883751 (499.0 / 99.0) 401683	(8.45 , 1.00) (0.00 , N/A , 0.0)	742.0 465.9	0.2132 95.9 95.9	1.7752 [1.8550]	95.7%			
PFNS	(549.0 / 80.0) 2356478 (549.0 / 99.0) 553899	(8.84 , 1.05) (N/A , 0.00 , 0.2)	4806.7 48252.8	0.2351 96.8 96.8	1.8948 [1.9198]	98.7%			
PFDS	(599.0 / 80.0) 3266425 (599.0 / 99.0) 715050	(9.07 , 1.07) (N/A , 0.00 , -0.1)	1396.0 835.7	0.2189 108.2 108.2	1.9939 [1.9262]	103.5%			
PFDoS	(699.0 / 80.0) 2501431 (699.0 / 99.0) 510578	(9.41 , 1.11) (N/A , 0.00 , 0.1)	1112.2 815.2	0.2041 100.1 100.1	1.9748 [1.9391]	101.8%			
4:2FTS	(327.0 / 307.0) 1264208 (327.0 / 81.0) 808828	(5.28 , 1.00) (0.00 , N/A , 0.0)	2379.1 1233.4	0.6398 111.6 111.6	7.5225 [7.4762]	100.6%			
6:2FTS	(427.0 / 407.0) 673148 (427.0 / 81.0) 501121	(6.81 , 1.00) (0.00 , N/A , 0.1)	1198.6 991.1	0.7444 97.7 97.7	8.0560 [7.5923]	106.1%			
8:2FTS	(527.0 / 507.0) 795804 (527.0 / 81.0) 544663	(7.97 , 1.00) (0.00 , N/A , 0.0)	750.7 846.2	0.6844 105.0 105.0	8.8588 [7.6663]	115.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

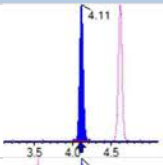
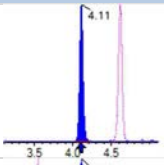
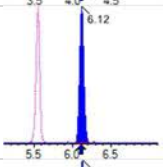
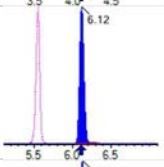
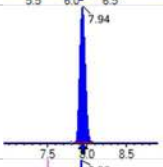
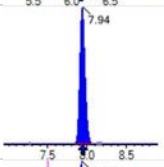
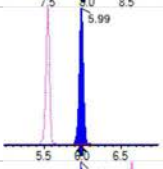
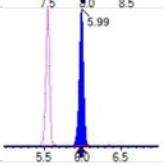
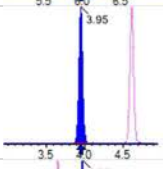
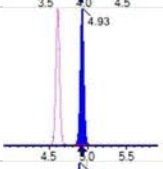
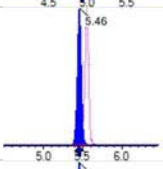
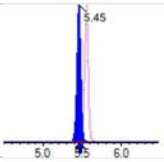
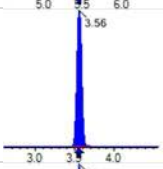
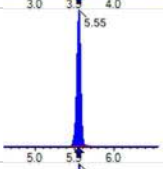
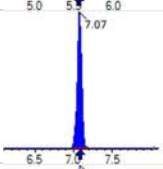
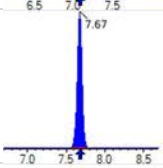
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3690181 (498.0 / 478.0) 68317	(9.85 , 1.00) (0.00 , N/A , -0.1)	2323.0 386.9	0.0185 88.4 88.4	1.9050 [2.0000]	95.3%			
NMeFOSA	(512.0 / 219.0) 3515716 (512.0 / 169.0) 2588956	(10.42 , 1.00) (0.00 , N/A , 0.0)	8109.4 5875.6	0.7364 89.7 89.7	8.4461 [8.0000]	105.6%			
NEtFOSA	(526.0 / 219.0) 3688327 (526.0 / 169.0) 3850070	(10.57 , 1.00) (0.01 , N/A , 0.1)	11403.5 7885.9	1.0439 83.3 83.3	7.3956 [8.0000]	92.4%			
NMeFOSAA	(570.0 / 419.0) 391313 (570.0 / 483.0) 183229	(8.36 , 1.00) (0.00 , N/A , -0.3)	3686.0 1300.1	0.4682 86.3 86.3	2.1183 [2.0000]	105.9%			
NEtFOSAA	(584.0 / 419.0) 302822 (584.0 / 526.0) 189908	(8.60 , 1.00) (0.01 , N/A , 0.3)	1512.1 1131.8	0.6271 93.1 93.1	1.9819 [2.0000]	99.1%			
NMeFOSE	(616.0 / 59.0) 1823805	(10.37 , 1.00) (0.01 , N/A , 0.0)	3004.6	N/A 0.0 0.0	8.4785 [8.0000]	106.0%			
NEtFOSE	(630.0 / 59.0) 2121609	(10.52 , 1.00) (0.01 , N/A , 0.0)	2048.3	N/A 0.0 0.0	8.5282 [8.0000]	106.6%			
HFPO-DA	(285.0 / 169.0) 779536 (285.0 / 185.0) 2310329	(5.87 , 1.00) (0.00 , N/A , 0.0)	3932.8 2419.3	2.9637 104.6 104.6	3.8031 [4.0000]	95.1%			
ADONA	(377.0 / 85.0) 2781292 (377.0 / 251.0) 300026	(6.67 , 1.14) (N/A , 0.00 , 0.2)	2066.7 702.3	0.1079 100.8 100.8	3.7943 [3.7708]	100.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 7819882 (533.0 / 353.0) 2418573	(8.76 , 1.49) (N/A , 0.00 , -0.1)	1081.1 1170.0	0.3093 99.1 99.1	3.7161 [3.7330]	99.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 6058084 (633.0 / 453.0) 1965884	(9.22 , 1.57) (N/A , 0.00 , -0.1)	2251.9 937.2	0.3245 102.2 102.2	3.6569 [3.7728]	96.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

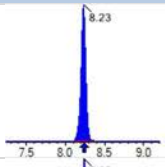
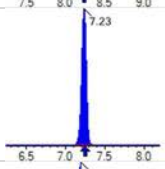
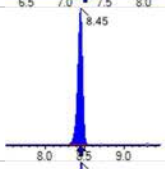
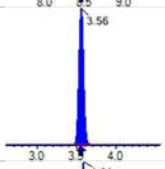
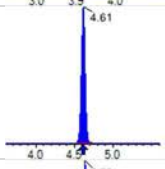
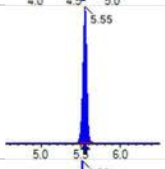
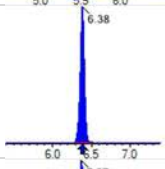
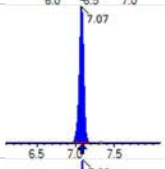
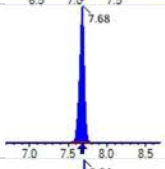
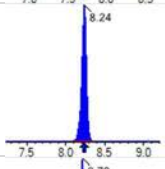
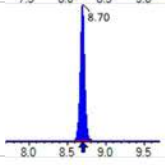
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 59144 (241.0 / 117.0) 101920	(4.11 , 0.89) (N/A , 0.00 , 0.0)	794.9 780.9	1.7233 102.3 102.3	7.9686 [8.0000]	99.6%			
5:3FTCA	(341.0 / 236.7) 574512 (341.0 / 217.0) 1006643	(6.12 , 1.10) (N/A , 0.00 , 0.0)	1602.1 1222.5	1.7522 97.7 97.7	7.1334 [8.0000]	89.2%			
7:3FTCA	(441.0 / 317.0) 711687 (441.0 / 337.0) 561740	(7.94 , 1.43) (N/A , 0.00 , 0.0)	856.0 999.3	0.7893 94.0 94.0	7.9045 [8.0000]	98.8%			
PFEESA	(315.0 / 135.0) 1513221 (315.0 / 83.0) 484017	(5.99 , 1.08) (N/A , 0.00 , -0.1)	1910.0 748.2	0.3199 104.8 104.8	3.2936 [3.5698]	92.3%			
PFMPA	(229.0 / 85.0) 202636	(3.95 , 0.86) (N/A , 0.01 , 0.0)	1761.5	N/A 0.0 0.0	4.2126 [4.0000]	105.3%			
PFMBA	(279.0 / 85.0) 946758	(4.93 , 1.07) (N/A , 0.01 , 0.0)	1805.9	N/A 0.0 0.0	4.1494 [4.0000]	103.7%			
NFDHA	(295.0 / 201.0) 1004707 (295.0 / 85.0) 925627	(5.46 , 0.98) (N/A , 0.01 , 0.1)	1941.1 1404.2	0.9213 92.5 92.5	3.9643 [4.0000]	99.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 131578	(3.56 , N/A) (N/A , 0.01 , N/A)	1392.0	N/A	1.0672 [1.0000]	106.7% { 105.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 420456	(5.55 , N/A) (N/A , 0.01 , N/A)	1796.7	N/A	0.9762 [1.0000]	97.6% { 91.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 324742	(7.07 , N/A) (N/A , 0.00 , N/A)	1571.7	N/A	0.9949 [1.0000]	99.5% { 91.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 284609	(7.67 , N/A) (N/A , 0.00 , N/A)	23759.6	N/A	1.1220 [1.0000]	112.2% { 121.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

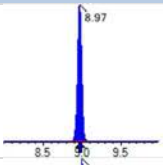
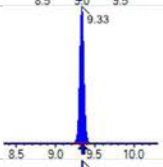
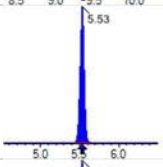
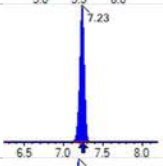
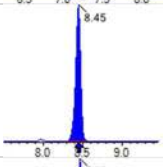
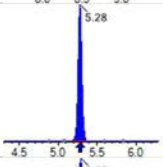
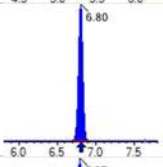
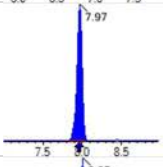
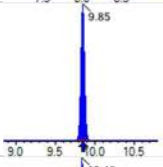
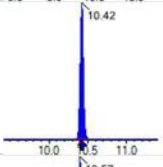
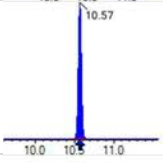
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 331945	(8.23 , N/A) (N/A , -0.01 , N/A)	1455.5	N/A	1.0625 [1.0000]	106.3% { 96.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 671957	(7.23 , N/A) (N/A , 0.00 , N/A)	1268.0	N/A	1.0687 [1.0000]	106.9% { 100.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 700280	(8.45 , N/A) (N/A , 0.00 , N/A)	756.5	N/A	1.0334 [1.0000]	103.3% { 89.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1251290	(3.56 , N/A) (N/A , 0.01 , N/A)	3828.2	N/A	8.0491 [8.0000]	100.6% { 103.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1200307	(4.61 , N/A) (N/A , 0.00 , N/A)	2425.1	N/A	3.9437 [4.0000]	98.6% { 94.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1003111	(5.55 , N/A) (N/A , 0.01 , N/A)	2479.5	N/A	2.2350 [2.0000]	111.7% { 100.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 834118	(6.38 , N/A) (N/A , 0.00 , N/A)	1105.8	N/A	2.1999 [2.0000]	110.0% { 110.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 707107	(7.07 , N/A) (N/A , 0.00 , N/A)	871.5	N/A	2.0001 [2.0000]	100.0% { 96.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 309401	(7.68 , N/A) (N/A , 0.00 , N/A)	1053.2	N/A	1.0260 [1.0000]	102.6% { 106.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 399478	(8.24 , N/A) (N/A , 0.00 , N/A)	643.8	N/A	0.9798 [1.0000]	98.0% { 96.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 569247	(8.70 , N/A) (N/A , 0.00 , N/A)	916.9	N/A	1.0227 [1.0000]	102.3% { 102.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

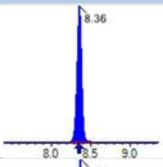
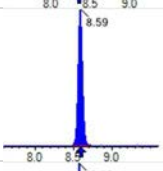
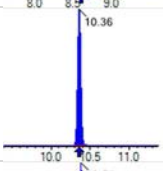
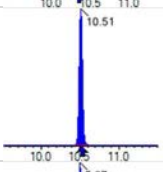
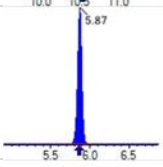
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 564432	(8.97 , N/A) (N/A , 0.00 , N/A)	989.7	N/A	0.9815 [1.0000]	98.2% { 98.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 427070	(9.33 , N/A) (N/A , 0.00 , N/A)	1116.5	N/A	1.0291 [1.0000]	102.9% { 98.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2502316	(5.53 , N/A) (N/A , 0.01 , N/A)	2048.0	N/A	1.9454 [2.0000]	97.3% { 100.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1263605	(7.23 , N/A) (N/A , 0.00 , N/A)	1706.7	N/A	2.0060 [2.0000]	100.3% { 106.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1956730	(8.45 , N/A) (N/A , 0.00 , N/A)	809.9	N/A	2.0926 [2.0000]	104.6% { 100.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 234364	(5.28 , N/A) (N/A , 0.00 , N/A)	789.3	N/A	3.3390 [4.0000]	83.5% { 91.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 241829	(6.80 , N/A) (N/A , 0.00 , N/A)	964.3	N/A	3.4440 [4.0000]	86.1% { 99.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 299501	(7.97 , N/A) (N/A , 0.00 , N/A)	975.9	N/A	3.5284 [4.0000]	88.2% { 104.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4006376	(9.85 , N/A) (N/A , 0.00 , N/A)	1630.9	N/A	2.2640 [2.0000]	113.2% { 109.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1052452	(10.42 , N/A) (N/A , 0.00 , N/A)	2220.0	N/A	1.9849 [2.0000]	99.2% { 97.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1044142	(10.57 , N/A) (N/A , 0.00 , N/A)	2783.5	N/A	2.1536 [2.0000]	107.7% { 103.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (10)
Acquired: 2023/02/09 - 14:14

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) 945324	(8.36 , N/A) (N/A , 0.00 , N/A)	1203.3	N/A	4.2111 [4.0000]	105.3% { 97.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 760743	(8.59 , N/A) (N/A , -0.01 , N/A)	2106.1	N/A	3.7846 [4.0000]	94.6% { 97.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4151234	(10.36 , N/A) (N/A , 0.00 , N/A)	2273.7	N/A	21.3849 [20.0000]	106.9% { 100.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5133392	(10.51 , N/A) (N/A , 0.00 , N/A)	1813.6	N/A	20.3389 [20.0000]	101.7% { 89.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2614835	(5.87 , N/A) (N/A , 0.01 , N/A)	2551.2	N/A	8.9677 [8.0000]	112.1% { 104.2% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2306010
Laboratory ID: SC00598-LCV1
Sequence: SC00598
Standard ID: 23B0080

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.364	-8.9	30.00
PFPEA	0.200	0.214	6.9	30.00
PFHXA	0.100	0.0861	-13.9	30.00
PFHPA	0.100	0.0765	-23.5	30.00
PFOA	0.100	0.132	32.4 *	30.00
PFNA	0.100	0.106	6.0	30.00
PFDA	0.100	0.0847	-15.3	30.00
PFUnA	0.100	0.102	1.9	30.00
PFDOA	0.100	0.0874	-12.6	30.00
PFTRDA	0.100	0.0879	-12.1	30.00
PFTEDA	0.100	0.0951	-4.9	30.00
PFBS	0.0885	0.0993	12.2	30.00
PFPES	0.0940	0.0898	-4.5	30.00
PFHXS	0.0915	0.0915	-0.02	30.00
PFHPS	0.0955	0.105	9.5	30.00
PFOS	0.0930	0.120	28.8	30.00
PFNS	0.0960	0.102	6.0	30.00
PFDS	0.0965	0.0913	-5.4	30.00
PFDOS	0.0970	0.0825	-14.9	30.00
4:2FTS	0.375	0.436	16.2	30.00
6:2FTS	0.380	0.304	-20.1	30.00
8:2FTS	0.384	0.371	-3.4	30.00
PFOSA	0.100	0.110	10.2	30.00
NMeFOSA	0.400	0.418	4.4	30.00
NEtFOSA	0.400	0.364	-9.0	30.00
NMeFOSAA	0.100	0.0860	-14.0	30.00
NEtFOSAA	0.100	0.0655	-34.5 *	30.00
NMeFOSE	0.400	0.368	-8.1	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2306010
Laboratory ID: SC00598-LCV1
Sequence: SC00598
Standard ID: 23B0080

NEtFOSE	0.400	0.362	-9.4	30.00
HFPO-DA	0.200	0.177	-11.4	30.00
ADONA	0.189	0.179	-5.2	30.00
PFEESA	0.178	0.154	-13.2	30.00
PFMPA	0.200	0.187	-6.6	30.00
PFMBA	0.200	0.173	-13.5	30.00
NFDHA	0.200	0.157	-21.3	30.00
9CL-PF3ONS	0.187	0.161	-14.0	30.00
11CL-PF3OUDS	0.189	0.169	-10.4	30.00
3:3FTCA	0.400	0.281	-29.6	30.00
5:3FTCA	0.400	0.329	-17.7	30.00
7:3FTCA	0.400	0.386	-3.5	30.00

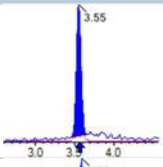
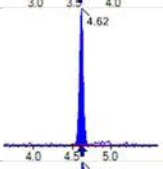
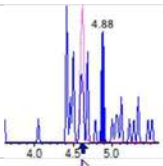
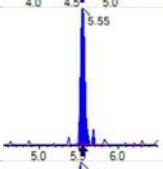
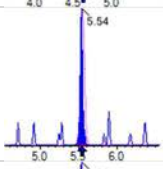
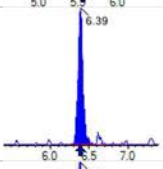
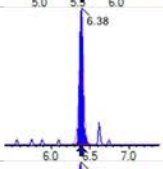
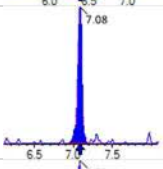
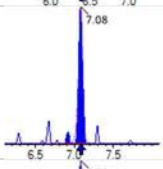
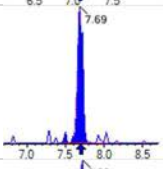
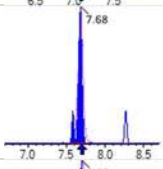
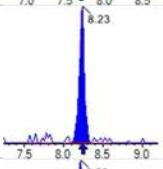
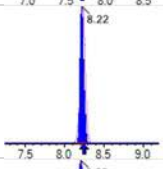
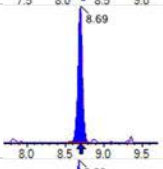
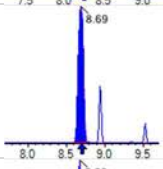
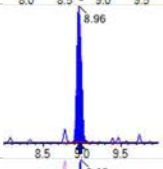
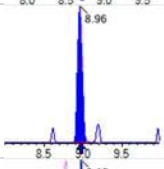
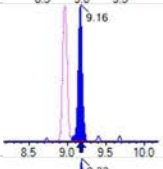
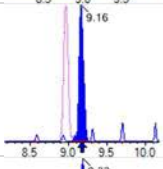
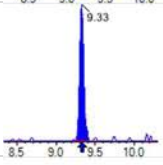
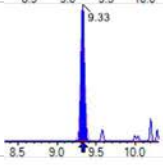
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

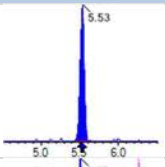
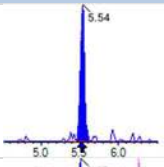
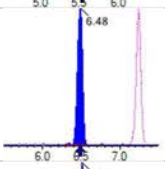
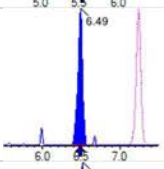
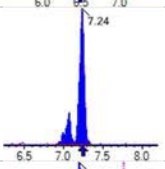
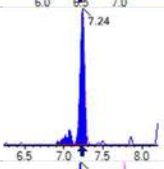
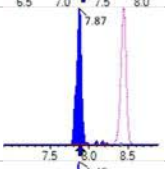
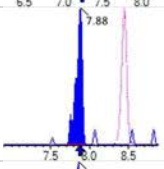
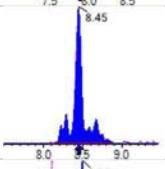
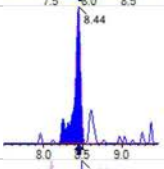
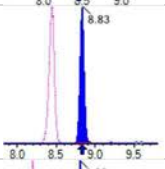
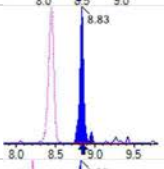
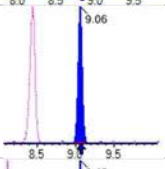
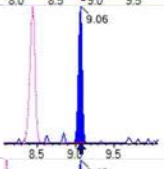
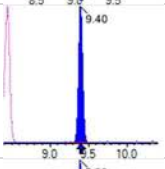
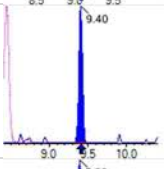
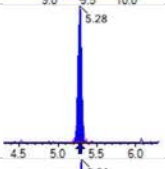
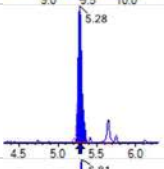
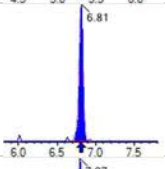
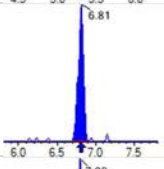
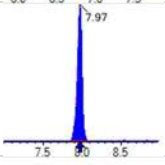
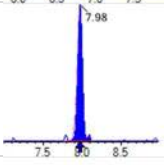
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 49456	(3.55 , 1.00) (0.00 , N/A , 0.0)	70.8	N/A 0.0 0.0	0.3643 [0.4000]	91.1%			
PFPeA	(263.0 / 219.0) 60077 (263.0 / 69.0) 610	(4.62 , 1.00) (0.00 , N/A , -15.6)	457.4 11.3	0.0101 69.2 86.3	0.2139 [0.2000]	106.9%			
PFHxA	(313.0 / 269.0) 38308 (313.0 / 119.0) 3577	(5.55 , 1.00) (0.00 , N/A , 0.9)	6518.2 263277.6	0.0934 82.3 99.9	0.0861 [0.1000]	86.1%			
PFHpA	(363.0 / 319.0) 32863 (363.0 / 169.0) 10195	(6.39 , 1.00) (0.00 , N/A , 0.3)	1533.2 634670.0	0.3102 98.7 90.3	0.0765 [0.1000]	76.5%			
PFOA	(413.0 / 369.0) 47850 (413.0 / 169.0) 18709	(7.08 , 1.00) (0.01 , N/A , 0.5)	497.3 28834.1	0.3910 116.8 123.2	0.1324 [0.1000]	132.4%			QC,
PFNA	(463.0 / 419.0) 30963 (463.0 / 169.0) 5701	(7.69 , 1.00) (0.01 , N/A , 0.8)	3266.9 236.1	0.1841 80.7 80.9	0.1060 [0.1000]	106.0%			
PFDA	(513.0 / 469.0) 33084 (513.0 / 169.0) 1596	(8.23 , 1.00) (0.00 , N/A , 1.1)	85.5 160451.4	0.0482 43.7 53.4	0.0847 [0.1000]	84.7%			IR1,
PFUnA	(563.0 / 519.0) 49240 (563.0 / 169.0) 4480	(8.69 , 1.00) (-0.01 , N/A , 0.2)	208.5 1568.5	0.0910 88.8 92.2	0.1019 [0.1000]	101.9%			
PFDoA	(613.0 / 569.0) 43133 (613.0 / 169.0) 4971	(8.96 , 1.00) (0.00 , N/A , 0.2)	156.9 414.5	0.1153 80.4 95.4	0.0874 [0.1000]	87.4%			
PFTrDA	(663.0 / 619.0) 36234 (663.0 / 169.0) 11873	(9.16 , 1.02) (N/A , 0.01 , 0.1)	313.2 124.9	0.3277 143.9 160.8	0.0879 [0.1000]	87.9%			IR2,
PFTeDA	(713.0 / 669.0) 36085 (713.0 / 169.0) 9735	(9.33 , 1.00) (0.00 , N/A , 0.0)	167.4 188.7	0.2698 131.4 155.4	0.0951 [0.1000]	95.1%			IR2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

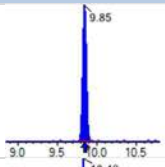
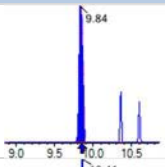
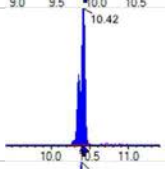
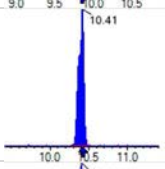
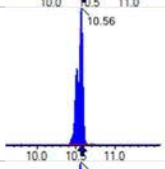
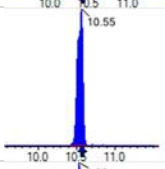
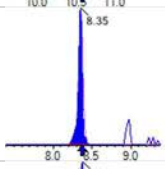
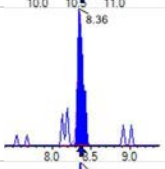
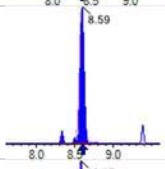
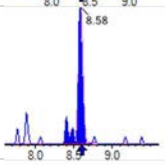
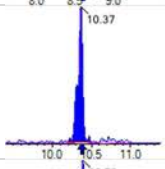
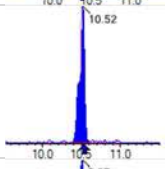
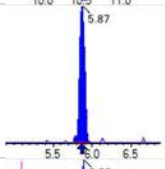
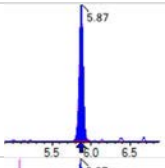
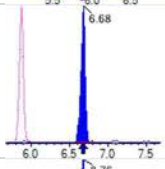
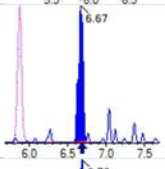
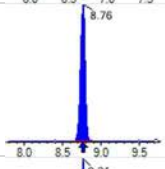
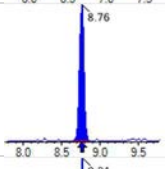
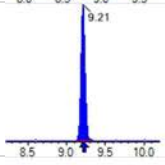
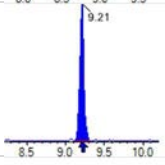
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 68219 (299.0 / 99.0) 38031	(5.53 , 1.00) (0.00 , N/A , -0.3)	541.8 120.6	0.5575 96.1 87.8	0.0993 [0.0885]	112.2%			
PFPeS	(349.0 / 80.0) 112193 (349.0 / 99.0) 39524	(6.48 , 0.90) (N/A , 0.02 , -0.3)	3177831.8 8460.8	0.3523 102.9 105.7	0.0898 [0.0938]	95.7%			
PFHxS	(399.0 / 80.0) 86155 (399.0 / 99.0) 36770	(7.24 , 1.00) (0.00 , N/A , 0.1)	157769.7 402.7	0.4268 135.5 124.2	0.0915 [0.0911]	100.4%			
PFHpS	(449.0 / 80.0) 82773 (449.0 / 99.0) 12863	(7.87 , 0.93) (N/A , 0.03 , -0.4)	8520.8 1977.5	0.1554 58.5 53.8	0.1046 [0.0951]	109.9%			
PFOS	(499.0 / 80.0) 124993 (499.0 / 99.0) 25896	(8.45 , 1.00) (0.00 , N/A , 0.2)	191.7 41.3	0.2072 93.2 93.9	0.1197 [0.0927]	129.1%			
PFNS	(549.0 / 80.0) 124460 (549.0 / 99.0) 30578	(8.83 , 1.05) (N/A , 0.01 , -0.1)	4949.5 618302.4	0.2457 101.2 109.7	0.1017 [0.0960]	106.0%			
PFDS	(599.0 / 80.0) 147134 (599.0 / 99.0) 31662	(9.06 , 1.07) (N/A , 0.01 , -0.1)	464.2 134.2	0.2152 106.4 103.0	0.0913 [0.0963]	94.8%			
PFDoS	(699.0 / 80.0) 102826 (699.0 / 99.0) 21018	(9.40 , 1.11) (N/A , 0.00 , -0.4)	601.5 247.2	0.2044 100.2 108.0	0.0825 [0.0970]	85.1%			
4:2FTS	(327.0 / 307.0) 79541 (327.0 / 81.0) 49106	(5.28 , 1.00) (0.00 , N/A , 0.1)	785.7 251.5	0.6174 107.7 101.6	0.4357 [0.3738]	116.6%			
6:2FTS	(427.0 / 407.0) 28161 (427.0 / 81.0) 24157	(6.81 , 1.00) (0.00 , N/A , 0.0)	1778.6 386.2	0.8578 112.6 118.8	0.3037 [0.3796]	80.0%			
8:2FTS	(527.0 / 507.0) 40219 (527.0 / 81.0) 24486	(7.97 , 1.00) (0.00 , N/A , -0.2)	291.2 395.7	0.6088 93.4 75.1	0.3709 [0.3833]	96.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

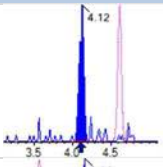
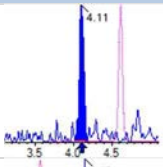
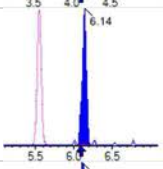
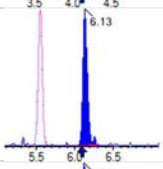
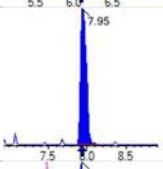
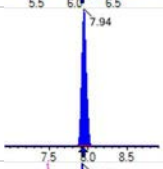
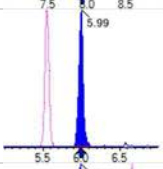
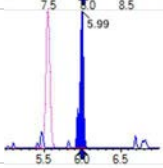
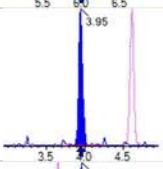
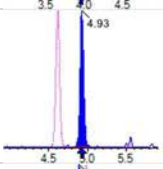
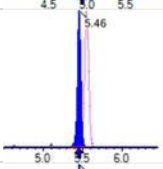
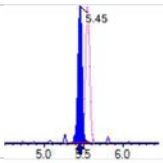
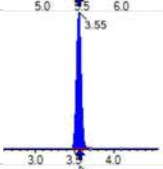
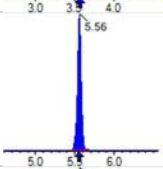
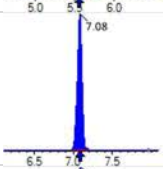
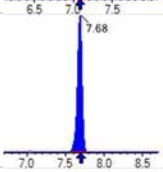
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 207617 (498.0 / 478.0) 5733	(9.85 , 1.00) (0.00 , N/A , 0.6)	472.2 153319.6	0.0276 131.8 127.1	0.1102 [0.1000]	110.2%			
NMeFOSA	(512.0 / 219.0) 193720 (512.0 / 169.0) 155625	(10.42 , 1.00) (0.00 , N/A , 0.6)	1388.4 1365.8	0.8033 97.8 98.6	0.4176 [0.4000]	104.4%			
NEtFOSA	(526.0 / 219.0) 205896 (526.0 / 169.0) 268738	(10.56 , 1.00) (0.00 , N/A , 0.8)	1787.1 1482.5	1.3052 104.1 100.5	0.3641 [0.4000]	91.0%			
NMeFOSAA	(570.0 / 419.0) 17264 (570.0 / 483.0) 8589	(8.35 , 1.00) (0.00 , N/A , -0.3)	503266.8 2230.8	0.4975 91.7 99.6	0.0860 [0.1000]	86.0%			
NEtFOSAA	(584.0 / 419.0) 11047 (584.0 / 526.0) 9919	(8.59 , 1.00) (0.00 , N/A , 0.8)	2033.1 519.3	0.8979 133.4 146.7	0.0655 [0.1000]	65.5%			QC,MI5 DG 2023-02-10
NMeFOSE	(616.0 / 59.0) 88141	(10.37 , 1.00) (0.01 , N/A , 0.0)	231.4	N/A 0.0 0.0	0.3677 [0.4000]	91.9%			
NEtFOSE	(630.0 / 59.0) 91356	(10.52 , 1.00) (0.01 , N/A , 0.0)	253.4	N/A 0.0 0.0	0.3624 [0.4000]	90.6%			
HFPO-DA	(285.0 / 169.0) 35954 (285.0 / 185.0) 107418	(5.87 , 1.00) (0.00 , N/A , -0.1)	534.5 389.9	2.9877 105.4 101.3	0.1771 [0.2000]	88.6%			
ADONA	(377.0 / 85.0) 130126 (377.0 / 251.0) 16530	(6.68 , 1.14) (N/A , 0.03 , 0.3)	583.3 71.6	0.1270 118.7 113.7	0.1793 [0.1885]	95.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 323339 (533.0 / 353.0) 105204	(8.76 , 1.49) (N/A , 0.02 , 0.1)	787.6 237.3	0.3254 104.2 106.0	0.1608 [0.1867]	86.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 256899 (633.0 / 453.0) 85091	(9.21 , 1.57) (N/A , 0.01 , 0.0)	680.9 440.7	0.3312 104.3 109.0	0.1694 [0.1886]	89.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

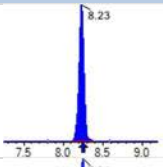
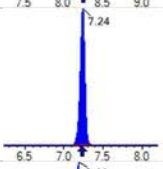
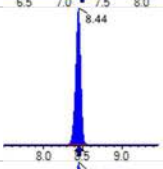
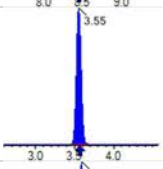
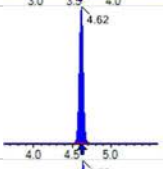
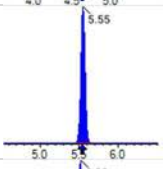
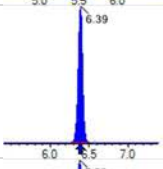
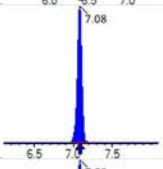
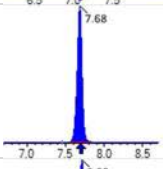
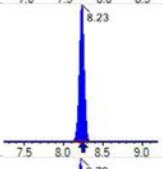
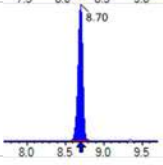
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 2338 (241.0 / 117.0) 5339	(4.12 , 0.89) (N/A , 0.04 , 1.0)	54.1 39.7	2.2838 135.6 130.1	0.2814 [0.4000]	70.4%			
5:3FTCA	(341.0 / 236.7) 26301 (341.0 / 217.0) 53870	(6.14 , 1.11) (N/A , 0.05 , 0.4)	1053.8 228.6	2.0482 114.2 119.3	0.3292 [0.4000]	82.3%			
7:3FTCA	(441.0 / 317.0) 34476 (441.0 / 337.0) 24288	(7.95 , 1.43) (N/A , 0.03 , 0.2)	207.7 3236.2	0.7045 83.9 86.3	0.3860 [0.4000]	96.5%			
PFEESA	(315.0 / 135.0) 70392 (315.0 / 83.0) 23531	(5.99 , 1.08) (N/A , 0.03 , 0.0)	625.5 134.3	0.3343 109.5 107.5	0.1544 [0.1785]	86.5%			
PFMPA	(229.0 / 85.0) 10056	(3.95 , 0.85) (N/A , 0.02 , 0.0)	240.3	N/A 0.0 0.0	0.1868 [0.2000]	93.4%			
PFMBA	(279.0 / 85.0) 44177	(4.93 , 1.07) (N/A , 0.02 , 0.0)	406.6	N/A 0.0 0.0	0.1730 [0.2000]	86.5%			
NFDHA	(295.0 / 201.0) 39553 (295.0 / 85.0) 46973	(5.46 , 0.98) (N/A , 0.02 , 0.1)	15824.9 318.3	1.1876 119.2 119.8	0.1573 [0.2000]	78.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 141793	(3.55 , N/A) (N/A , 0.02 , N/A)	1573.1	N/A	1.1501 [1.0000]	115.0% { 101.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 442627	(5.56 , N/A) (N/A , 0.03 , N/A)	2793.5	N/A	1.0277 [1.0000]	102.8% { 109.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 318563	(7.08 , N/A) (N/A , 0.03 , N/A)	3367.3	N/A	0.9760 [1.0000]	97.6% { 92.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 275743	(7.68 , N/A) (N/A , 0.03 , N/A)	952.2	N/A	1.0870 [1.0000]	108.7% { 104.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

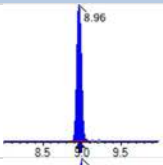
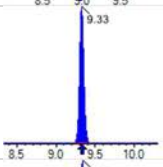
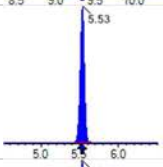
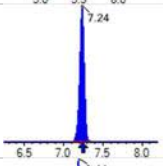
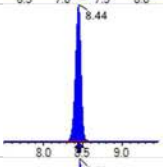
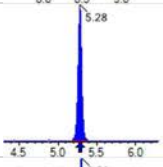
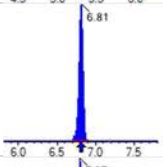
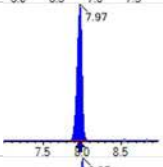
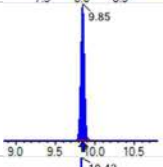
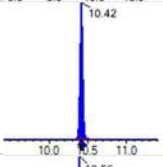
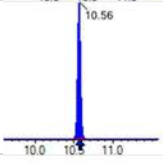
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 338953	(8.23 , N/A) (N/A , 0.02 , N/A)	906.1	N/A	1.0850 [1.0000]	108.5% { 99.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 686363	(7.24 , N/A) (N/A , 0.03 , N/A)	1487.6	N/A	1.0916 [1.0000]	109.2% { 98.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 743678	(8.44 , N/A) (N/A , 0.02 , N/A)	978.9	N/A	1.0974 [1.0000]	109.7% { 91.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1323091	(3.55 , N/A) (N/A , 0.02 , N/A)	5379.0	N/A	7.8978 [8.0000]	98.7% { 106.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1343415	(4.62 , N/A) (N/A , 0.02 , N/A)	2129.0	N/A	4.1928 [4.0000]	104.8% { 102.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 995104	(5.55 , N/A) (N/A , 0.02 , N/A)	2307.7	N/A	2.1061 [2.0000]	105.3% { 110.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 885885	(6.39 , N/A) (N/A , 0.02 , N/A)	883.9	N/A	2.2194 [2.0000]	111.0% { 113.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 712129	(7.08 , N/A) (N/A , 0.02 , N/A)	952.9	N/A	2.0534 [2.0000]	102.7% { 99.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 310566	(7.68 , N/A) (N/A , 0.02 , N/A)	1066.8	N/A	1.0630 [1.0000]	106.3% { 118.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 420902	(8.23 , N/A) (N/A , 0.02 , N/A)	23906.3	N/A	1.0110 [1.0000]	101.1% { 111.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 585694	(8.70 , N/A) (N/A , 0.02 , N/A)	982.2	N/A	1.0305 [1.0000]	103.0% { 116.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

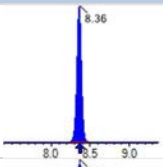
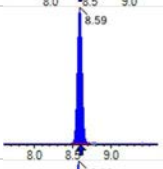
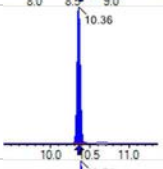
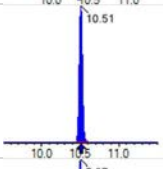
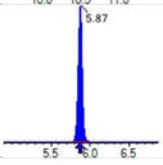
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 572963	(8.96 , N/A) (N/A , 0.01 , N/A)	821.9	N/A	0.9758 [1.0000]	97.6% { 100.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 416723	(9.33 , N/A) (N/A , 0.01 , N/A)	852.8	N/A	0.9834 [1.0000]	98.3% { 91.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2435169	(5.53 , N/A) (N/A , 0.02 , N/A)	2016.3	N/A	1.8535 [2.0000]	92.7% { 102.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1277351	(7.24 , N/A) (N/A , 0.03 , N/A)	1574.1	N/A	1.9853 [2.0000]	99.3% { 99.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1924789	(8.44 , N/A) (N/A , 0.03 , N/A)	1020.1	N/A	1.9383 [2.0000]	96.9% { 99.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 254566	(5.28 , N/A) (N/A , 0.02 , N/A)	1056.7	N/A	3.5507 [4.0000]	88.8% { 95.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 268390	(6.81 , N/A) (N/A , 0.02 , N/A)	2693.5	N/A	3.7420 [4.0000]	93.6% { 102.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 361548	(7.97 , N/A) (N/A , 0.03 , N/A)	702.4	N/A	4.1700 [4.0000]	104.3% { 112.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3897881	(9.85 , N/A) (N/A , 0.01 , N/A)	1839.9	N/A	2.0742 [2.0000]	103.7% { 103.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1172778	(10.42 , N/A) (N/A , 0.01 , N/A)	2299.7	N/A	2.0828 [2.0000]	104.1% { 102.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1183947	(10.56 , N/A) (N/A , 0.01 , N/A)	3099.2	N/A	2.2995 [2.0000]	115.0% { 108.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (2)
Acquired: 2023/02/09 - 22:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1027016	(8.36 , N/A) (N/A , 0.02 , N/A)	1134.0	N/A	4.3080 [4.0000]	107.7% { 97.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 839953	(8.59 , N/A) (N/A , 0.02 , N/A)	4201.7	N/A	3.9349 [4.0000]	98.4% { 115.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4625700	(10.36 , N/A) (N/A , 0.01 , N/A)	1431.9	N/A	22.4385 [20.0000]	112.2% { 106.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5201859	(10.51 , N/A) (N/A , 0.01 , N/A)	1438.5	N/A	19.4074 [20.0000]	97.0% { 86.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2589450	(5.87 , N/A) (N/A , 0.02 , N/A)	2353.6	N/A	8.4358 [8.0000]	105.4% { 101.6% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV1	PFBA	20.0	17.0	85.2	ng/mL	+/- 30.00%
	PFPEA	10.0	8.70	87.0	ng/mL	+/- 30.00%
	PFHXA	5.00	4.19	83.7	ng/mL	+/- 30.00%
	PFHPA	5.00	3.81	76.3	ng/mL	+/- 30.00%
	PFOA	5.00	4.30	86.0	ng/mL	+/- 30.00%
	PFNA	5.00	4.04	80.7	ng/mL	+/- 30.00%
	PFDA	5.00	4.85	96.9	ng/mL	+/- 30.00%
	PFUnA	5.00	4.24	84.7	ng/mL	+/- 30.00%
	PFDOA	5.00	4.46	89.3	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.49	89.8	ng/mL	+/- 30.00%
	PFTEDA	5.00	3.69	73.8	ng/mL	+/- 30.00%
	PFBS	4.42	3.82	86.5	ng/mL	+/- 30.00%
	PFPES	4.70	3.86	82.0	ng/mL	+/- 30.00%
	PFHXS	4.58	3.64	79.6	ng/mL	+/- 30.00%
	PFHPS	4.78	3.90	81.7	ng/mL	+/- 30.00%
	PFOS	4.65	3.85	82.9	ng/mL	+/- 30.00%
	PFNS	4.80	4.39	91.4	ng/mL	+/- 30.00%
	PFDS	4.82	4.27	88.6	ng/mL	+/- 30.00%
	PFDOS	4.85	4.46	92.0	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.1	85.5	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.0	89.3	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.3	90.0	ng/mL	+/- 30.00%
	PFOSA	5.00	4.15	83.0	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.0	90.1	ng/mL	+/- 30.00%
	NEtFOSA	20.0	17.5	87.4	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.04	80.9	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.32	106	ng/mL	+/- 30.00%
	NMeFOSE	20.0	16.6	82.9	ng/mL	+/- 30.00%
	NEtFOSE	20.0	16.5	82.4	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.28	82.8	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

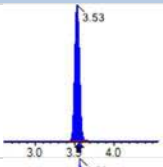
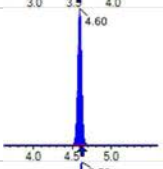
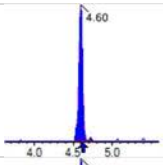
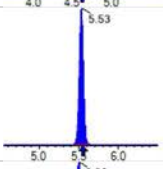
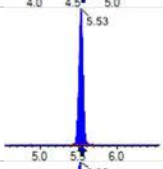
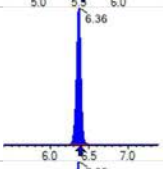
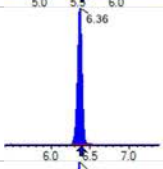
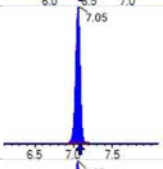
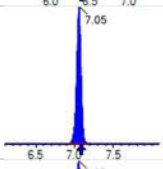
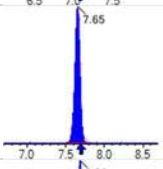
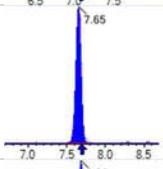
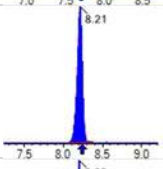
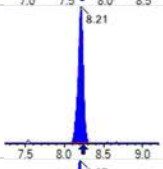
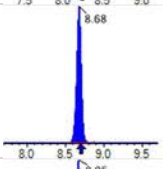
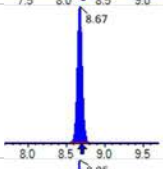
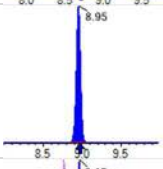
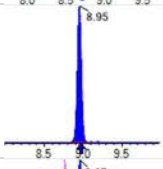
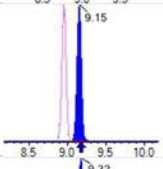
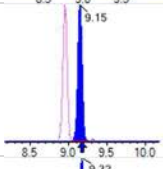
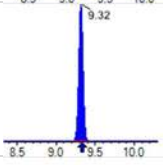
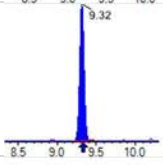
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV1	ADONA	9.45	7.88	83.4	ng/mL	+/- 30.00%
	PFEESA	8.90	7.84	88.1	ng/mL	+/- 30.00%
	PFMPA	10.0	8.09	80.9	ng/mL	+/- 30.00%
	PFMBA	10.0	8.33	83.3	ng/mL	+/- 30.00%
	NFDHA	10.0	8.60	86.0	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	7.98	85.3	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	7.75	82.0	ng/mL	+/- 30.00%
	3:3FTCA	20.0	16.3	81.3	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.8	89.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.9	89.4	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

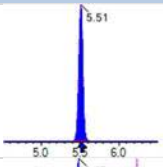
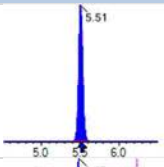
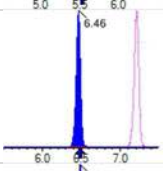
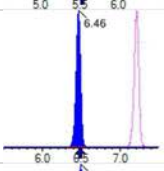
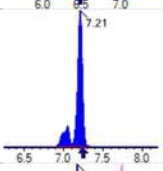
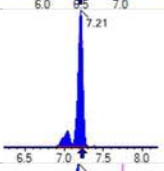
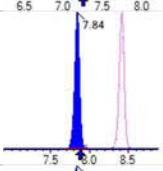
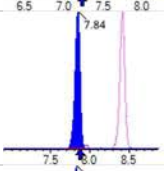
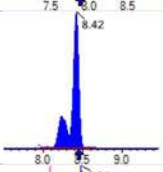
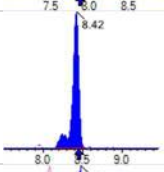
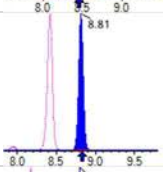
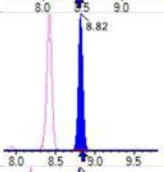
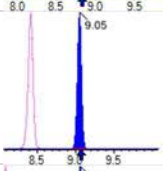
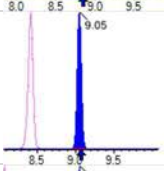
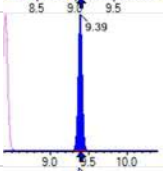
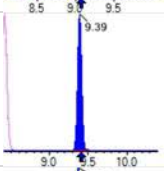
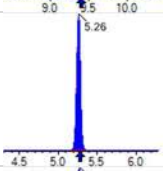
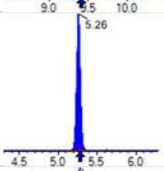
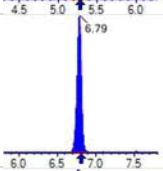
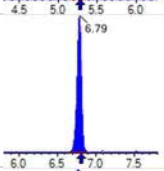
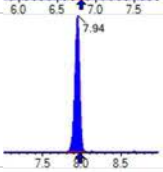
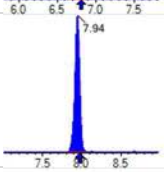
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2172843	(3.53 , 1.00) (0.00 , N/A , 0.0)	190.6	N/A 0.0 0.0	17.0433 [20.0000]	85.2%			
PFPeA	(263.0 / 219.0) 2382481 (263.0 / 69.0) 28022	(4.60 , 1.00) (0.00 , N/A , -0.1)	3518.7 1950.5	0.0118 80.2 100.0	8.7010 [10.0000]	87.0%			
PFHxA	(313.0 / 269.0) 1678602 (313.0 / 119.0) 156852	(5.53 , 1.00) (0.00 , N/A , 0.0)	3121.5 5711.5	0.0934 82.4 100.0	4.1851 [5.0000]	83.7%			
PFHpA	(363.0 / 319.0) 1443310 (363.0 / 169.0) 496072	(6.36 , 1.00) (0.00 , N/A , -0.1)	32370.1 77054.2	0.3437 109.3 100.0	3.8142 [5.0000]	76.3%			
PFOA	(413.0 / 369.0) 1556684 (413.0 / 169.0) 494024	(7.05 , 1.00) (0.00 , N/A , 0.1)	3058.9 11540626.0	0.3174 94.8 100.0	4.2994 [5.0000]	86.0%			
PFNA	(463.0 / 419.0) 994146 (463.0 / 169.0) 226348	(7.65 , 1.00) (-0.01 , N/A , 0.0)	4955.7 3209.9	0.2277 99.8 100.0	4.0370 [5.0000]	80.7%			
PFDA	(513.0 / 469.0) 1699873 (513.0 / 169.0) 153517	(8.21 , 1.00) (0.00 , N/A , 0.0)	1084.0 730.7	0.0903 81.8 100.0	4.8464 [5.0000]	96.9%			
PFUnA	(563.0 / 519.0) 1755998 (563.0 / 169.0) 173331	(8.68 , 1.00) (0.00 , N/A , 0.2)	1347.2 3405.4	0.0987 96.4 100.0	4.2374 [5.0000]	84.7%			
PFDoA	(613.0 / 569.0) 2193078 (613.0 / 169.0) 264861	(8.95 , 1.00) (0.00 , N/A , 0.1)	1498.2 673.5	0.1208 84.2 100.0	4.4626 [5.0000]	89.3%			
PFTrDA	(663.0 / 619.0) 1842419 (663.0 / 169.0) 375340	(9.15 , 1.02) (N/A , 0.00 , 0.2)	1376.9 753.8	0.2037 89.5 100.0	4.4877 [5.0000]	89.8%			
PFTeDA	(713.0 / 669.0) 1535457 (713.0 / 169.0) 266583	(9.32 , 1.00) (0.00 , N/A , 0.0)	1345.0 572.1	0.1736 84.5 100.0	3.6885 [5.0000]	73.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

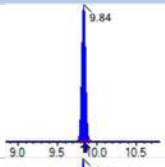
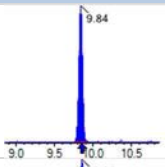
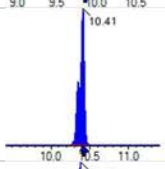
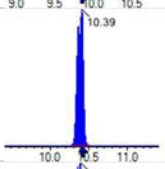
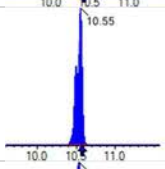
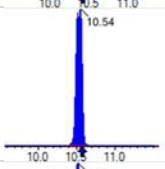
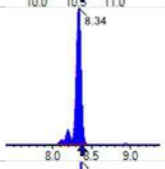
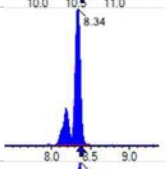
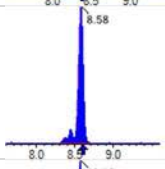
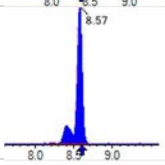
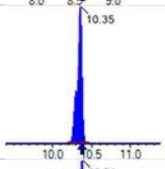
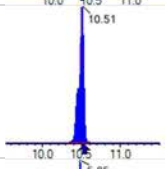
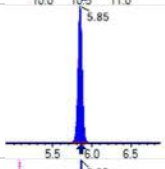
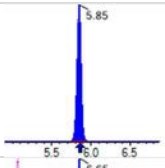
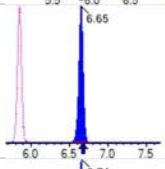
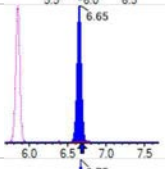
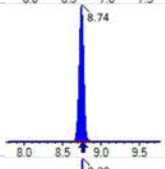
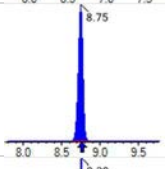
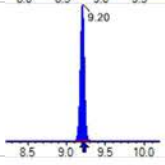
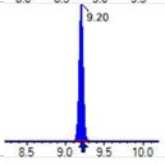
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2560000 (299.0 / 99.0) 1624783	(5.51 , 1.00) (0.00 , N/A , 0.2)	1502.7 1903.5	0.6347 109.4 100.0	3.8221 [4.4237]	86.4%			
PFPeS	(349.0 / 80.0) 4848950 (349.0 / 99.0) 1616798	(6.46 , 0.90) (N/A , 0.00 , 0.0)	23694.5 1349746.3	0.3334 97.4 100.0	3.8556 [4.6919]	82.2%			
PFHxS	(399.0 / 80.0) 3453518 (399.0 / 99.0) 1186454	(7.21 , 1.00) (0.00 , N/A , 0.0)	3742.4 1305.7	0.3435 109.0 100.0	3.6442 [4.5549]	80.0%			
PFHpS	(449.0 / 80.0) 3115415 (449.0 / 99.0) 900270	(7.84 , 0.93) (N/A , 0.00 , -0.1)	1639717.7 2042.0	0.2890 108.8 100.0	3.9035 [4.7570]	82.1%			
PFOS	(499.0 / 80.0) 4056155 (499.0 / 99.0) 894545	(8.42 , 1.00) (0.00 , N/A , 0.1)	926.5 431.1	0.2205 99.2 100.0	3.8544 [4.6375]	83.1%			
PFNS	(549.0 / 80.0) 5412115 (549.0 / 99.0) 1212380	(8.81 , 1.05) (N/A , 0.00 , 0.0)	8515.4 597191.2	0.2240 92.3 100.0	4.3880 [4.7994]	91.4%			
PFDS	(599.0 / 80.0) 6939659 (599.0 / 99.0) 1450379	(9.05 , 1.08) (N/A , 0.00 , 0.2)	1899.1 1445.6	0.2090 103.3 100.0	4.2715 [4.8155]	88.7%			
PFDoS	(699.0 / 80.0) 5608063 (699.0 / 99.0) 1061401	(9.39 , 1.12) (N/A , 0.00 , 0.2)	2031.8 1163.6	0.1893 92.8 100.0	4.4644 [4.8478]	92.1%			
4:2FTS	(327.0 / 307.0) 3062925 (327.0 / 81.0) 1861687	(5.26 , 1.00) (0.00 , N/A , 0.1)	1644.2 1864.9	0.6078 106.1 100.0	16.0729 [18.6906]	86.0%			
6:2FTS	(427.0 / 407.0) 1540055 (427.0 / 81.0) 1112080	(6.79 , 1.00) (0.00 , N/A , 0.0)	1617.1 1226.7	0.7221 94.8 100.0	16.9690 [18.9808]	89.4%			
8:2FTS	(527.0 / 507.0) 1665177 (527.0 / 81.0) 1350659	(7.94 , 1.00) (0.00 , N/A , 0.0)	912.8 772.8	0.8111 124.4 100.0	17.2745 [19.1658]	90.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

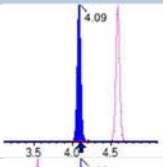
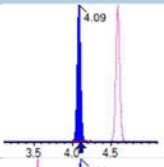
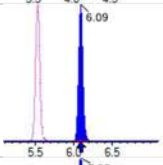
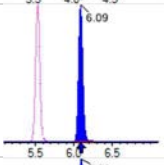
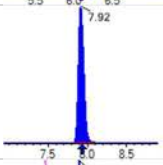
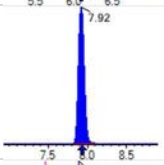
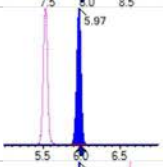
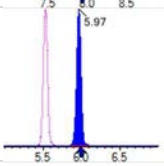
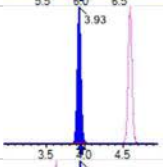
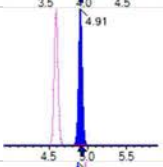
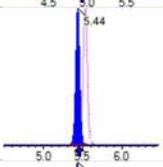
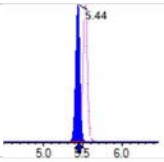
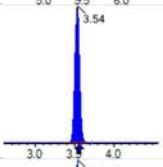
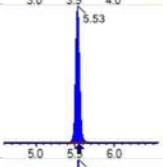
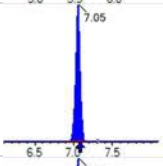
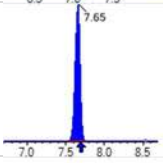
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7577625 (498.0 / 478.0) 164619	(9.84 , 1.00) (0.00 , N/A , -0.1)	2446.4 743.7	0.0217 103.7 100.0	4.1486 [5.0000]	83.0%			
NMeFOSA	(512.0 / 219.0) 8129072 (512.0 / 169.0) 6620753	(10.41 , 1.00) (0.00 , N/A , 1.1)	4627.6 4341.4	0.8145 99.2 100.0	18.0140 [20.0000]	90.1%			
NEtFOSA	(526.0 / 219.0) 9076556 (526.0 / 169.0) 11789632	(10.55 , 1.00) (0.00 , N/A , 0.9)	10447.1 11301.1	1.2989 103.6 100.0	17.4755 [20.0000]	87.4%			
NMeFOSAA	(570.0 / 419.0) 831328 (570.0 / 483.0) 415270	(8.34 , 1.00) (0.00 , N/A , -0.1)	2332.7 926.2	0.4995 92.0 100.0	4.0434 [5.0000]	80.9%			
NEtFOSAA	(584.0 / 419.0) 777979 (584.0 / 526.0) 476198	(8.58 , 1.00) (0.01 , N/A , 0.2)	1518.8 1123.9	0.6121 90.9 100.0	5.3231 [5.0000]	106.5%			
NMeFOSE	(616.0 / 59.0) 3732668	(10.35 , 1.00) (0.01 , N/A , 0.0)	2271.4	N/A 0.0 0.0	16.5709 [20.0000]	82.9%			
NEtFOSE	(630.0 / 59.0) 4827306	(10.51 , 1.00) (0.01 , N/A , 0.0)	1187.2	N/A 0.0 0.0	16.4776 [20.0000]	82.4%			
HFPO-DA	(285.0 / 169.0) 1654035 (285.0 / 185.0) 4876387	(5.85 , 1.00) (0.00 , N/A , 0.0)	2206.2 2514.6	2.9482 104.0 100.0	8.2791 [10.0000]	82.8%			
ADONA	(377.0 / 85.0) 5631350 (377.0 / 251.0) 629367	(6.65 , 1.14) (N/A , 0.00 , 0.1)	1611.6 911.2	0.1118 104.5 100.0	7.8818 [9.4270]	83.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 15975916 (533.0 / 353.0) 4905311	(8.74 , 1.50) (N/A , 0.00 , -0.2)	2233.6 1392.7	0.3070 98.3 100.0	7.9788 [9.3325]	85.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 12294245 (633.0 / 453.0) 3735037	(9.20 , 1.57) (N/A , 0.00 , 0.2)	1120.4 1069.3	0.3038 95.7 100.0	7.7486 [9.4321]	82.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

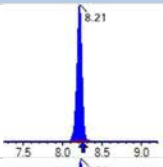
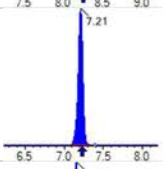
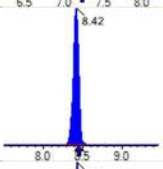
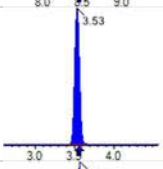
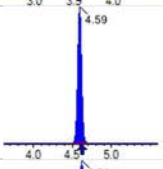
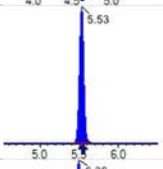
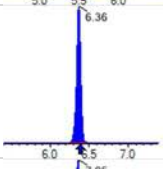
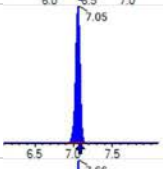
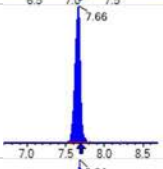
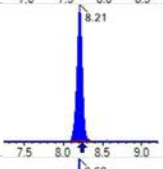
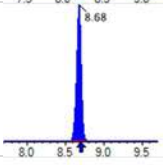
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 131712 (241.0 / 117.0) 231146	(4.09 , 0.89) (N/A , 0.00 , 0.1)	1771.9 1217.5	1.7549 104.2 100.0	16.2649 [20.0000]	81.3%			
5:3FTCA	(341.0 / 236.7) 1284878 (341.0 / 217.0) 2205070	(6.09 , 1.10) (N/A , 0.00 , 0.1)	1813.4 1837.4	1.7162 95.7 100.0	17.8292 [20.0000]	89.1%			
7:3FTCA	(441.0 / 317.0) 1441220 (441.0 / 337.0) 1176464	(7.92 , 1.43) (N/A , 0.00 , -0.2)	1032.7 1014.7	0.8163 97.3 100.0	17.8891 [20.0000]	89.4%			
PFEESA	(315.0 / 135.0) 3221800 (315.0 / 83.0) 1001901	(5.97 , 1.08) (N/A , 0.00 , 0.1)	2465.8 1638.6	0.3110 101.9 100.0	7.8367 [8.9246]	87.8%			
PFMPA	(229.0 / 85.0) 424654	(3.93 , 0.86) (N/A , 0.00 , 0.0)	3152.7	N/A 0.0 0.0	8.0913 [10.0000]	80.9%			
PFMBA	(279.0 / 85.0) 2073517	(4.91 , 1.07) (N/A , 0.00 , 0.0)	2521.5	N/A 0.0 0.0	8.3293 [10.0000]	83.3%			
NFDHA	(295.0 / 201.0) 1950716 (295.0 / 85.0) 1933126	(5.44 , 0.98) (N/A , 0.00 , -0.1)	3207.5 2508.7	0.9910 99.5 100.0	8.6020 [10.0000]	86.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 140137	(3.54 , N/A) (N/A , 0.00 , N/A)	1203.9	N/A	1.1367 [1.0000]	113.7% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 405136	(5.53 , N/A) (N/A , 0.00 , N/A)	2034.8	N/A	0.9406 [1.0000]	94.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 343929	(7.05 , N/A) (N/A , 0.00 , N/A)	2337.3	N/A	1.0537 [1.0000]	105.4% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 264560	(7.65 , N/A) (N/A , 0.00 , N/A)	1179.2	N/A	1.0429 [1.0000]	104.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

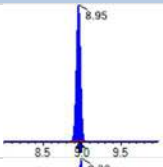
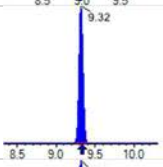
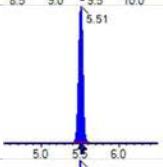
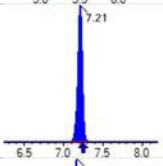
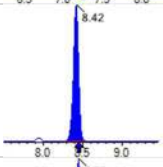
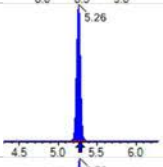
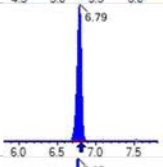
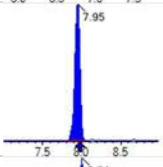
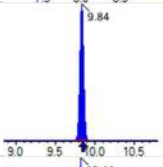
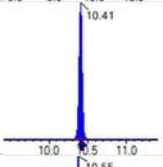
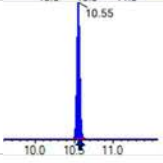
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 339128	(8.21 , N/A) (N/A , 0.00 , N/A)	3192.9	N/A	1.0855 [1.0000]	108.6% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 699181	(7.21 , N/A) (N/A , 0.00 , N/A)	1169.2	N/A	1.1119 [1.0000]	111.2% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 810094	(8.42 , N/A) (N/A , 0.00 , N/A)	837.4	N/A	1.1954 [1.0000]	119.5% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1242587	(3.53 , N/A) (N/A , 0.00 , N/A)	3935.3	N/A	7.5049 [8.0000]	93.8% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1309604	(4.59 , N/A) (N/A , 0.00 , N/A)	3181.1	N/A	4.4655 [4.0000]	111.6% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 897586	(5.53 , N/A) (N/A , 0.00 , N/A)	2400.1	N/A	2.0755 [2.0000]	103.8% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 780730	(6.36 , N/A) (N/A , 0.00 , N/A)	1359.9	N/A	2.1370 [2.0000]	106.8% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 713217	(7.05 , N/A) (N/A , 0.00 , N/A)	1189.3	N/A	1.9049 [2.0000]	95.2% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 261822	(7.66 , N/A) (N/A , 0.00 , N/A)	965.7	N/A	0.9341 [1.0000]	93.4% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 377997	(8.21 , N/A) (N/A , 0.00 , N/A)	933.0	N/A	0.9075 [1.0000]	90.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 502334	(8.68 , N/A) (N/A , 0.00 , N/A)	1347.8	N/A	0.8834 [1.0000]	88.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

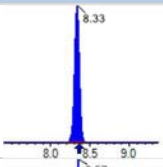
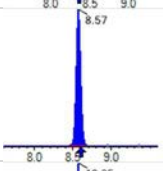
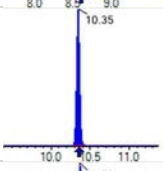
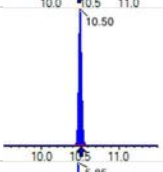
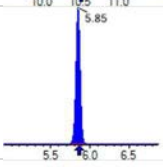
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 570490	(8.95 , N/A) (N/A , 0.00 , N/A)	990.6	N/A	0.9711 [1.0000]	97.1% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 457396	(9.32 , N/A) (N/A , 0.00 , N/A)	1164.7	N/A	1.0788 [1.0000]	107.9% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2374284	(5.51 , N/A) (N/A , 0.00 , N/A)	2303.1	N/A	1.7740 [2.0000]	88.7% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1285352	(7.21 , N/A) (N/A , 0.00 , N/A)	1427.7	N/A	1.9611 [2.0000]	98.1% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1940532	(8.42 , N/A) (N/A , 0.00 , N/A)	876.4	N/A	1.7939 [2.0000]	89.7% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 265752	(5.26 , N/A) (N/A , 0.00 , N/A)	1033.2	N/A	3.6387 [4.0000]	91.0% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 262662	(6.79 , N/A) (N/A , 0.00 , N/A)	773.7	N/A	3.5950 [4.0000]	89.9% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 321381	(7.95 , N/A) (N/A , 0.00 , N/A)	585.3	N/A	3.6388 [4.0000]	91.0% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3777819	(9.84 , N/A) (N/A , 0.00 , N/A)	2364.4	N/A	1.8455 [2.0000]	92.3% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1140979	(10.41 , N/A) (N/A , 0.00 , N/A)	2108.4	N/A	1.8602 [2.0000]	93.0% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1087407	(10.55 , N/A) (N/A , 0.00 , N/A)	2368.8	N/A	1.9388 [2.0000]	96.9% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (3)
Acquired: 2023/02/09 - 22:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1052147	(8.33 , N/A) (N/A , 0.00 , N/A)	1273.6	N/A	4.0516 [4.0000]	101.3% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 727682	(8.57 , N/A) (N/A , 0.00 , N/A)	2579.5	N/A	3.1294 [4.0000]	78.2% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4347030	(10.35 , N/A) (N/A , 0.00 , N/A)	1770.0	N/A	19.3579 [20.0000]	96.8% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6045158	(10.50 , N/A) (N/A , 0.00 , N/A)	2054.1	N/A	20.7046 [20.0000]	103.5% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2548657	(5.85 , N/A) (N/A , 0.00 , N/A)	2504.9	N/A	9.0712 [8.0000]	113.4% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV2	PFBA	20.0	17.6	87.8	ng/mL	+/- 30.00%
	PFPEA	10.0	8.79	87.9	ng/mL	+/- 30.00%
	PFHXA	5.00	4.23	84.5	ng/mL	+/- 30.00%
	PFHPA	5.00	3.82	76.4	ng/mL	+/- 30.00%
	PFOA	5.00	3.70	74.1	ng/mL	+/- 30.00%
	PFNA	5.00	4.57	91.4	ng/mL	+/- 30.00%
	PFDA	5.00	4.04	80.8	ng/mL	+/- 30.00%
	PFUnA	5.00	4.29	85.8	ng/mL	+/- 30.00%
	PFDOA	5.00	4.53	90.6	ng/mL	+/- 30.00%
	PFTRDA	5.00	3.97	79.4	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.43	88.6	ng/mL	+/- 30.00%
	PFBS	4.42	3.83	86.6	ng/mL	+/- 30.00%
	PFPES	4.70	4.38	93.2	ng/mL	+/- 30.00%
	PFHXS	4.58	4.00	87.4	ng/mL	+/- 30.00%
	PFHPS	4.78	3.92	82.1	ng/mL	+/- 30.00%
	PFOS	4.65	3.74	80.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.04	84.1	ng/mL	+/- 30.00%
	PFDS	4.82	4.26	88.4	ng/mL	+/- 30.00%
	PFDOS	4.85	4.16	85.8	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.4	92.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	16.6	87.5	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.0	93.5	ng/mL	+/- 30.00%
	PFOSA	5.00	3.94	78.9	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.0	90.0	ng/mL	+/- 30.00%
	NEtFOSA	20.0	17.8	88.8	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	3.81	76.3	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.80	95.9	ng/mL	+/- 30.00%
	NMeFOSE	20.0	16.7	83.7	ng/mL	+/- 30.00%
	NEtFOSE	20.0	17.0	85.0	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.27	82.7	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

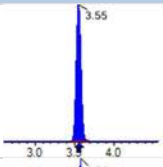
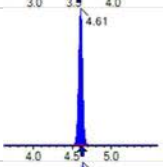
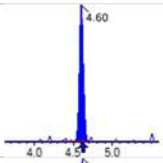
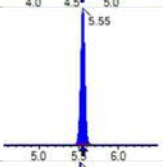
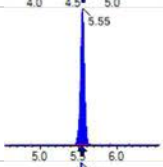
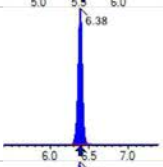
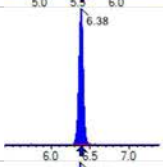
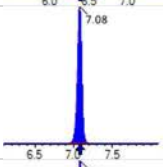
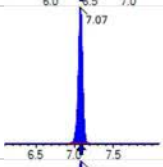
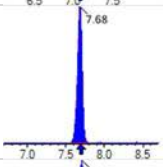
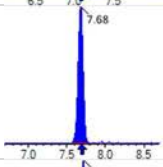
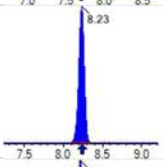
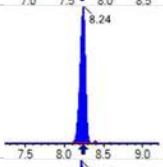
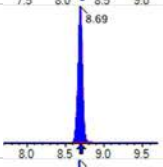
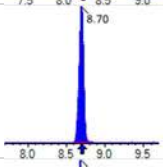
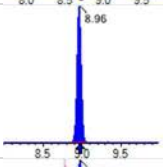
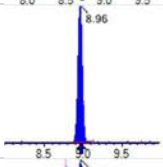
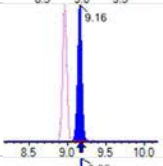
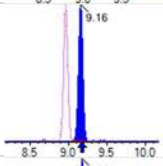
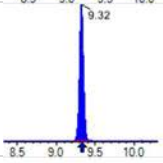
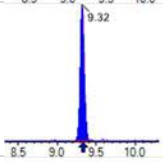
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV2	ADONA	9.45	8.37	88.6	ng/mL	+/- 30.00%
	PFEESA	8.90	7.88	88.5	ng/mL	+/- 30.00%
	PFMPA	10.0	8.46	84.6	ng/mL	+/- 30.00%
	PFMBA	10.0	8.59	85.9	ng/mL	+/- 30.00%
	NFDHA	10.0	7.72	77.2	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	7.81	83.5	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.08	85.5	ng/mL	+/- 30.00%
	3:3FTCA	20.0	16.9	84.7	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.8	89.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	16.7	83.5	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

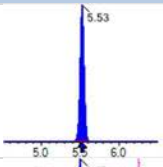
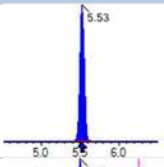
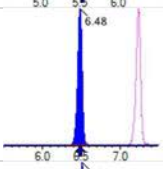
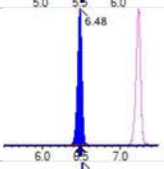
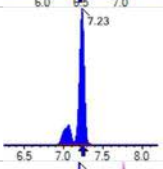
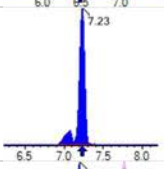
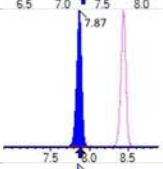
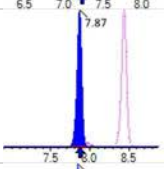
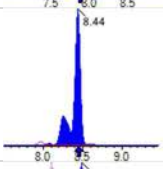
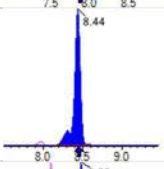
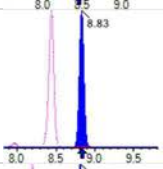
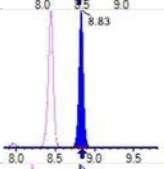
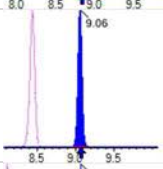
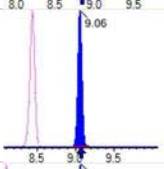
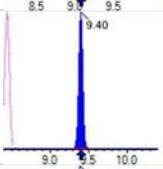
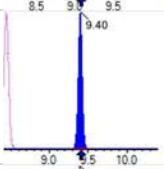
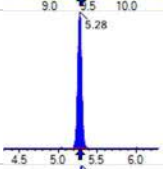
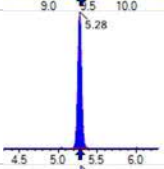
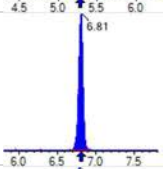
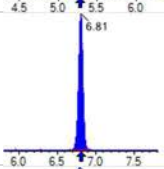
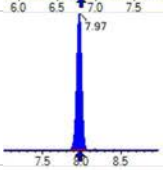
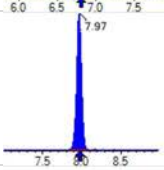
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2272599	(3.55 , 1.00) (0.00 , N/A , 0.0)	220.2	N/A 0.0 0.0	17.5555 [20.0000]	87.8%			
PFPeA	(263.0 / 219.0) 2518620 (263.0 / 69.0) 26841	(4.61 , 1.00) (0.00 , N/A , 0.3)	5480.6 366.9	0.0107 72.7 90.6	8.7863 [10.0000]	87.9%			
PFHxA	(313.0 / 269.0) 1866920 (313.0 / 119.0) 185380	(5.55 , 1.00) (0.00 , N/A , 0.0)	4039.3 4644.4	0.0993 87.5 106.3	4.2253 [5.0000]	84.5%			
PFHpA	(363.0 / 319.0) 1725516 (363.0 / 169.0) 488716	(6.38 , 1.00) (0.00 , N/A , 0.1)	3854.8 6431033.0	0.2832 90.1 82.4	3.8214 [5.0000]	76.4%			
PFOA	(413.0 / 369.0) 1538428 (413.0 / 169.0) 496013	(7.08 , 1.00) (0.00 , N/A , 0.2)	2962.1 1596.0	0.3224 96.3 101.6	3.7048 [5.0000]	74.1%			
PFNA	(463.0 / 419.0) 1248546 (463.0 / 169.0) 248162	(7.68 , 1.00) (0.01 , N/A , 0.3)	3088.6 883.6	0.1988 87.1 87.3	4.5711 [5.0000]	91.4%			
PFDA	(513.0 / 469.0) 1655151 (513.0 / 169.0) 176624	(8.23 , 1.00) (0.00 , N/A , -0.2)	1006.8 7272.4	0.1067 96.7 118.2	4.0402 [5.0000]	80.8%			
PFUnA	(563.0 / 519.0) 1896453 (563.0 / 169.0) 215207	(8.69 , 1.00) (0.00 , N/A , -0.3)	1324.5 651.5	0.1135 110.8 115.0	4.2877 [5.0000]	85.8%			
PFDoA	(613.0 / 569.0) 2375614 (613.0 / 169.0) 273911	(8.96 , 1.00) (0.00 , N/A , 0.0)	1352.2 500.4	0.1153 80.4 95.5	4.5282 [5.0000]	90.6%			
PFTrDA	(663.0 / 619.0) 1739080 (663.0 / 169.0) 417696	(9.16 , 1.02) (N/A , 0.01 , 0.1)	1552.3 668.4	0.2402 105.5 117.9	3.9679 [5.0000]	79.4%			
PFTeDA	(713.0 / 669.0) 1697158 (713.0 / 169.0) 341503	(9.32 , 1.00) (0.00 , N/A , 0.3)	1408.5 551.6	0.2012 98.0 115.9	4.4276 [5.0000]	88.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

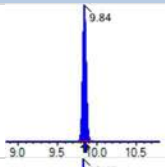
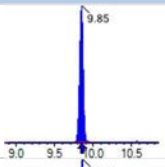
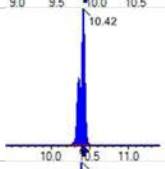
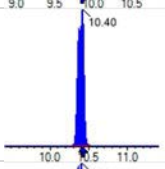
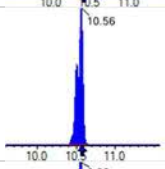
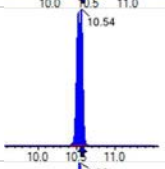
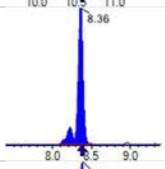
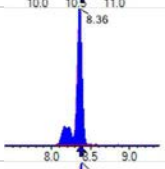
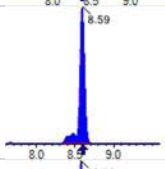
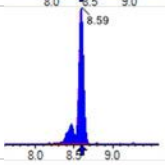
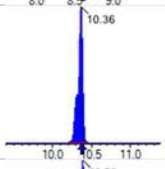
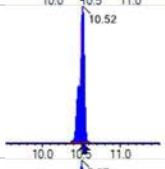
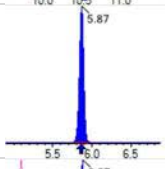
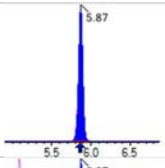
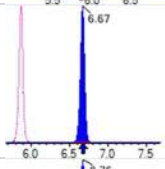
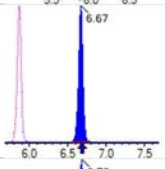
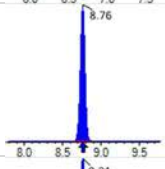
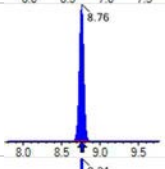
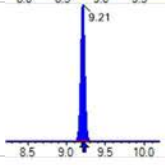
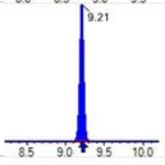
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2693356 (299.0 / 99.0) 1552752	(5.53 , 1.00) (0.00 , N/A , 0.0)	2204.7 1920.4	0.5765 99.4 90.8	3.8297 [4.4237]	86.6%			
PFPeS	(349.0 / 80.0) 5321863 (349.0 / 99.0) 1858048	(6.48 , 0.90) (N/A , 0.02 , 0.1)	35524588.2 308814733.2	0.3491 102.0 104.7	4.3825 [4.6919]	93.4%			
PFHxS	(399.0 / 80.0) 3664199 (399.0 / 99.0) 1173289	(7.23 , 1.00) (0.00 , N/A , 0.2)	4901.7 8798837.7	0.3202 101.6 93.2	4.0043 [4.5549]	87.9%			
PFHpS	(449.0 / 80.0) 3391728 (449.0 / 99.0) 1009439	(7.87 , 0.93) (N/A , 0.03 , 0.1)	1812.0 4844.3	0.2976 112.0 103.0	3.9245 [4.7570]	82.5%			
PFOS	(499.0 / 80.0) 4262418 (499.0 / 99.0) 978772	(8.44 , 1.00) (0.00 , N/A , 0.1)	1015.2 558.6	0.2296 103.3 104.1	3.7404 [4.6375]	80.7%			
PFNS	(549.0 / 80.0) 5389676 (549.0 / 99.0) 1338127	(8.83 , 1.05) (N/A , 0.01 , 0.1)	11959.0 570939.6	0.2483 102.3 110.8	4.0354 [4.7994]	84.1%			
PFDS	(599.0 / 80.0) 7495602 (599.0 / 99.0) 1497113	(9.06 , 1.07) (N/A , 0.01 , 0.1)	2047.4 1402.5	0.1997 98.7 95.6	4.2606 [4.8155]	88.5%			
PFDoS	(699.0 / 80.0) 5659121 (699.0 / 99.0) 1179570	(9.40 , 1.11) (N/A , 0.01 , 0.2)	1396.6 1192.2	0.2084 102.2 110.1	4.1602 [4.8478]	85.8%			
4:2FTS	(327.0 / 307.0) 3349582 (327.0 / 81.0) 2179804	(5.28 , 1.00) (0.00 , N/A , 0.0)	2211.1 1613.5	0.6508 113.6 107.1	17.3541 [18.6906]	92.8%			
6:2FTS	(427.0 / 407.0) 1611136 (427.0 / 81.0) 1232588	(6.81 , 1.00) (0.00 , N/A , 0.1)	1371.3 2168.9	0.7650 100.4 105.9	16.6233 [18.9808]	87.6%			
8:2FTS	(527.0 / 507.0) 1888882 (527.0 / 81.0) 1257811	(7.97 , 1.00) (0.00 , N/A , 0.1)	1630.7 1162.2	0.6659 102.1 82.1	17.9521 [19.1658]	93.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

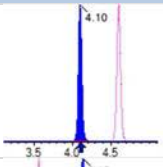
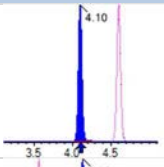
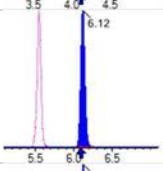
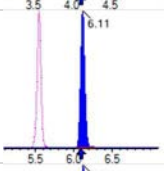
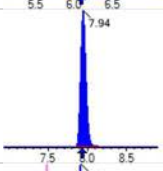
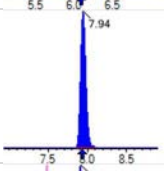
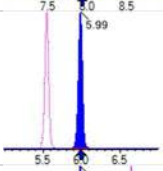
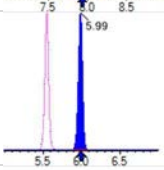
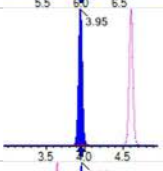
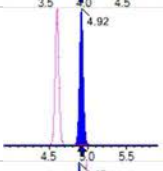
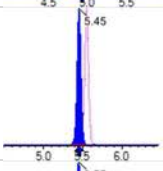
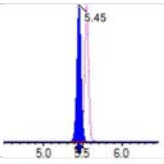
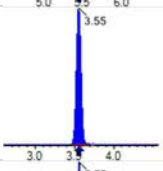
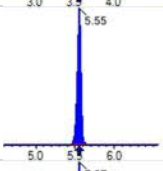
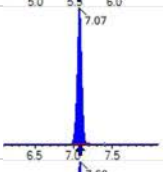
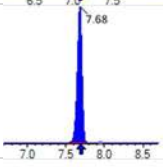
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7218066 (498.0 / 478.0) 161466	(9.84 , 1.00) (0.00 , N/A , -0.1)	2022.2 1104.2	0.0224 106.8 103.0	3.9437 [5.0000]	78.9%			
NMeFOSA	(512.0 / 219.0) 8214449 (512.0 / 169.0) 6820181	(10.42 , 1.00) (0.00 , N/A , 1.0)	4003.5 4189.8	0.8303 101.1 101.9	18.0006 [20.0000]	90.0%			
NEtFOSA	(526.0 / 219.0) 9341296 (526.0 / 169.0) 11742003	(10.56 , 1.00) (0.00 , N/A , 0.9)	12390.5 12173.6	1.2570 100.3 96.8	17.7517 [20.0000]	88.8%			
NMeFOSAA	(570.0 / 419.0) 799893 (570.0 / 483.0) 440731	(8.36 , 1.00) (0.00 , N/A , 0.0)	1114.2 1343.4	0.5510 101.5 110.3	3.8132 [5.0000]	76.3%			
NEtFOSAA	(584.0 / 419.0) 862525 (584.0 / 526.0) 528300	(8.59 , 1.00) (0.01 , N/A , 0.0)	1723.8 792.6	0.6125 91.0 100.1	4.7962 [5.0000]	95.9%			
NMeFOSE	(616.0 / 59.0) 4064798	(10.36 , 1.00) (0.01 , N/A , 0.0)	2756.5	N/A 0.0 0.0	16.7499 [20.0000]	83.7%			
NEtFOSE	(630.0 / 59.0) 5155556	(10.52 , 1.00) (0.01 , N/A , 0.0)	1141.2	N/A 0.0 0.0	17.0025 [20.0000]	85.0%			
HFPO-DA	(285.0 / 169.0) 1685827 (285.0 / 185.0) 4887269	(5.87 , 1.00) (0.00 , N/A , 0.0)	1857.4 1712.6	2.8990 102.3 98.3	8.2741 [10.0000]	82.7%			
ADONA	(377.0 / 85.0) 6100182 (377.0 / 251.0) 676399	(6.67 , 1.14) (N/A , 0.02 , 0.0)	2427.6 1164.4	0.1109 103.6 99.2	8.3720 [9.4270]	88.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 15966440 (533.0 / 353.0) 5416660	(8.76 , 1.49) (N/A , 0.02 , 0.1)	1258.6 1593.7	0.3393 108.7 110.5	7.8113 [9.3325]	83.7%			
11Cl-PF3OUDS	(631.0 / 451.0) 13058695 (633.0 / 453.0) 4089541	(9.21 , 1.57) (N/A , 0.00 , 0.1)	1804.5 1332.1	0.3132 98.6 103.1	8.0828 [9.4321]	85.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

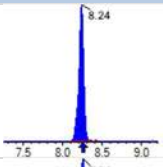
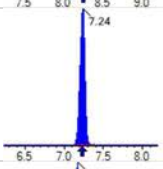
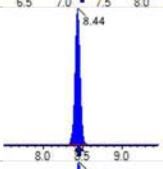
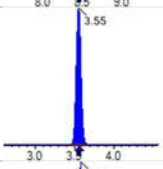
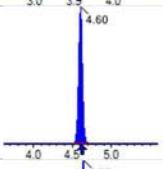
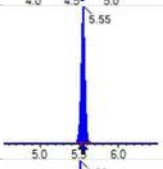
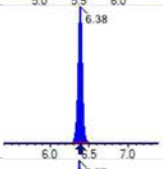
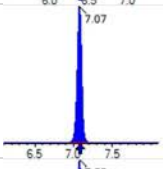
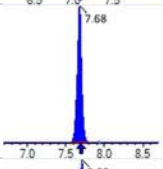
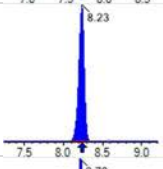
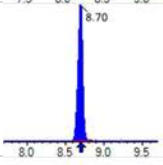
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 143646 (241.0 / 117.0) 231875	(4.10 , 0.89) (N/A , 0.01 , -0.1)	1140.7 1106.4	1.6142 95.9 92.0	16.9442 [20.0000]	84.7%			
5:3FTCA	(341.0 / 236.7) 1414436 (341.0 / 217.0) 2340181	(6.12 , 1.10) (N/A , 0.03 , 0.1)	1042.8 1426.9	1.6545 92.2 96.4	17.8166 [20.0000]	89.1%			
7:3FTCA	(441.0 / 317.0) 1482140 (441.0 / 337.0) 1219186	(7.94 , 1.43) (N/A , 0.03 , 0.0)	1016.2 1168.8	0.8226 98.0 100.8	16.7001 [20.0000]	83.5%			
PFEESA	(315.0 / 135.0) 3567036 (315.0 / 83.0) 1106168	(5.99 , 1.08) (N/A , 0.02 , -0.1)	2550.3 1507.1	0.3101 101.6 99.7	7.8762 [8.9246]	88.3%			
PFMPA	(229.0 / 85.0) 464814	(3.95 , 0.86) (N/A , 0.02 , 0.0)	2498.6	N/A 0.0 0.0	8.4599 [10.0000]	84.6%			
PFMBA	(279.0 / 85.0) 2239835	(4.92 , 1.07) (N/A , 0.01 , 0.0)	3874.0	N/A 0.0 0.0	8.5944 [10.0000]	85.9%			
NFDHA	(295.0 / 201.0) 1927876 (295.0 / 85.0) 1890465	(5.45 , 0.98) (N/A , 0.02 , 0.0)	1663.5 2060.1	0.9806 98.5 99.0	7.7171 [10.0000]	77.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 135626	(3.55 , N/A) (N/A , 0.02 , N/A)	1313.3	N/A	1.1001 [1.0000]	110.0% { 96.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 458801	(5.55 , N/A) (N/A , 0.02 , N/A)	1931.4	N/A	1.0652 [1.0000]	106.5% { 113.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 373551	(7.07 , N/A) (N/A , 0.02 , N/A)	886.8	N/A	1.1444 [1.0000]	114.4% { 108.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 296774	(7.68 , N/A) (N/A , 0.03 , N/A)	1223.1	N/A	1.1699 [1.0000]	117.0% { 112.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

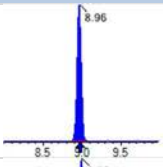
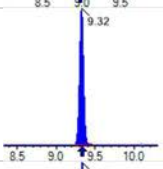
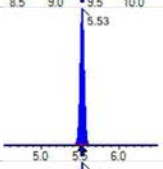
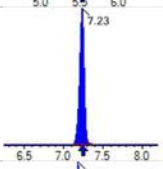
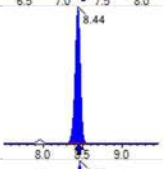
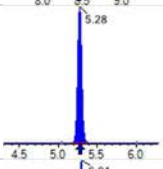
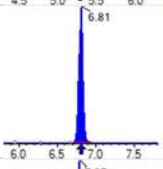
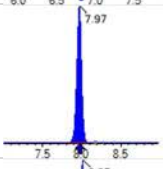
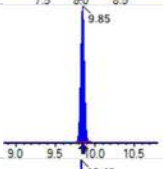
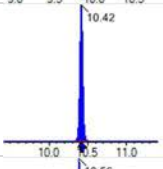
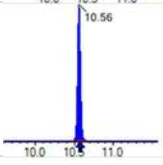
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 340932	(8.24 , N/A) (N/A , 0.03 , N/A)	620.8	N/A	1.0913 [1.0000]	109.1% { 100.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 671135	(7.24 , N/A) (N/A , 0.03 , N/A)	1512.1	N/A	1.0673 [1.0000]	106.7% { 96.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 867779	(8.44 , N/A) (N/A , 0.02 , N/A)	766.7	N/A	1.2805 [1.0000]	128.1% { 107.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1261717	(3.55 , N/A) (N/A , 0.02 , N/A)	4207.4	N/A	7.8740 [8.0000]	98.4% { 101.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1371003	(4.60 , N/A) (N/A , 0.01 , N/A)	2361.0	N/A	4.1281 [4.0000]	103.2% { 104.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 988790	(5.55 , N/A) (N/A , 0.02 , N/A)	2914.7	N/A	2.0190 [2.0000]	100.9% { 110.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 931620	(6.38 , N/A) (N/A , 0.02 , N/A)	1301.4	N/A	2.2517 [2.0000]	112.6% { 119.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 817980	(7.07 , N/A) (N/A , 0.02 , N/A)	986.3	N/A	2.0114 [2.0000]	100.6% { 114.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 290404	(7.68 , N/A) (N/A , 0.02 , N/A)	1073.5	N/A	0.9236 [1.0000]	92.4% { 110.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 441493	(8.23 , N/A) (N/A , 0.03 , N/A)	1701.1	N/A	1.0543 [1.0000]	105.4% { 116.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 536153	(8.70 , N/A) (N/A , 0.02 , N/A)	581.9	N/A	0.9378 [1.0000]	93.8% { 106.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

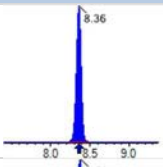
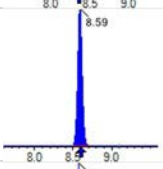
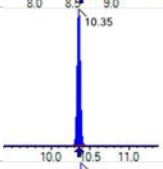
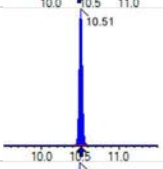
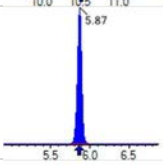
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 609025	(8.96 , N/A) (N/A , 0.01 , N/A)	858.7	N/A	1.0312 [1.0000]	103.1% { 106.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 421170	(9.32 , N/A) (N/A , 0.01 , N/A)	1098.1	N/A	0.9881 [1.0000]	98.8% { 92.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2493033	(5.53 , N/A) (N/A , 0.02 , N/A)	2253.4	N/A	1.9406 [2.0000]	97.0% { 105.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1241111	(7.23 , N/A) (N/A , 0.02 , N/A)	912.9	N/A	1.9727 [2.0000]	98.6% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2101352	(8.44 , N/A) (N/A , 0.02 , N/A)	948.2	N/A	1.8135 [2.0000]	90.7% { 108.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 269167	(5.28 , N/A) (N/A , 0.02 , N/A)	1610.7	N/A	3.8395 [4.0000]	96.0% { 101.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 280499	(6.81 , N/A) (N/A , 0.02 , N/A)	922.8	N/A	3.9996 [4.0000]	100.0% { 106.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 350795	(7.97 , N/A) (N/A , 0.02 , N/A)	673.0	N/A	4.1378 [4.0000]	103.4% { 109.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3785461	(9.85 , N/A) (N/A , 0.01 , N/A)	1371.2	N/A	1.7263 [2.0000]	86.3% { 100.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1153818	(10.42 , N/A) (N/A , 0.01 , N/A)	2395.1	N/A	1.7561 [2.0000]	87.8% { 101.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1101715	(10.56 , N/A) (N/A , 0.01 , N/A)	2881.0	N/A	1.8338 [2.0000]	91.7% { 101.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (23)
Acquired: 2023/02/10 - 02:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1073467	(8.36 , N/A) (N/A , 0.02 , N/A)	1240.2	N/A	3.8589 [4.0000]	96.5% { 102.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 895383	(8.59 , N/A) (N/A , 0.02 , N/A)	2830.0	N/A	3.5947 [4.0000]	89.9% { 123.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4683229	(10.35 , N/A) (N/A , 0.01 , N/A)	2266.4	N/A	19.4688 [20.0000]	97.3% { 107.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6256916	(10.51 , N/A) (N/A , 0.01 , N/A)	1678.2	N/A	20.0053 [20.0000]	100.0% { 103.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2599207	(5.87 , N/A) (N/A , 0.02 , N/A)	1918.2	N/A	8.1691 [8.0000]	102.1% { 102.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV3	PFBA	20.0	17.5	87.5	ng/mL	+/- 30.00%
	PFPEA	10.0	8.38	83.8	ng/mL	+/- 30.00%
	PFHXA	5.00	4.51	90.2	ng/mL	+/- 30.00%
	PFHPA	5.00	4.17	83.5	ng/mL	+/- 30.00%
	PFOA	5.00	3.89	77.9	ng/mL	+/- 30.00%
	PFNA	5.00	3.83	76.6	ng/mL	+/- 30.00%
	PFDA	5.00	4.07	81.3	ng/mL	+/- 30.00%
	PFUnA	5.00	4.09	81.7	ng/mL	+/- 30.00%
	PFDOA	5.00	4.23	84.6	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.36	87.2	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.03	80.6	ng/mL	+/- 30.00%
	PFBS	4.42	3.67	83.0	ng/mL	+/- 30.00%
	PFPES	4.70	3.88	82.5	ng/mL	+/- 30.00%
	PFHXS	4.58	4.02	87.8	ng/mL	+/- 30.00%
	PFHPS	4.78	4.09	85.5	ng/mL	+/- 30.00%
	PFOS	4.65	3.89	83.6	ng/mL	+/- 30.00%
	PFNS	4.80	4.03	83.9	ng/mL	+/- 30.00%
	PFDS	4.82	4.13	85.7	ng/mL	+/- 30.00%
	PFDOS	4.85	4.24	87.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.5	92.8	ng/mL	+/- 30.00%
	6:2FTS	19.0	16.4	86.2	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.9	93.4	ng/mL	+/- 30.00%
	PFOSA	5.00	4.10	82.1	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.3	91.5	ng/mL	+/- 30.00%
	NEtFOSA	20.0	17.9	89.4	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.07	81.4	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.35	86.9	ng/mL	+/- 30.00%
	NMeFOSE	20.0	16.4	82.2	ng/mL	+/- 30.00%
	NEtFOSE	20.0	16.6	83.0	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.33	83.3	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

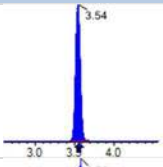
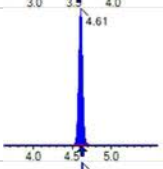
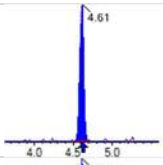
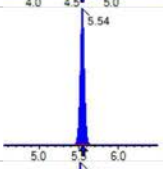
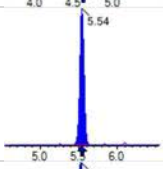
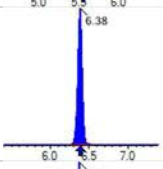
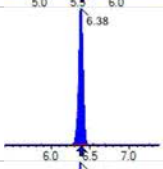
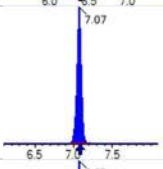
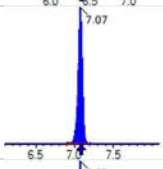
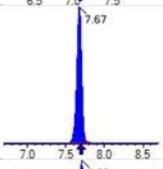
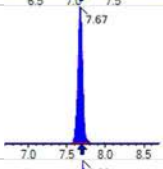
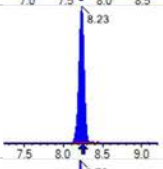
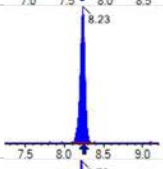
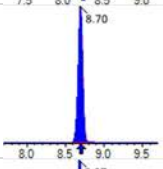
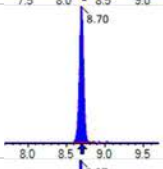
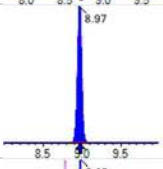
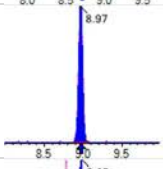
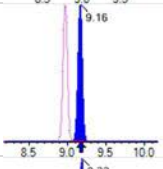
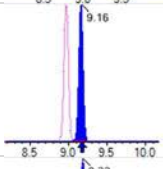
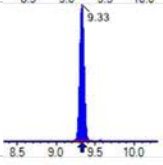
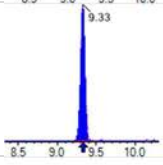
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV3	ADONA	9.45	8.37	88.6	ng/mL	+/- 30.00%
	PFEESA	8.90	8.37	94.0	ng/mL	+/- 30.00%
	PFMPA	10.0	8.54	85.4	ng/mL	+/- 30.00%
	PFMBA	10.0	7.89	78.9	ng/mL	+/- 30.00%
	NFDHA	10.0	9.25	92.5	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.58	91.8	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.06	85.3	ng/mL	+/- 30.00%
	3:3FTCA	20.0	16.3	81.5	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.4	87.2	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.6	93.0	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

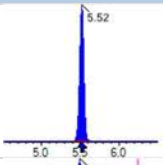
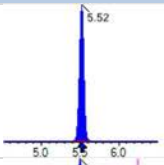
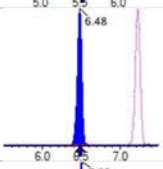
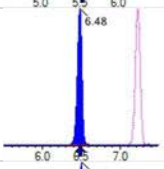
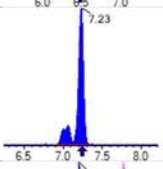
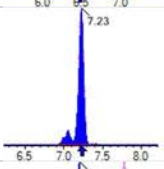
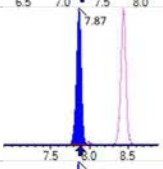
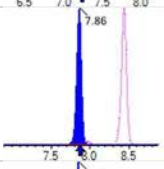
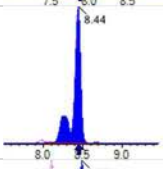
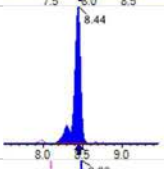
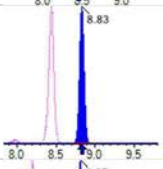
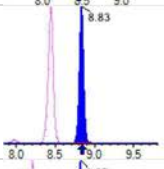
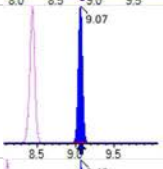
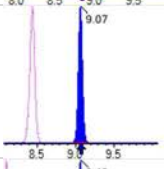
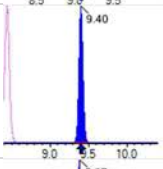
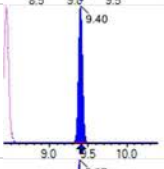
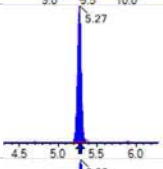
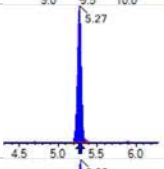
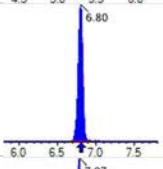
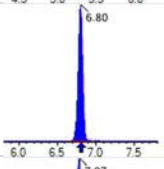
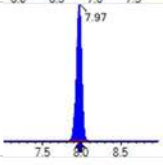
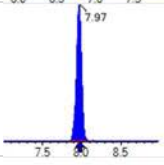
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2205836	(3.54 , 1.00) (0.00 , N/A , 0.0)	244.1	N/A 0.0 0.0	17.4986 [20.0000]	87.5%			
PFPeA	(263.0 / 219.0) 2359354 (263.0 / 69.0) 38109	(4.61 , 1.00) (0.00 , N/A , -0.1)	5070.4 430.8	0.0162 110.2 137.3	8.3819 [10.0000]	83.8%			
PFHxA	(313.0 / 269.0) 1758338 (313.0 / 119.0) 160293	(5.54 , 1.00) (0.00 , N/A , 0.1)	4273.3 282530.7	0.0912 80.4 97.6	4.5094 [5.0000]	90.2%			
PFHpA	(363.0 / 319.0) 1505751 (363.0 / 169.0) 447193	(6.38 , 1.00) (0.00 , N/A , 0.1)	3994.4 376435.8	0.2970 94.5 86.4	4.1726 [5.0000]	83.5%			
PFOA	(413.0 / 369.0) 1554739 (413.0 / 169.0) 494802	(7.07 , 1.00) (0.00 , N/A , -0.1)	3286.2 576029.7	0.3183 95.1 100.3	3.8944 [5.0000]	77.9%			
PFNA	(463.0 / 419.0) 1076793 (463.0 / 169.0) 273343	(7.67 , 1.00) (0.00 , N/A , 0.0)	3052.5 5071.9	0.2538 111.3 111.5	3.8300 [5.0000]	76.6%			
PFDA	(513.0 / 469.0) 1717458 (513.0 / 169.0) 176684	(8.23 , 1.00) (0.00 , N/A , -0.1)	818.4 554.9	0.1029 93.2 113.9	4.0657 [5.0000]	81.3%			
PFUnA	(563.0 / 519.0) 1776463 (563.0 / 169.0) 226280	(8.70 , 1.00) (0.00 , N/A , 0.0)	1449.2 571.3	0.1274 124.3 129.0	4.0860 [5.0000]	81.7%			
PFDoA	(613.0 / 569.0) 2131443 (613.0 / 169.0) 254000	(8.97 , 1.00) (0.00 , N/A , 0.0)	1416.7 553.3	0.1192 83.1 98.7	4.2303 [5.0000]	84.6%			
PFTrDA	(663.0 / 619.0) 1834914 (663.0 / 169.0) 384456	(9.16 , 1.02) (N/A , 0.01 , 0.2)	1098.3 1055.5	0.2095 92.0 102.8	4.3593 [5.0000]	87.2%			
PFTeDA	(713.0 / 669.0) 1556246 (713.0 / 169.0) 293838	(9.33 , 1.00) (0.00 , N/A , 0.1)	1775.2 924.5	0.1888 91.9 108.8	4.0295 [5.0000]	80.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

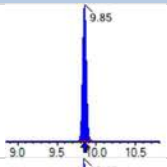
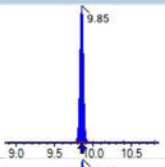
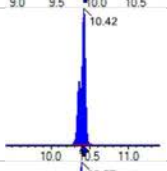
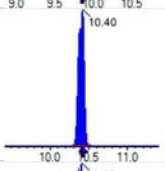
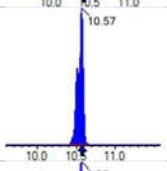
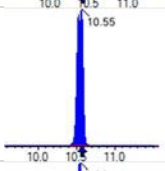
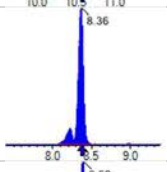
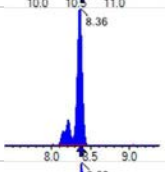
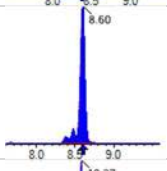
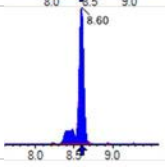
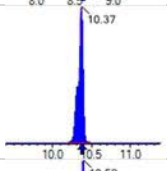
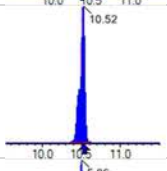
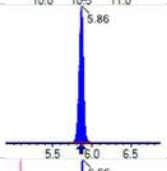
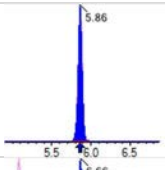
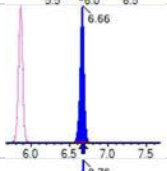
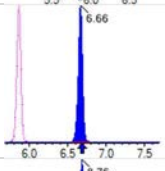
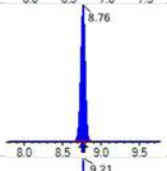
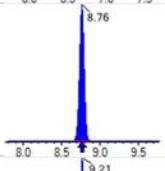
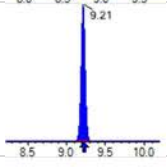
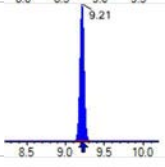
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2816776 (299.0 / 99.0) 1666510	(5.52 , 1.00) (0.00 , N/A , 0.1)	2098.7 2011.6	0.5916 102.0 93.2	3.6674 [4.4237]	82.9%			
PFPeS	(349.0 / 80.0) 4644684 (349.0 / 99.0) 1728165	(6.48 , 0.90) (N/A , 0.02 , -0.1)	43505.5 2276.7	0.3721 108.7 111.6	3.8786 [4.6919]	82.7%			
PFHxS	(399.0 / 80.0) 3628434 (399.0 / 99.0) 1159829	(7.23 , 1.00) (0.00 , N/A , 0.2)	5780.5 1947.9	0.3197 101.4 93.0	4.0210 [4.5549]	88.3%			
PFHpS	(449.0 / 80.0) 3445289 (449.0 / 99.0) 878038	(7.87 , 0.93) (N/A , 0.02 , 0.2)	1539542.8 1267.7	0.2549 95.9 88.2	4.0861 [4.7570]	85.9%			
PFOS	(499.0 / 80.0) 4320549 (499.0 / 99.0) 909948	(8.44 , 1.00) (0.00 , N/A , 0.2)	1095.7 503.1	0.2106 94.7 95.5	3.8862 [4.6375]	83.8%			
PFNS	(549.0 / 80.0) 5247621 (549.0 / 99.0) 1249800	(8.83 , 1.05) (N/A , 0.02 , 0.0)	13157.6 79317.7	0.2382 98.1 106.3	4.0272 [4.7994]	83.9%			
PFDS	(599.0 / 80.0) 7091750 (599.0 / 99.0) 1586338	(9.07 , 1.07) (N/A , 0.01 , 0.0)	1696.9 1022.7	0.2237 110.6 107.0	4.1318 [4.8155]	85.8%			
PFDoS	(699.0 / 80.0) 5630699 (699.0 / 99.0) 1085349	(9.40 , 1.11) (N/A , 0.01 , 0.0)	2094.4 1329.0	0.1928 94.5 101.8	4.2428 [4.8478]	87.5%			
4:2FTS	(327.0 / 307.0) 3173346 (327.0 / 81.0) 1920265	(5.27 , 1.00) (0.00 , N/A , 0.0)	4023.6 1756.5	0.6051 105.6 99.6	17.4522 [18.6906]	93.4%			
6:2FTS	(427.0 / 407.0) 1519157 (427.0 / 81.0) 1234154	(6.80 , 1.00) (0.00 , N/A , 0.0)	1338.5 1566.5	0.8124 106.6 112.5	16.3795 [18.9808]	86.3%			
8:2FTS	(527.0 / 507.0) 1798070 (527.0 / 81.0) 1285590	(7.97 , 1.00) (0.00 , N/A , 0.1)	982.7 1053.4	0.7150 109.7 88.1	17.9295 [19.1658]	93.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

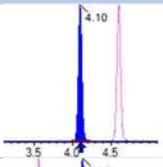
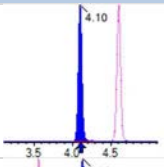
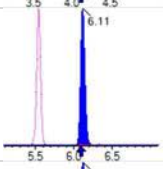
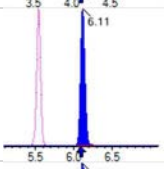
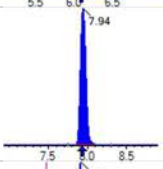
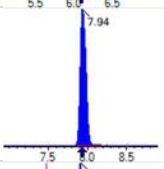
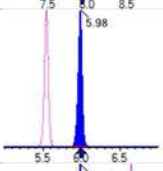
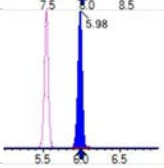
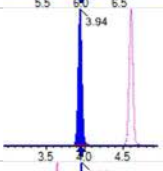
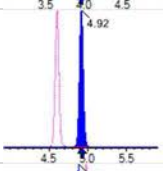
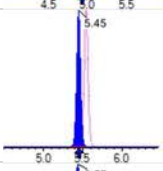
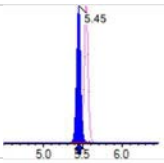
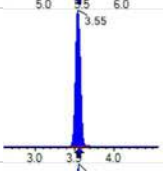
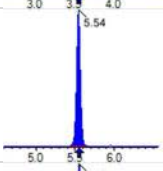
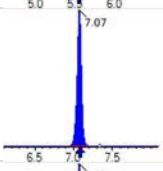
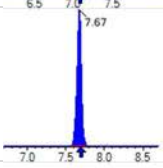
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 8050190 (498.0 / 478.0) 174445	(9.85 , 1.00) (0.00 , N/A , 0.0)	1992.1 794.0	0.0217 103.5 99.7	4.1037 [5.0000]	82.1%			
NMeFOSA	(512.0 / 219.0) 8409334 (512.0 / 169.0) 6765620	(10.42 , 1.00) (0.00 , N/A , 1.1)	3927.7 5093.9	0.8045 98.0 98.8	18.3089 [20.0000]	91.5%			
NEtFOSA	(526.0 / 219.0) 9437673 (526.0 / 169.0) 11921177	(10.57 , 1.00) (0.00 , N/A , 1.0)	16746.4 10680.0	1.2631 100.8 97.2	17.8895 [20.0000]	89.4%			
NMeFOSAA	(570.0 / 419.0) 831479 (570.0 / 483.0) 428392	(8.36 , 1.00) (0.00 , N/A , 0.1)	7879.4 1479.1	0.5152 94.9 103.1	4.0712 [5.0000]	81.4%			
NEtFOSAA	(584.0 / 419.0) 760462 (584.0 / 526.0) 523752	(8.60 , 1.00) (0.00 , N/A , 0.2)	2102.1 910.5	0.6887 102.3 112.5	4.3454 [5.0000]	86.9%			
NMeFOSE	(616.0 / 59.0) 3825278	(10.37 , 1.00) (0.01 , N/A , 0.0)	2655.2	N/A 0.0 0.0	16.4333 [20.0000]	82.2%			
NEtFOSE	(630.0 / 59.0) 4981556	(10.52 , 1.00) (0.01 , N/A , 0.0)	1239.3	N/A 0.0 0.0	16.5965 [20.0000]	83.0%			
HFPO-DA	(285.0 / 169.0) 1653221 (285.0 / 185.0) 4833063	(5.86 , 1.00) (0.00 , N/A , 0.2)	1128.7 2988.9	2.9234 103.1 99.2	8.3278 [10.0000]	83.3%			
ADONA	(377.0 / 85.0) 5941693 (377.0 / 251.0) 651745	(6.66 , 1.14) (N/A , 0.01 , -0.1)	2627.2 1107.2	0.1097 102.5 98.1	8.3692 [9.4270]	88.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 17017915 (533.0 / 353.0) 5382994	(8.76 , 1.49) (N/A , 0.02 , 0.1)	1538.5 1759.2	0.3163 101.3 103.0	8.5841 [9.3325]	92.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 12695786 (633.0 / 453.0) 3974681	(9.21 , 1.57) (N/A , 0.01 , 0.1)	2041.9 1415.2	0.3131 98.6 103.1	8.0645 [9.4321]	85.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

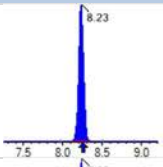
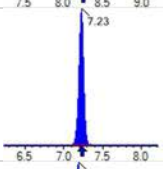
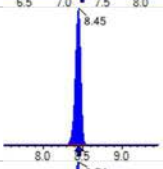
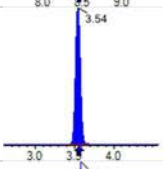
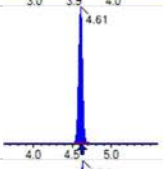
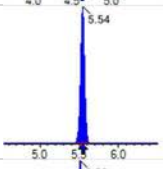
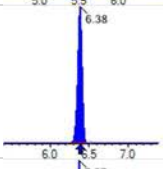
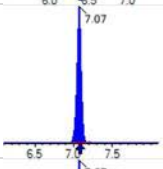
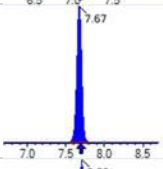
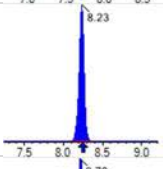
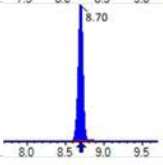
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 135665 (241.0 / 117.0) 227266	(4.10 , 0.89) (N/A , 0.01 , 0.0)	1756.6 1202.6	1.6752 99.5 95.5	16.2968 [20.0000]	81.5%			
5:3FTCA	(341.0 / 236.7) 1221955 (341.0 / 217.0) 2202524	(6.11 , 1.10) (N/A , 0.02 , 0.0)	1313.7 1779.5	1.8025 100.5 105.0	17.4415 [20.0000]	87.2%			
7:3FTCA	(441.0 / 317.0) 1456697 (441.0 / 337.0) 1130321	(7.94 , 1.43) (N/A , 0.03 , 0.1)	1076.5 865.3	0.7759 92.5 95.1	18.5989 [20.0000]	93.0%			
PFEESA	(315.0 / 135.0) 3343812 (315.0 / 83.0) 994823	(5.98 , 1.08) (N/A , 0.02 , 0.1)	2197.5 1301.2	0.2975 97.5 95.7	8.3664 [8.9246]	93.7%			
PFMPA	(229.0 / 85.0) 460980	(3.94 , 0.86) (N/A , 0.01 , 0.0)	3665.2	N/A 0.0 0.0	8.5442 [10.0000]	85.4%			
PFMBA	(279.0 / 85.0) 2020032	(4.92 , 1.07) (N/A , 0.01 , 0.0)	2194.1	N/A 0.0 0.0	7.8934 [10.0000]	78.9%			
NFDHA	(295.0 / 201.0) 2039933 (295.0 / 85.0) 2004962	(5.45 , 0.98) (N/A , 0.01 , 0.0)	2186.5 1978.6	0.9829 98.7 99.2	9.2529 [10.0000]	92.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 139128	(3.55 , N/A) (N/A , 0.01 , N/A)	1590.5	N/A	1.1285 [1.0000]	112.8% { 99.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 434205	(5.54 , N/A) (N/A , 0.01 , N/A)	1340.6	N/A	1.0081 [1.0000]	100.8% { 107.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 341931	(7.07 , N/A) (N/A , 0.02 , N/A)	1094.6	N/A	1.0475 [1.0000]	104.8% { 99.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 299464	(7.67 , N/A) (N/A , 0.02 , N/A)	886.0	N/A	1.1805 [1.0000]	118.1% { 113.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

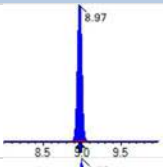
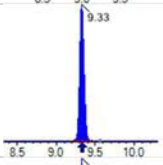
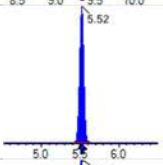
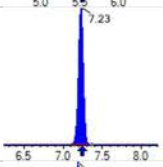
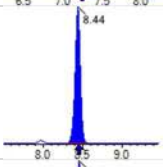
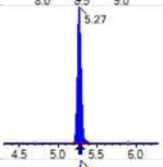
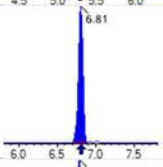
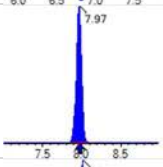
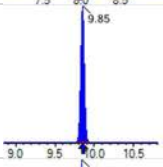
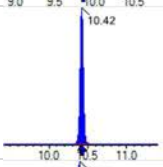
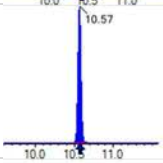
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 377458	(8.23 , N/A) (N/A , 0.02 , N/A)	752.3	N/A	1.2082 [1.0000]	120.8% { 111.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 690434	(7.23 , N/A) (N/A , 0.02 , N/A)	1199.1	N/A	1.0980 [1.0000]	109.8% { 98.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 758221	(8.45 , N/A) (N/A , 0.03 , N/A)	1331.2	N/A	1.1188 [1.0000]	111.9% { 93.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1228634	(3.54 , N/A) (N/A , 0.01 , N/A)	3760.4	N/A	7.4745 [8.0000]	93.4% { 98.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1346268	(4.61 , N/A) (N/A , 0.01 , N/A)	3105.5	N/A	4.2832 [4.0000]	107.1% { 102.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 872602	(5.54 , N/A) (N/A , 0.01 , N/A)	1620.1	N/A	1.8826 [2.0000]	94.1% { 97.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 744540	(6.38 , N/A) (N/A , 0.02 , N/A)	1650.2	N/A	1.9015 [2.0000]	95.1% { 95.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 786392	(7.07 , N/A) (N/A , 0.02 , N/A)	1204.6	N/A	2.1126 [2.0000]	105.6% { 110.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 298916	(7.67 , N/A) (N/A , 0.02 , N/A)	1181.0	N/A	0.9421 [1.0000]	94.2% { 114.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 455244	(8.23 , N/A) (N/A , 0.03 , N/A)	803.1	N/A	0.9819 [1.0000]	98.2% { 120.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 527022	(8.70 , N/A) (N/A , 0.02 , N/A)	955.7	N/A	0.8327 [1.0000]	83.3% { 104.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

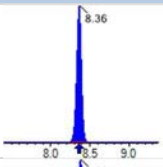
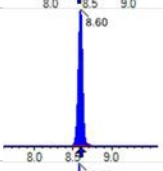
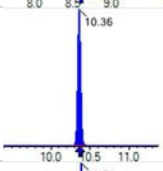
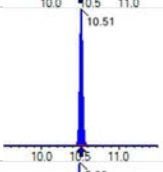
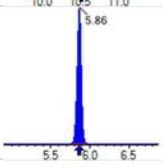
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 584900	(8.97 , N/A) (N/A , 0.01 , N/A)	1041.1	N/A	0.8945 [1.0000]	89.4% { 102.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 424360	(9.33 , N/A) (N/A , 0.01 , N/A)	981.5	N/A	0.8993 [1.0000]	89.9% { 92.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2722630	(5.52 , N/A) (N/A , 0.01 , N/A)	2599.8	N/A	2.0601 [2.0000]	103.0% { 114.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1223903	(7.23 , N/A) (N/A , 0.02 , N/A)	1073.8	N/A	1.8910 [2.0000]	94.5% { 95.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2050114	(8.44 , N/A) (N/A , 0.02 , N/A)	903.5	N/A	2.0249 [2.0000]	101.2% { 105.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 253571	(5.27 , N/A) (N/A , 0.01 , N/A)	1108.6	N/A	3.5159 [4.0000]	87.9% { 95.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 268423	(6.81 , N/A) (N/A , 0.02 , N/A)	640.0	N/A	3.7204 [4.0000]	93.0% { 102.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 334351	(7.97 , N/A) (N/A , 0.02 , N/A)	1050.5	N/A	3.8336 [4.0000]	95.8% { 104.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 4057323	(9.85 , N/A) (N/A , 0.01 , N/A)	2345.7	N/A	2.1176 [2.0000]	105.9% { 107.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1161304	(10.42 , N/A) (N/A , 0.01 , N/A)	2501.7	N/A	2.0229 [2.0000]	101.1% { 101.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1104506	(10.57 , N/A) (N/A , 0.01 , N/A)	2966.6	N/A	2.1040 [2.0000]	105.2% { 101.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (32)
Acquired: 2023/02/10 - 04:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1045133	(8.36 , N/A) (N/A , 0.03 , N/A)	1708.3	N/A	4.2999 [4.0000]	107.5% { 99.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 871333	(8.60 , N/A) (N/A , 0.03 , N/A)	7250.6	N/A	4.0036 [4.0000]	100.1% { 119.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4492170	(10.36 , N/A) (N/A , 0.01 , N/A)	2438.7	N/A	21.3729 [20.0000]	106.9% { 103.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6193648	(10.51 , N/A) (N/A , 0.01 , N/A)	1741.4	N/A	22.6645 [20.0000]	113.3% { 102.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2532506	(5.86 , N/A) (N/A , 0.02 , N/A)	2091.1	N/A	8.4103 [8.0000]	105.1% { 99.4% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV4	PFBA	20.0	16.7	83.7	ng/mL	+/- 30.00%
	PFPEA	10.0	8.77	87.7	ng/mL	+/- 30.00%
	PFHXA	5.00	4.56	91.2	ng/mL	+/- 30.00%
	PFHPA	5.00	3.86	77.1	ng/mL	+/- 30.00%
	PFOA	5.00	3.77	75.5	ng/mL	+/- 30.00%
	PFNA	5.00	3.81	76.2	ng/mL	+/- 30.00%
	PFDA	5.00	4.20	84.0	ng/mL	+/- 30.00%
	PFUnA	5.00	3.98	79.5	ng/mL	+/- 30.00%
	PFDOA	5.00	4.80	95.9	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.59	91.8	ng/mL	+/- 30.00%
	PFTEDA	5.00	3.61	72.2	ng/mL	+/- 30.00%
	PFBS	4.42	4.44	100	ng/mL	+/- 30.00%
	PFPES	4.70	4.35	92.6	ng/mL	+/- 30.00%
	PFHXS	4.58	3.90	85.1	ng/mL	+/- 30.00%
	PFHPS	4.78	4.17	87.1	ng/mL	+/- 30.00%
	PFOS	4.65	3.92	84.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.30	89.6	ng/mL	+/- 30.00%
	PFDS	4.82	4.32	89.6	ng/mL	+/- 30.00%
	PFDOS	4.85	4.51	93.1	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.2	86.2	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.8	93.8	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.7	91.9	ng/mL	+/- 30.00%
	PFOSA	5.00	4.45	89.0	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.0	90.0	ng/mL	+/- 30.00%
	NEtFOSA	20.0	18.2	90.8	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	3.98	79.6	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.22	84.4	ng/mL	+/- 30.00%
	NMeFOSE	20.0	17.1	85.7	ng/mL	+/- 30.00%
	NEtFOSE	20.0	17.3	86.7	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.11	91.1	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0060
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2306010
Standard ID:	23B0084	Sequence:	SC00598

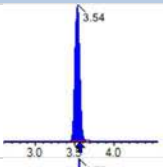
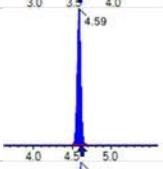
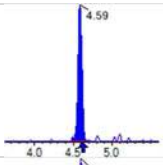
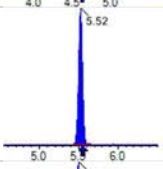
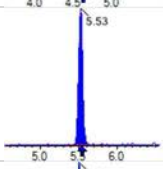
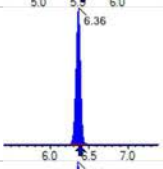
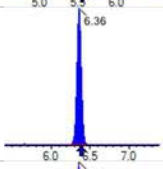
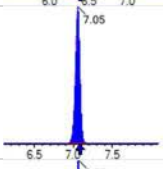
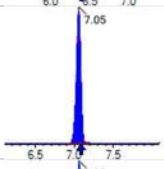
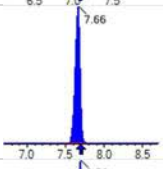
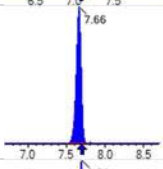
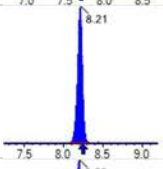
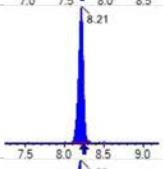
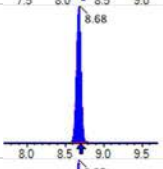
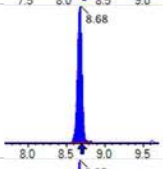
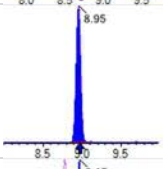
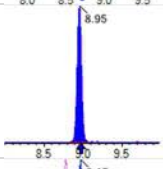
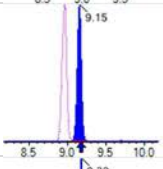
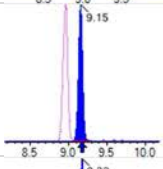
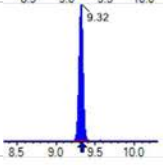
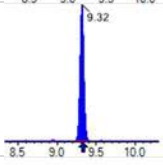
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00598-CCV4	ADONA	9.45	8.25	87.3	ng/mL	+/- 30.00%
	PFEESA	8.90	7.59	85.3	ng/mL	+/- 30.00%
	PFMPA	10.0	8.53	85.3	ng/mL	+/- 30.00%
	PFMBA	10.0	7.96	79.6	ng/mL	+/- 30.00%
	NFDHA	10.0	8.79	87.9	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.73	93.3	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.17	86.4	ng/mL	+/- 30.00%
	3:3FTCA	20.0	17.0	85.2	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.2	86.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.0	84.9	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

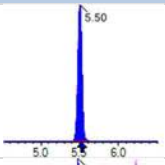
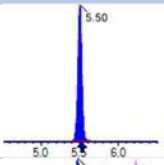
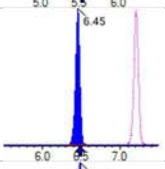
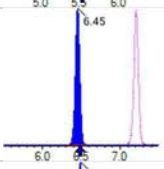
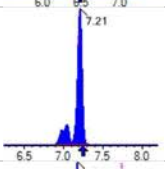
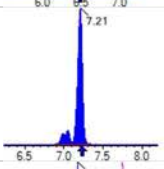
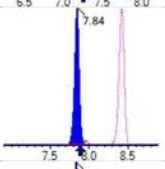
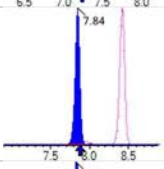
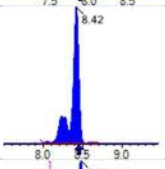
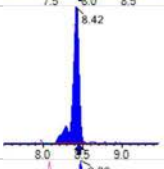
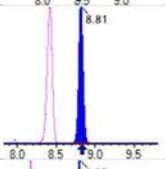
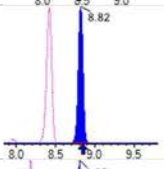
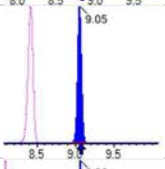
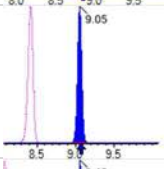
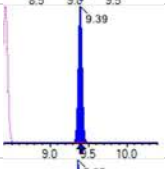
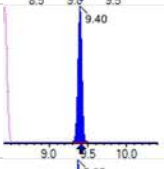
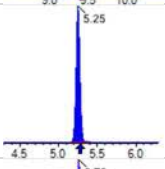
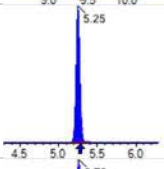
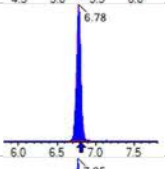
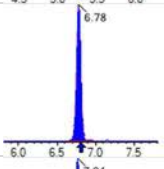
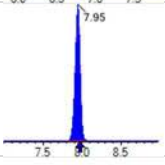
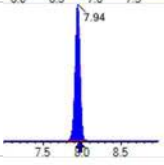
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2079003	(3.54 , 1.00) (0.00 , N/A , 0.0)	218.3	N/A 0.0 0.0	16.7400 [20.0000]	83.7%			
PFPeA	(263.0 / 219.0) 2387310 (263.0 / 69.0) 21574	(4.59 , 1.00) (0.00 , N/A , 0.1)	2608.1 340.5	0.0090 61.6 76.8	8.7654 [10.0000]	87.7%			
PFHxA	(313.0 / 269.0) 1712144 (313.0 / 119.0) 168377	(5.52 , 1.00) (0.00 , N/A , -0.1)	1228.1 3676.1	0.0983 86.7 105.2	4.5583 [5.0000]	91.2%			
PFHpA	(363.0 / 319.0) 1449965 (363.0 / 169.0) 436909	(6.36 , 1.00) (0.00 , N/A , 0.2)	3903.6 8944459.2	0.3013 95.8 87.7	3.8560 [5.0000]	77.1%			
PFOA	(413.0 / 369.0) 1349213 (413.0 / 169.0) 433010	(7.05 , 1.00) (0.00 , N/A , 0.1)	5760.5 7043.5	0.3209 95.9 101.1	3.7727 [5.0000]	75.5%			
PFNA	(463.0 / 419.0) 1060839 (463.0 / 169.0) 254660	(7.66 , 1.00) (0.00 , N/A , 0.0)	9340.8 1774643.6	0.2401 105.2 105.4	3.8112 [5.0000]	76.2%			
PFDA	(513.0 / 469.0) 1611141 (513.0 / 169.0) 174657	(8.21 , 1.00) (0.00 , N/A , 0.0)	1541.7 521.2	0.1084 98.2 120.0	4.1999 [5.0000]	84.0%			
PFUnA	(563.0 / 519.0) 1935421 (563.0 / 169.0) 176822	(8.68 , 1.00) (0.00 , N/A , 0.0)	1350.1 703.6	0.0914 89.2 92.6	3.9765 [5.0000]	79.5%			
PFDoA	(613.0 / 569.0) 2062446 (613.0 / 169.0) 243041	(8.95 , 1.00) (0.00 , N/A , 0.1)	1282.7 798.6	0.1178 82.2 97.6	4.7973 [5.0000]	95.9%			
PFTrDA	(663.0 / 619.0) 1648056 (663.0 / 169.0) 349379	(9.15 , 1.02) (N/A , 0.00 , -0.1)	1237.3 899.3	0.2120 93.1 104.1	4.5887 [5.0000]	91.8%			
PFTeDA	(713.0 / 669.0) 1446322 (713.0 / 169.0) 326491	(9.32 , 1.00) (0.00 , N/A , 0.1)	1839.9 938.6	0.2257 109.9 130.0	3.6123 [5.0000]	72.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

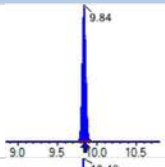
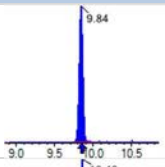
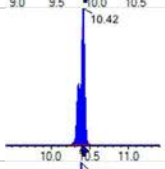
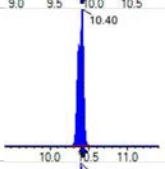
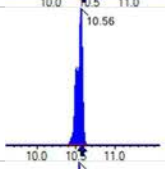
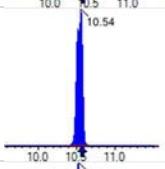
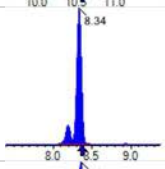
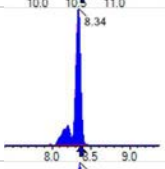
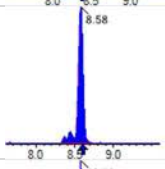
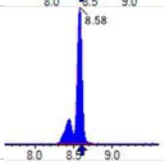
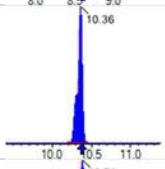
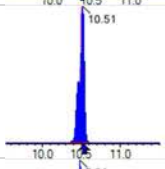
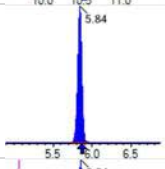
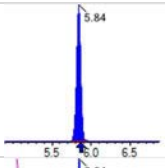
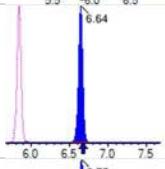
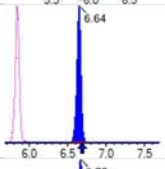
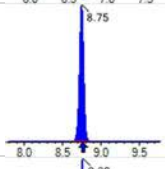
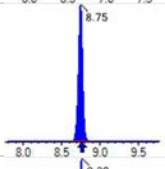
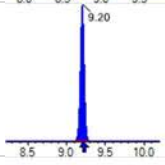
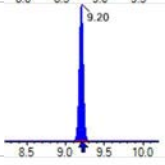
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2541640 (299.0 / 99.0) 1554902	(5.50 , 1.00) (0.00 , N/A , 0.1)	2424.2 2048.8	0.6118 105.5 96.4	4.4362 [4.4237]	100.3%			
PFPeS	(349.0 / 80.0) 4516193 (349.0 / 99.0) 1672141	(6.45 , 0.90) (N/A , -0.01 , 0.1)	30882.6 30860.8	0.3703 108.1 111.0	4.3510 [4.6919]	92.7%			
PFHxS	(399.0 / 80.0) 3047351 (399.0 / 99.0) 1136544	(7.21 , 1.00) (0.00 , N/A , 0.1)	4263.1 1766.2	0.3730 118.4 108.6	3.8961 [4.5549]	85.5%			
PFHpS	(449.0 / 80.0) 3260025 (449.0 / 99.0) 835783	(7.84 , 0.93) (N/A , 0.00 , -0.2)	137801.2 1718.2	0.2564 96.5 88.7	4.1654 [4.7570]	87.6%			
PFOS	(499.0 / 80.0) 4047887 (499.0 / 99.0) 847915	(8.42 , 1.00) (0.00 , N/A , -0.1)	1183.4 477.6	0.2095 94.2 95.0	3.9226 [4.6375]	84.6%			
PFNS	(549.0 / 80.0) 5203941 (549.0 / 99.0) 1138881	(8.81 , 1.05) (N/A , 0.00 , -0.2)	6215.6 11758.1	0.2188 90.2 97.7	4.3026 [4.7994]	89.6%			
PFDS	(599.0 / 80.0) 6878834 (599.0 / 99.0) 1499061	(9.05 , 1.08) (N/A , 0.00 , -0.1)	2456.8 1257.0	0.2179 107.7 104.3	4.3177 [4.8155]	89.7%			
PFDoS	(699.0 / 80.0) 5559802 (699.0 / 99.0) 945308	(9.39 , 1.12) (N/A , 0.00 , -0.1)	1658.1 1238.6	0.1700 83.4 89.8	4.5134 [4.8478]	93.1%			
4:2FTS	(327.0 / 307.0) 2735304 (327.0 / 81.0) 1682008	(5.25 , 1.00) (0.00 , N/A , 0.0)	2192.3 2236.2	0.6149 107.3 101.2	16.2065 [18.6906]	86.7%			
6:2FTS	(427.0 / 407.0) 1422405 (427.0 / 81.0) 1161630	(6.78 , 1.00) (0.00 , N/A , 0.0)	1098.4 844.6	0.8167 107.2 113.1	17.8153 [18.9808]	93.9%			
8:2FTS	(527.0 / 507.0) 1680679 (527.0 / 81.0) 1210397	(7.95 , 1.00) (0.00 , N/A , 0.1)	1059.7 1577.9	0.7202 110.5 88.8	17.6523 [19.1658]	92.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

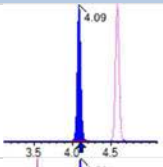
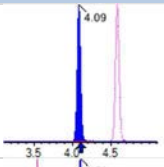
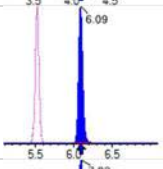
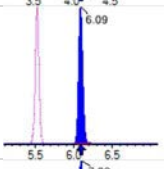
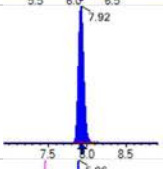
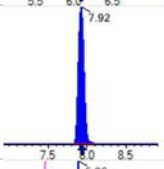
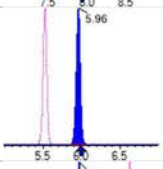
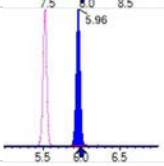
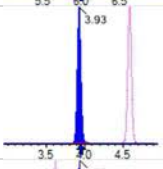
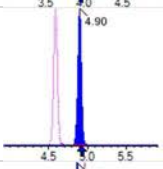
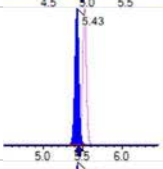
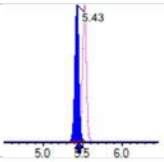
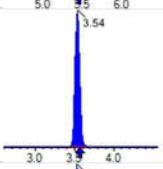
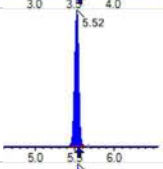
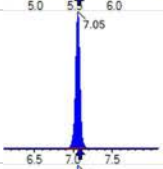
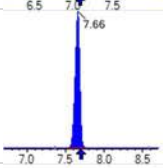
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7948650 (498.0 / 478.0) 136272	(9.84 , 1.00) (0.00 , N/A , -0.1)	1876.1 578.6	0.0171 81.9 78.9	4.4515 [5.0000]	89.0%			
NMeFOSA	(512.0 / 219.0) 7942003 (512.0 / 169.0) 6484750	(10.42 , 1.00) (0.00 , N/A , 0.9)	3198.4 4525.1	0.8165 99.4 100.3	18.0043 [20.0000]	90.0%			
NEtFOSA	(526.0 / 219.0) 9561078 (526.0 / 169.0) 12234405	(10.56 , 1.00) (0.00 , N/A , 0.9)	11484.8 18534.3	1.2796 102.1 98.5	18.1554 [20.0000]	90.8%			
NMeFOSAA	(570.0 / 419.0) 735412 (570.0 / 483.0) 396196	(8.34 , 1.00) (0.00 , N/A , -0.1)	1342.0 5683.0	0.5387 99.3 107.9	3.9779 [5.0000]	79.6%			
NEtFOSAA	(584.0 / 419.0) 684608 (584.0 / 526.0) 429308	(8.58 , 1.00) (0.01 , N/A , 0.1)	951.1 926.1	0.6271 93.1 102.4	4.2220 [5.0000]	84.4%			
NMeFOSE	(616.0 / 59.0) 3760261	(10.36 , 1.00) (0.01 , N/A , 0.0)	2191.6	N/A 0.0 0.0	17.1466 [20.0000]	85.7%			
NEtFOSE	(630.0 / 59.0) 5206418	(10.51 , 1.00) (0.01 , N/A , 0.0)	1382.9	N/A 0.0 0.0	17.3371 [20.0000]	86.7%			
HFPO-DA	(285.0 / 169.0) 1671955 (285.0 / 185.0) 4646064	(5.84 , 1.00) (0.00 , N/A , 0.1)	1913.5 2905.6	2.7788 98.0 94.3	9.1115 [10.0000]	91.1%			
ADONA	(377.0 / 85.0) 5415300 (377.0 / 251.0) 589386	(6.64 , 1.14) (N/A , -0.01 , -0.1)	2278.4 1054.5	0.1088 101.7 97.4	8.2521 [9.4270]	87.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 15976405 (533.0 / 353.0) 4966178	(8.75 , 1.50) (N/A , 0.00 , 0.0)	1625.3 1354.0	0.3108 99.6 101.2	8.7257 [9.3325]	93.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 11881124 (633.0 / 453.0) 3738462	(9.20 , 1.58) (N/A , 0.00 , 0.0)	1254.5 1445.8	0.3147 99.1 103.6	8.1687 [9.4321]	86.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

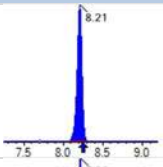
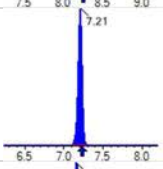
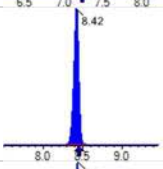
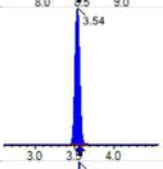
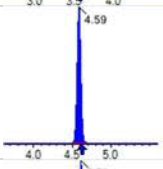
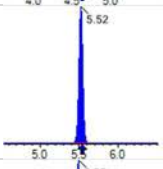
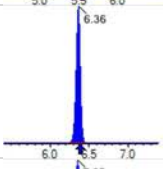
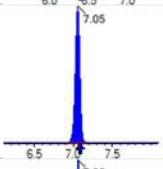
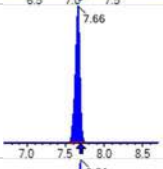
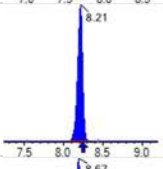
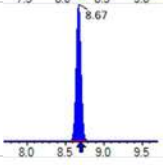
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 137226 (241.0 / 117.0) 225141	(4.09 , 0.89) (N/A , 0.00 , 0.1)	1641.1 1320.3	1.6407 97.4 93.5	17.0367 [20.0000]	85.2%			
5:3FTCA	(341.0 / 236.7) 1162338 (341.0 / 217.0) 2061160	(6.09 , 1.10) (N/A , 0.00 , 0.0)	1521.3 1362.8	1.7733 98.9 103.3	17.2231 [20.0000]	86.1%			
7:3FTCA	(441.0 / 317.0) 1281523 (441.0 / 337.0) 1156031	(7.92 , 1.43) (N/A , 0.00 , -0.1)	1126.3 1186.7	0.9021 107.5 110.5	16.9861 [20.0000]	84.9%			
PFEESA	(315.0 / 135.0) 2921757 (315.0 / 83.0) 900795	(5.96 , 1.08) (N/A , -0.01 , 0.1)	3035.0 1205.5	0.3083 101.0 99.1	7.5891 [8.9246]	85.0%			
PFMPA	(229.0 / 85.0) 445504	(3.93 , 0.86) (N/A , 0.00 , 0.0)	3394.2	N/A 0.0 0.0	8.5341 [10.0000]	85.3%			
PFMBA	(279.0 / 85.0) 1972211	(4.90 , 1.07) (N/A , -0.01 , 0.0)	2204.5	N/A 0.0 0.0	7.9648 [10.0000]	79.6%			
NFDHA	(295.0 / 201.0) 1866892 (295.0 / 85.0) 1826559	(5.43 , 0.98) (N/A , -0.01 , 0.0)	2521.2 3438.7	0.9784 98.2 98.7	8.7909 [10.0000]	87.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 137367	(3.54 , N/A) (N/A , 0.00 , N/A)	1297.0	N/A	1.1142 [1.0000]	111.4% { 98.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 426765	(5.52 , N/A) (N/A , -0.01 , N/A)	3666.9	N/A	0.9908 [1.0000]	99.1% { 105.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 331897	(7.05 , N/A) (N/A , 0.00 , N/A)	1290.6	N/A	1.0168 [1.0000]	101.7% { 96.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 260838	(7.66 , N/A) (N/A , 0.00 , N/A)	1022.8	N/A	1.0283 [1.0000]	102.8% { 98.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

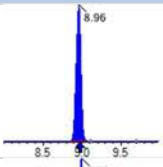
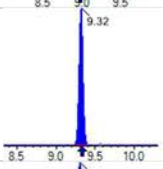
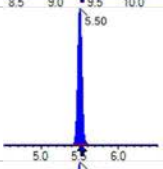
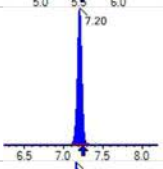
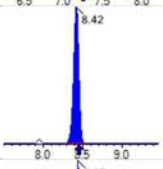
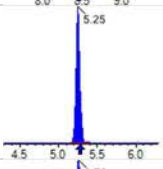
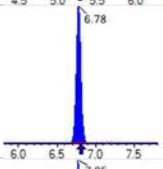
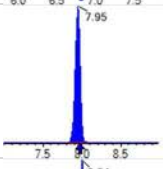
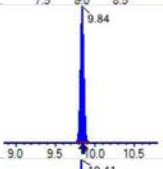
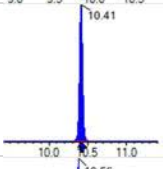
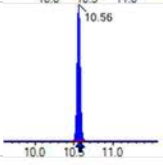
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 342238	(8.21 , N/A) (N/A , 0.00 , N/A)	3353.9	N/A	1.0955 [1.0000]	109.5% { 100.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 635085	(7.21 , N/A) (N/A , 0.00 , N/A)	1231.7	N/A	1.0100 [1.0000]	101.0% { 90.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 817374	(8.42 , N/A) (N/A , 0.00 , N/A)	1555.9	N/A	1.2061 [1.0000]	120.6% { 100.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1210466	(3.54 , N/A) (N/A , 0.00 , N/A)	3846.4	N/A	7.4584 [8.0000]	93.2% { 97.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1302616	(4.59 , N/A) (N/A , -0.01 , N/A)	2377.8	N/A	4.2166 [4.0000]	105.4% { 99.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 840558	(5.52 , N/A) (N/A , -0.01 , N/A)	1226.7	N/A	1.8451 [2.0000]	92.3% { 93.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 775815	(6.36 , N/A) (N/A , 0.00 , N/A)	1385.2	N/A	2.0159 [2.0000]	100.8% { 99.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 704447	(7.05 , N/A) (N/A , 0.00 , N/A)	1110.8	N/A	1.9497 [2.0000]	97.5% { 98.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 295942	(7.66 , N/A) (N/A , 0.00 , N/A)	4620.1	N/A	1.0708 [1.0000]	107.1% { 113.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 413413	(8.21 , N/A) (N/A , 0.00 , N/A)	1098.4	N/A	0.9835 [1.0000]	98.3% { 109.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 589997	(8.67 , N/A) (N/A , 0.00 , N/A)	876.8	N/A	1.0281 [1.0000]	102.8% { 117.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

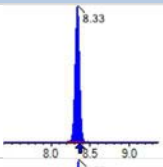
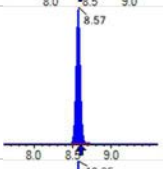
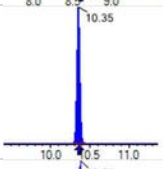
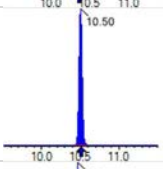
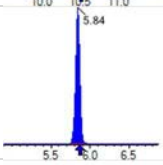
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 499071	(8.96 , N/A) (N/A , 0.00 , N/A)	926.0	N/A	0.8418 [1.0000]	84.2% { 87.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 439938	(9.32 , N/A) (N/A , 0.00 , N/A)	1358.6	N/A	1.0282 [1.0000]	102.8% { 96.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2030968	(5.50 , N/A) (N/A , -0.01 , N/A)	1776.2	N/A	1.6707 [2.0000]	83.5% { 85.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1060854	(7.20 , N/A) (N/A , -0.01 , N/A)	988.5	N/A	1.7819 [2.0000]	89.1% { 82.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1902917	(8.42 , N/A) (N/A , 0.00 , N/A)	985.0	N/A	1.7435 [2.0000]	87.2% { 98.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 235370	(5.25 , N/A) (N/A , -0.01 , N/A)	1292.5	N/A	3.5480 [4.0000]	88.7% { 88.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 231072	(6.78 , N/A) (N/A , -0.01 , N/A)	1018.0	N/A	3.4819 [4.0000]	87.0% { 88.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 317430	(7.95 , N/A) (N/A , 0.00 , N/A)	859.5	N/A	3.9568 [4.0000]	98.9% { 98.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3693093	(9.84 , N/A) (N/A , 0.01 , N/A)	1891.0	N/A	1.7880 [2.0000]	89.4% { 97.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1115323	(10.41 , N/A) (N/A , 0.01 , N/A)	1963.7	N/A	1.8022 [2.0000]	90.1% { 97.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1102564	(10.56 , N/A) (N/A , 0.01 , N/A)	2686.8	N/A	1.9483 [2.0000]	97.4% { 101.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (55)
Acquired: 2023/02/10 - 09:39

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) 946063	(8.33 , N/A) (N/A , 0.00 , N/A)	1273.9	N/A	3.6106 [4.0000]	90.3% { 89.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 807345	(8.57 , N/A) (N/A , 0.00 , N/A)	2128.2	N/A	3.4411 [4.0000]	86.0% { 110.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4232116	(10.35 , N/A) (N/A , 0.01 , N/A)	2127.8	N/A	18.6784 [20.0000]	93.4% { 97.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6196685	(10.50 , N/A) (N/A , 0.01 , N/A)	2059.8	N/A	21.0346 [20.0000]	105.2% { 102.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2340903	(5.84 , N/A) (N/A , -0.01 , N/A)	1669.2	N/A	7.9095 [8.0000]	98.9% { 91.8% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00597
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00597-ICB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0137	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	0.0154	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.106	ng/mL	0.40	U
	NEtFOSE	0.124	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:	SC00597	Instrument:	Saphira
Calibration:	2306010		

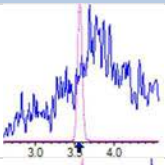
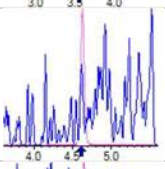
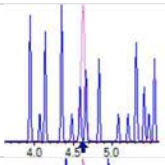
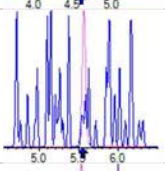
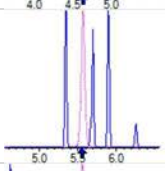
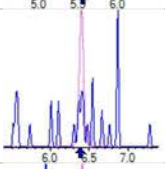
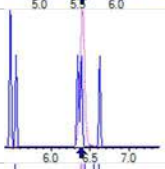
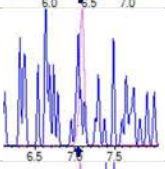
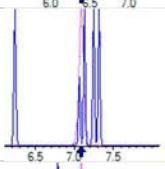
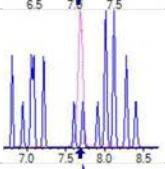
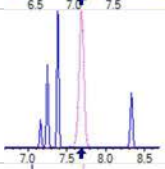
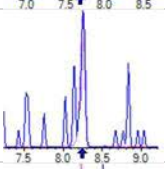
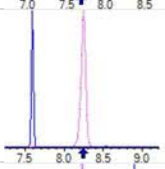
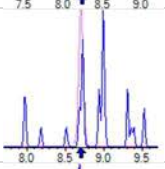
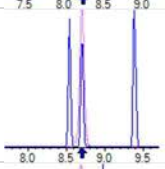
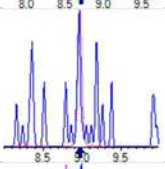
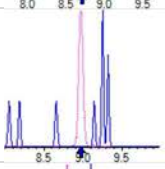
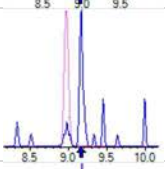
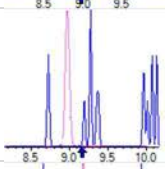
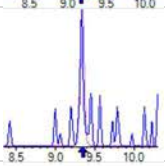
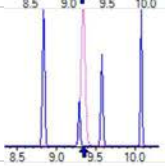
Lab Sample ID	Analyte	Found	Units	RL	C
SC00597-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.0994	ng/mL	0.40	U
	13C4-PFBA	6.95	ng/mL		
	13C5-PFPEA	3.52	ng/mL		
	13C5-PFHXA	1.94	ng/mL		
	13C4-PFHPA	1.79	ng/mL		
	13C8-PFOA	1.56	ng/mL		
	13C9-PFNA	0.982	ng/mL		
	13C6-PFDA	0.916	ng/mL		
	13C7-PFUnA	0.878	ng/mL		
	13C2-PFDOA	0.864	ng/mL		
	13C2-PFTEDA	0.903	ng/mL		
	13C3-PFBS	1.76	ng/mL		
	13C3-PFHXS	1.62	ng/mL		
	13C8-PFOS	1.78	ng/mL		
	13C2-4:2FTS	3.23	ng/mL		
	13C2-6:2FTS	2.97	ng/mL		
	13C2-8:2FTS	3.57	ng/mL		
	13C8-PFOSA	1.98	ng/mL		
	D3-NMEFOSA	1.85	ng/mL		
	D5-NETFOSA	2.03	ng/mL		
	D3-NMEFOSAA	3.75	ng/mL		
	D5-NETFOSAA	3.70	ng/mL		
	D7-NMEFOSE	19.3	ng/mL		
	D9-NETFOSE	21.8	ng/mL		
	13C3-HFPO-DA	7.06	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

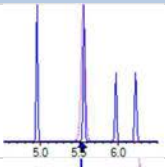
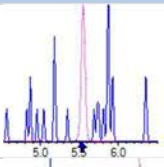
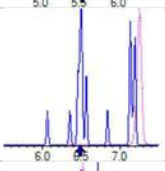
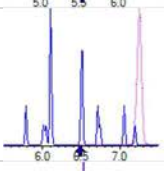
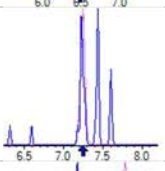
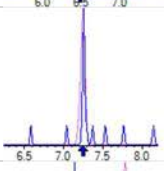
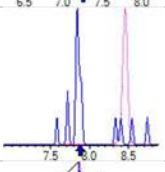
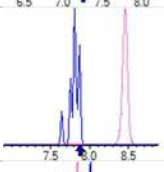
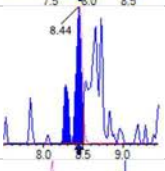
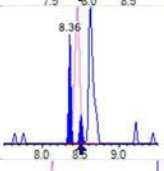
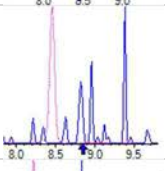
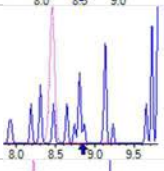
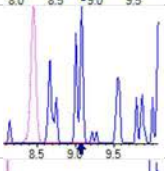
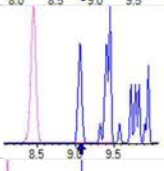
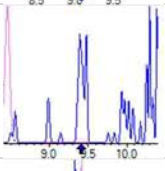
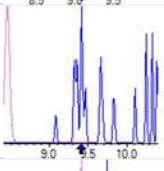
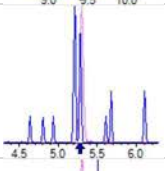
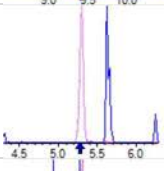
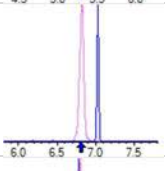
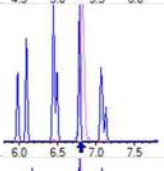
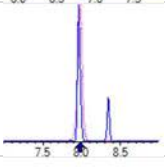
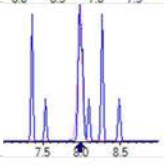
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

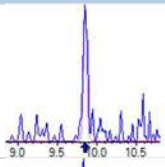
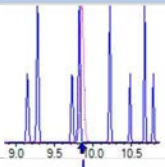
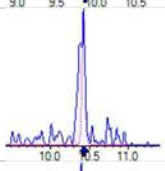
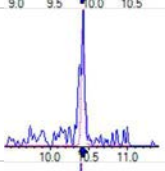
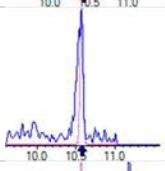
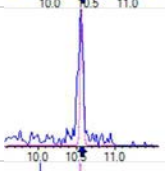
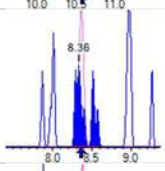
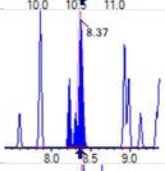
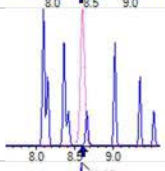
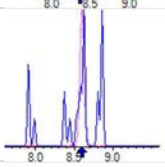
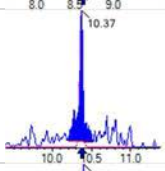
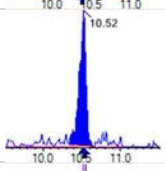
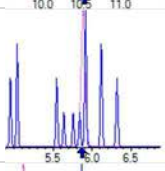
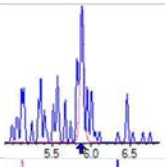
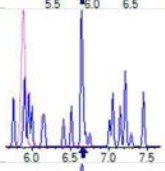
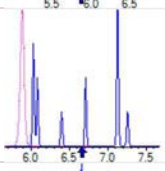
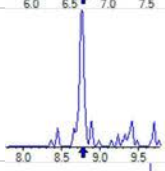
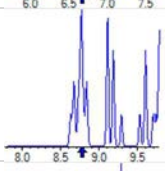
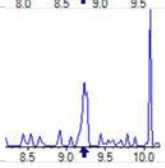
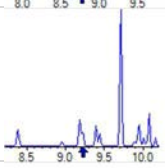
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	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) 12113 (499.0 / 99.0) 3603	(8.44 , 1.00) (-0.01 , N/A , 5.1)	29.1 40.2	0.2974 133.8 133.8	0.0137	N/A			MI2 DG 2023-02-09
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.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

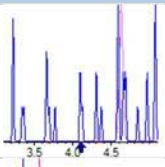
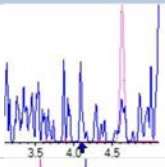
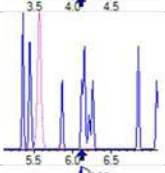
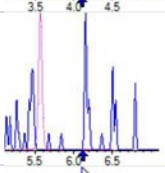
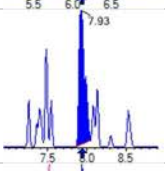
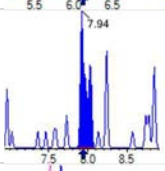
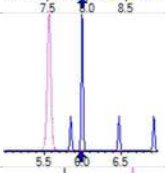
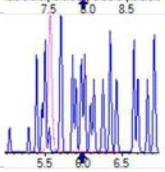
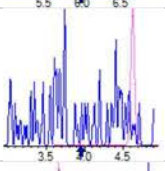
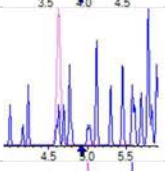
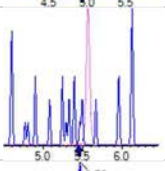
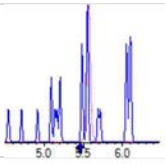
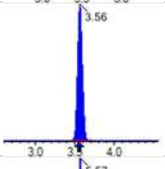
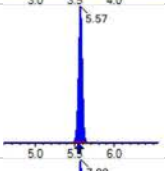
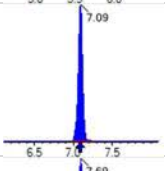
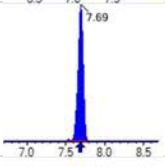
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 2485 (570.0 / 483.0) 2179	(8.36 , 1.00) (0.00 , N/A , -0.1)	223.1 353.5	0.8770 161.6 161.6	0.0154	N/A			IR2,
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) 20238	(10.37 , 1.00) (0.01 , N/A , 0.0)	52.0	N/A 0.0 0.0	0.1062	N/A			
NEtFOSE	(630.0 / 59.0) 32346	(10.52 , 1.00) (0.00 , N/A , 0.0)	70.2	N/A 0.0 0.0	0.1237	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: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

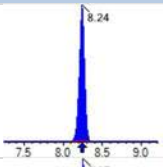
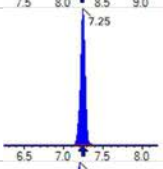
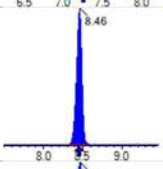
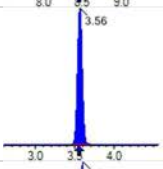
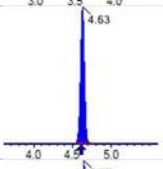
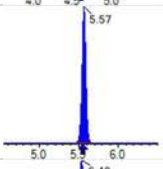
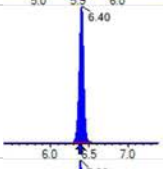
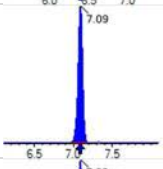
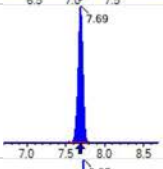
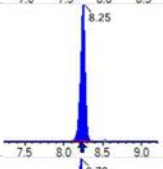
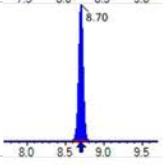
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) 7865 (441.0 / 337.0) 6010	(7.93 , 1.42) (N/A , -0.01 , -0.7)	21.3 18.0	0.7641 91.0 91.0	0.0994	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) 131457	(3.56 , N/A) (N/A , 0.01 , N/A)	1393.2	N/A	1.0662 [1.0000]	106.6% { 105.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 426595	(5.57 , N/A) (N/A , 0.02 , N/A)	1507.6	N/A	0.9904 [1.0000]	99.0% { 92.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 340274	(7.09 , N/A) (N/A , 0.01 , N/A)	2060.7	N/A	1.0425 [1.0000]	104.2% { 96.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 251419	(7.69 , N/A) (N/A , 0.01 , N/A)	4870.3	N/A	0.9911 [1.0000]	99.1% { 107.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

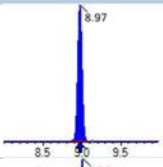
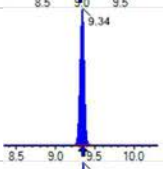
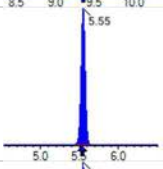
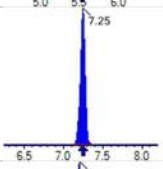
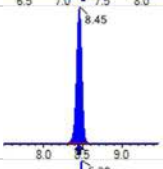
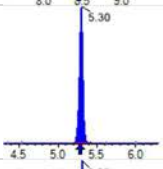
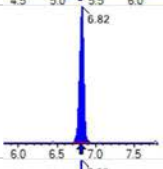
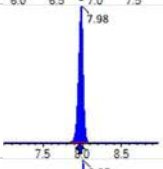
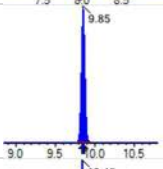
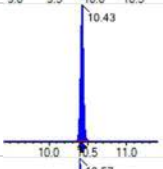
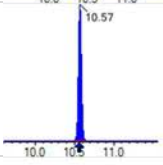
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 334748	(8.24 , N/A) (N/A , 0.00 , N/A)	1815.6	N/A	1.0715 [1.0000]	107.2% { 97.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 662919	(7.25 , N/A) (N/A , 0.01 , N/A)	906.7	N/A	1.0543 [1.0000]	105.4% { 99.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 687023	(8.46 , N/A) (N/A , 0.01 , N/A)	724.8	N/A	1.0138 [1.0000]	101.4% { 87.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1079118	(3.56 , N/A) (N/A , 0.01 , N/A)	4691.3	N/A	6.9480 [8.0000]	86.9% { 89.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1086228	(4.63 , N/A) (N/A , 0.01 , N/A)	2790.8	N/A	3.5175 [4.0000]	87.9% { 85.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 881364	(5.57 , N/A) (N/A , 0.02 , N/A)	1915.9	N/A	1.9355 [2.0000]	96.8% { 88.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 689450	(6.40 , N/A) (N/A , 0.02 , N/A)	1258.5	N/A	1.7922 [2.0000]	89.6% { 90.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 578810	(7.09 , N/A) (N/A , 0.01 , N/A)	818.5	N/A	1.5625 [2.0000]	78.1% { 78.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 261639	(7.69 , N/A) (N/A , 0.01 , N/A)	867.1	N/A	0.9822 [1.0000]	98.2% { 89.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 376449	(8.25 , N/A) (N/A , 0.01 , N/A)	2523.4	N/A	0.9156 [1.0000]	91.6% { 91.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 492985	(8.70 , N/A) (N/A , 0.01 , N/A)	1175.9	N/A	0.8783 [1.0000]	87.8% { 88.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

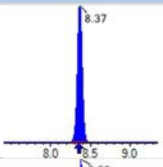
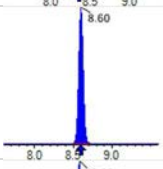
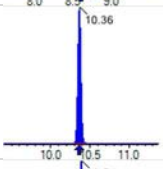
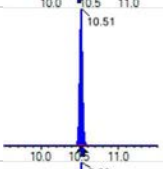
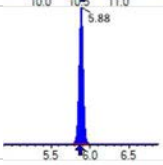
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 501213	(8.97 , N/A) (N/A , 0.01 , N/A)	1684.3	N/A	0.8643 [1.0000]	86.4% { 87.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 377817	(9.34 , N/A) (N/A , 0.00 , N/A)	1412.3	N/A	0.9028 [1.0000]	90.3% { 87.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2234150	(5.55 , N/A) (N/A , 0.02 , N/A)	2470.7	N/A	1.7606 [2.0000]	88.0% { 89.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1005820	(7.25 , N/A) (N/A , 0.01 , N/A)	1126.7	N/A	1.6185 [2.0000]	80.9% { 84.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1628730	(8.45 , N/A) (N/A , 0.01 , N/A)	1606.8	N/A	1.7754 [2.0000]	88.8% { 83.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 223638	(5.30 , N/A) (N/A , 0.02 , N/A)	892.4	N/A	3.2296 [4.0000]	80.7% { 87.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 205533	(6.82 , N/A) (N/A , 0.02 , N/A)	785.3	N/A	2.9670 [4.0000]	74.2% { 84.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 298725	(7.98 , N/A) (N/A , 0.01 , N/A)	1895.8	N/A	3.5673 [4.0000]	89.2% { 104.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3440035	(9.85 , N/A) (N/A , 0.00 , N/A)	2041.8	N/A	1.9815 [2.0000]	99.1% { 94.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 962407	(10.43 , N/A) (N/A , 0.00 , N/A)	2192.2	N/A	1.8501 [2.0000]	92.5% { 89.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 963479	(10.57 , N/A) (N/A , 0.00 , N/A)	3158.8	N/A	2.0256 [2.0000]	101.3% { 95.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00597-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09A (9)
Acquired: 2023/02/09 - 14:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 824973	(8.37 , N/A) (N/A , 0.01 , N/A)	1405.2	N/A	3.7459 [4.0000]	93.6% { 85.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 730503	(8.60 , N/A) (N/A , 0.01 , N/A)	1936.4	N/A	3.7043 [4.0000]	92.6% { 93.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3678107	(10.36 , N/A) (N/A , 0.00 , N/A)	1856.9	N/A	19.3132 [20.0000]	96.6% { 88.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5394854	(10.51 , N/A) (N/A , 0.00 , N/A)	2155.7	N/A	21.7873 [20.0000]	108.9% { 94.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2087793	(5.88 , N/A) (N/A , 0.02 , N/A)	2081.5	N/A	7.0571 [8.0000]	88.2% { 83.2% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00935	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

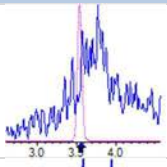
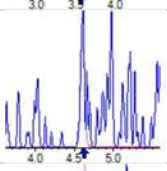
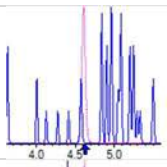
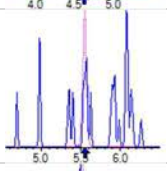
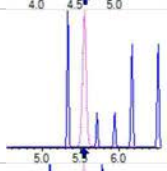
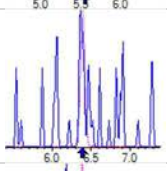
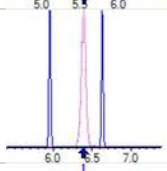
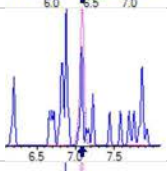
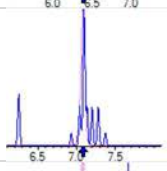
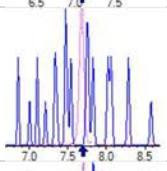
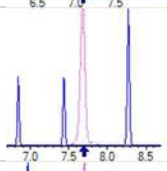
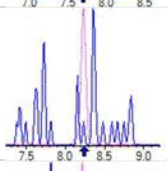
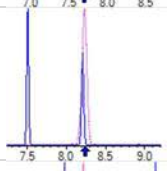
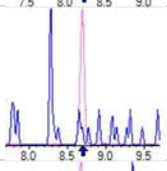
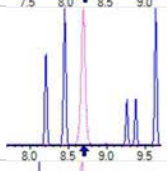
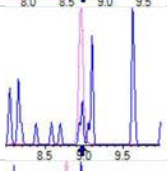
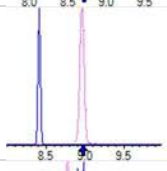
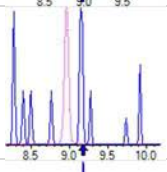
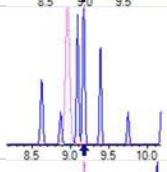
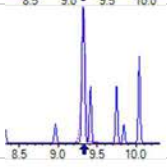
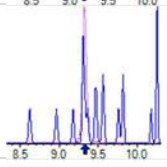
Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	6.91	ng/mL		
	13C5-PFPEA	4.31	ng/mL		
	13C5-PFHXA	2.05	ng/mL		
	13C4-PFHPA	2.02	ng/mL		
	13C8-PFOA	1.73	ng/mL		
	13C9-PFNA	0.881	ng/mL		
	13C6-PFDA	0.834	ng/mL		
	13C7-PFUnA	0.911	ng/mL		
	13C2-PFDOA	0.852	ng/mL		
	13C2-PFTEDA	0.848	ng/mL		
	13C3-PFBS	1.69	ng/mL		
	13C3-PFHXS	1.77	ng/mL		
	13C8-PFOS	1.70	ng/mL		
	13C2-4:2FTS	3.10	ng/mL		
	13C2-6:2FTS	3.29	ng/mL		
	13C2-8:2FTS	3.73	ng/mL		
	13C8-PFOSA	1.93	ng/mL		
	D3-NMEFOSA	1.81	ng/mL		
	D5-NETFOSA	1.98	ng/mL		
	D3-NMEFOSAA	3.51	ng/mL		
	D5-NETFOSAA	3.66	ng/mL		
	D7-NMEFOSE	20.1	ng/mL		
	D9-NETFOSE	20.5	ng/mL		
	13C3-HFPO-DA	8.15	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

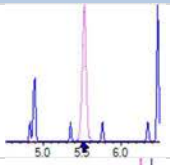
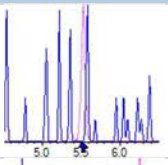
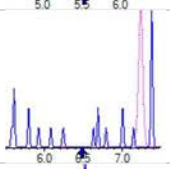
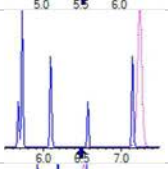
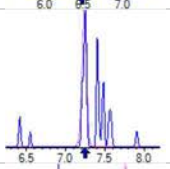
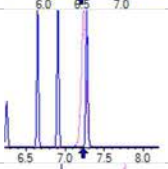
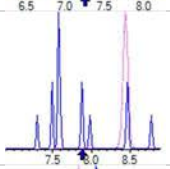
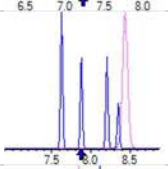
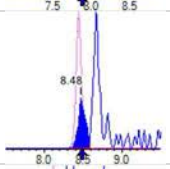
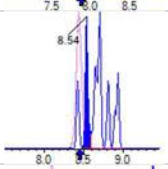
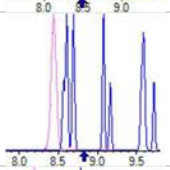
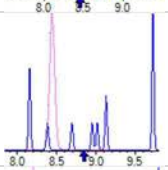
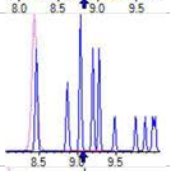
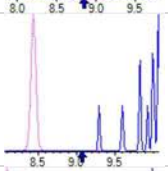
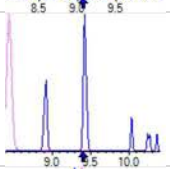
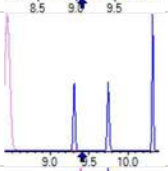
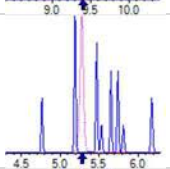
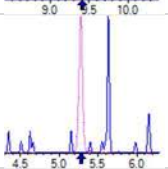
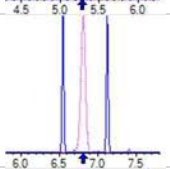
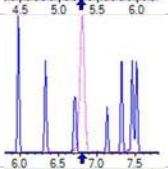
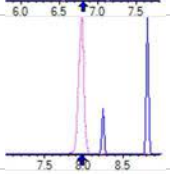
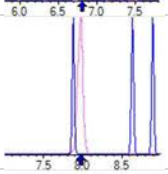
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

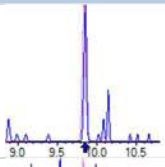
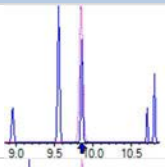
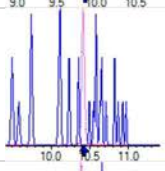
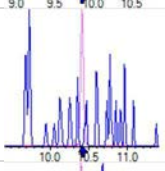
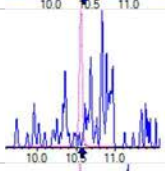
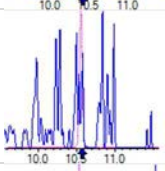
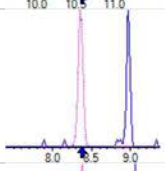
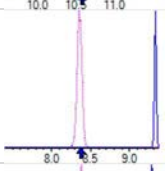
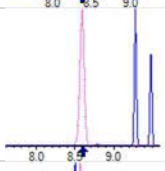
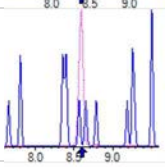
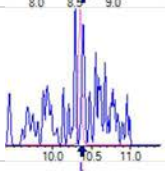
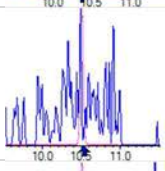
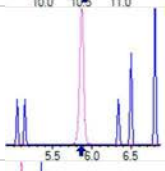
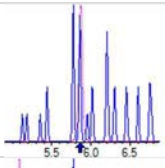
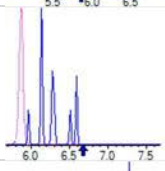
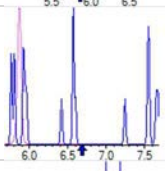
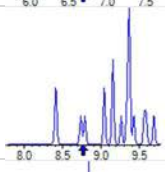
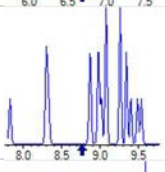
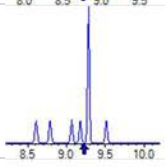
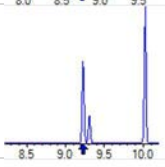
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 9066 (499.0 / 99.0) 2216	(8.48 , 1.00) (0.04 , N/A , -3.4)	17.0 16.3	0.2445 110.0 110.8	0.0093	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

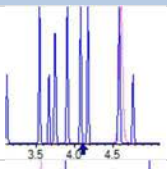
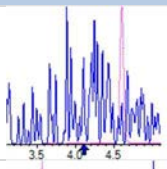
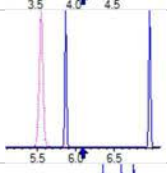
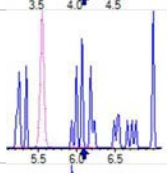
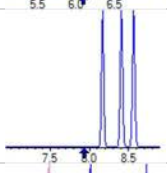
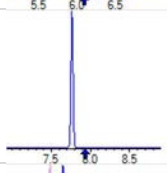
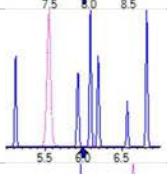
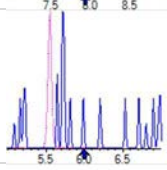
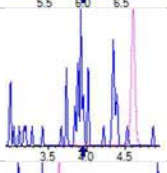
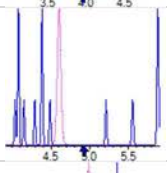
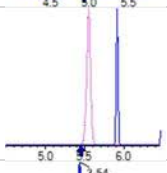
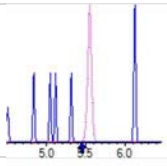
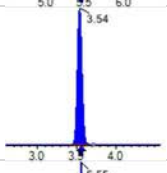
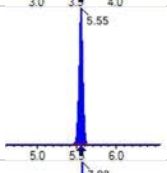
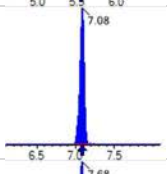
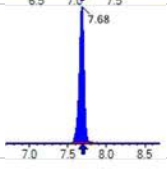
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

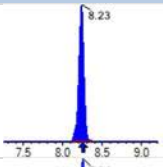
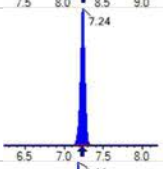
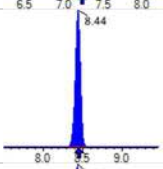
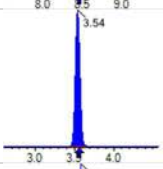
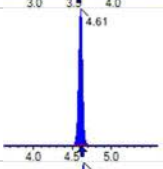
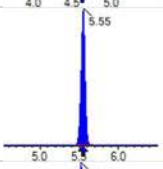
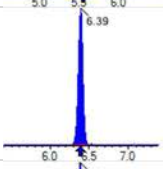
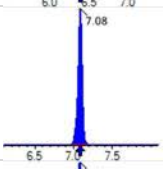
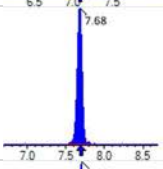
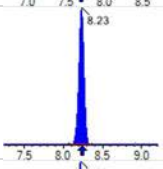
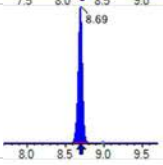
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 148461	(3.54 , N/A) (N/A , 0.00 , N/A)	1413.6	N/A	1.2042 [1.0000]	120.4% { 105.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 407649	(5.55 , N/A) (N/A , 0.02 , N/A)	1653.3	N/A	0.9465 [1.0000]	94.6% { 100.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 347151	(7.08 , N/A) (N/A , 0.03 , N/A)	1078.3	N/A	1.0635 [1.0000]	106.4% { 100.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 272102	(7.68 , N/A) (N/A , 0.03 , N/A)	1016.4	N/A	1.0727 [1.0000]	107.3% { 102.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

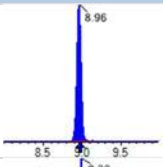
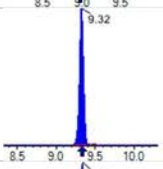
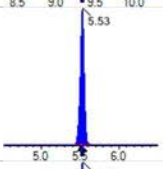
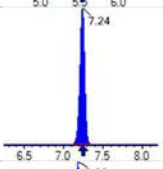
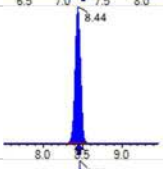
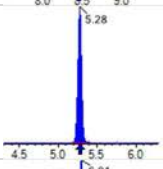
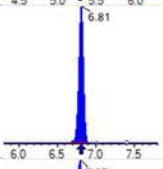
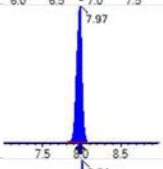
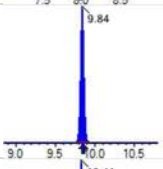
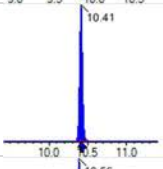
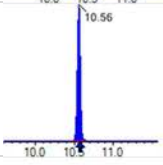
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 364608	(8.23 , N/A) (N/A , 0.02 , N/A)	906.9	N/A	1.1671 [1.0000]	116.7% { 107.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 690671	(7.24 , N/A) (N/A , 0.03 , N/A)	1560.1	N/A	1.0984 [1.0000]	109.8% { 98.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 785385	(8.44 , N/A) (N/A , 0.02 , N/A)	1060.3	N/A	1.1589 [1.0000]	115.9% { 96.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1211301	(3.54 , N/A) (N/A , 0.01 , N/A)	5217.9	N/A	6.9058 [8.0000]	86.3% { 97.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1271651	(4.61 , N/A) (N/A , 0.01 , N/A)	3650.0	N/A	4.3094 [4.0000]	107.7% { 97.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 893978	(5.55 , N/A) (N/A , 0.02 , N/A)	986.5	N/A	2.0544 [2.0000]	102.7% { 99.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 744222	(6.39 , N/A) (N/A , 0.03 , N/A)	1182.7	N/A	2.0245 [2.0000]	101.2% { 95.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 654025	(7.08 , N/A) (N/A , 0.03 , N/A)	965.6	N/A	1.7306 [2.0000]	86.5% { 91.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 253849	(7.68 , N/A) (N/A , 0.02 , N/A)	806.8	N/A	0.8805 [1.0000]	88.1% { 97.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 373704	(8.23 , N/A) (N/A , 0.02 , N/A)	1166.1	N/A	0.8345 [1.0000]	83.4% { 98.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 557162	(8.69 , N/A) (N/A , 0.02 , N/A)	696.3	N/A	0.9113 [1.0000]	91.1% { 110.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

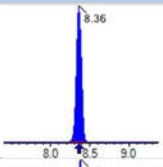
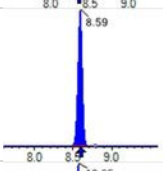
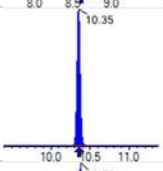
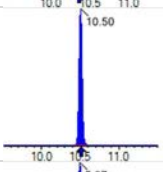
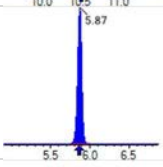
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 538103	(8.96 , N/A) (N/A , 0.01 , N/A)	1307.6	N/A	0.8519 [1.0000]	85.2% { 94.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 386352	(9.32 , N/A) (N/A , 0.01 , N/A)	1478.0	N/A	0.8476 [1.0000]	84.8% { 84.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2229238	(5.53 , N/A) (N/A , 0.02 , N/A)	1007.3	N/A	1.6862 [2.0000]	84.3% { 93.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1145530	(7.24 , N/A) (N/A , 0.03 , N/A)	1253.9	N/A	1.7693 [2.0000]	88.5% { 89.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1787996	(8.44 , N/A) (N/A , 0.02 , N/A)	1337.4	N/A	1.7049 [2.0000]	85.2% { 92.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 223801	(5.28 , N/A) (N/A , 0.02 , N/A)	1401.9	N/A	3.1021 [4.0000]	77.6% { 84.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 237777	(6.81 , N/A) (N/A , 0.02 , N/A)	704.0	N/A	3.2945 [4.0000]	82.4% { 90.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 325212	(7.97 , N/A) (N/A , 0.03 , N/A)	1768.6	N/A	3.7275 [4.0000]	93.2% { 101.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3830630	(9.84 , N/A) (N/A , 0.01 , N/A)	1728.7	N/A	1.9301 [2.0000]	96.5% { 101.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1077441	(10.41 , N/A) (N/A , 0.01 , N/A)	2121.3	N/A	1.8119 [2.0000]	90.6% { 94.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1074305	(10.56 , N/A) (N/A , 0.01 , N/A)	2178.7	N/A	1.9757 [2.0000]	98.8% { 98.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (1)
Acquired: 2023/02/09 - 21:59

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) 883182	(8.36 , N/A) (N/A , 0.02 , N/A)	2051.1	N/A	3.5079 [4.0000]	87.7% { 83.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 824320	(8.59 , N/A) (N/A , 0.02 , N/A)	4692.3	N/A	3.6565 [4.0000]	91.4% { 113.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4367806	(10.35 , N/A) (N/A , 0.01 , N/A)	2299.7	N/A	20.0624 [20.0000]	100.3% { 100.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5807914	(10.50 , N/A) (N/A , 0.01 , N/A)	1968.7	N/A	20.5179 [20.0000]	102.6% { 96.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2304084	(5.87 , N/A) (N/A , 0.02 , N/A)	1687.6	N/A	8.1502 [8.0000]	101.9% { 90.4% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB2	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00690	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00598	Instrument:	Saphira
Calibration:	2306010		

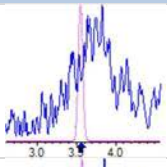
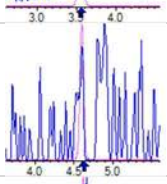
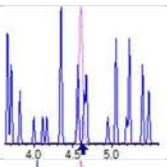
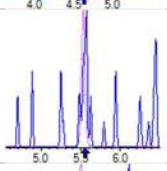
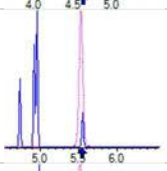
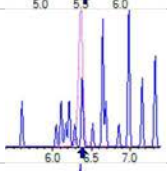
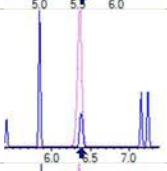
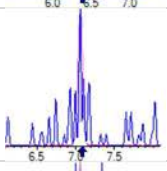
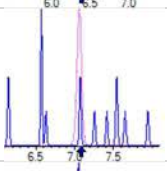
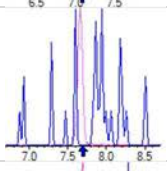
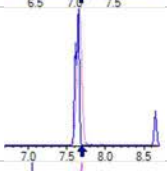
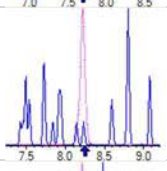
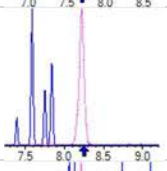
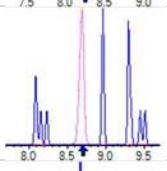
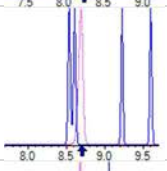
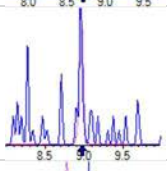
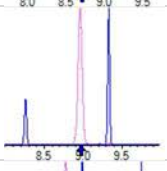
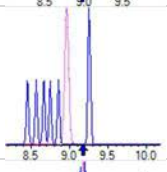
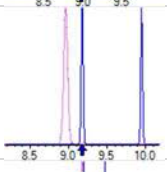
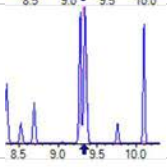
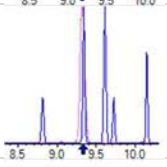
Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB2	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	6.87	ng/mL		
	13C5-PFPEA	3.73	ng/mL		
	13C5-PFHXA	1.78	ng/mL		
	13C4-PFHPA	1.82	ng/mL		
	13C8-PFOA	1.65	ng/mL		
	13C9-PFNA	0.993	ng/mL		
	13C6-PFDA	0.874	ng/mL		
	13C7-PFUnA	0.885	ng/mL		
	13C2-PFDOA	0.938	ng/mL		
	13C2-PFTEDA	0.829	ng/mL		
	13C3-PFBS	1.83	ng/mL		
	13C3-PFHXS	1.65	ng/mL		
	13C8-PFOS	1.72	ng/mL		
	13C2-4:2FTS	3.44	ng/mL		
	13C2-6:2FTS	3.23	ng/mL		
	13C2-8:2FTS	3.47	ng/mL		
	13C8-PFOSA	1.75	ng/mL		
	D3-NMEFOSA	1.83	ng/mL		
	D5-NETFOSA	2.00	ng/mL		
	D3-NMEFOSAA	3.45	ng/mL		
	D5-NETFOSAA	3.39	ng/mL		
	D7-NMEFOSE	18.4	ng/mL		
	D9-NETFOSE	20.6	ng/mL		
	13C3-HFPO-DA	7.65	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

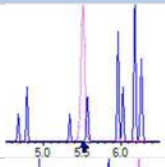
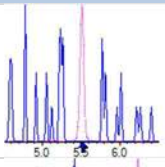
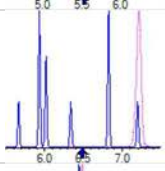
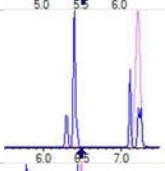
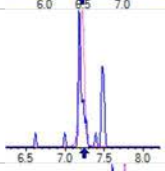
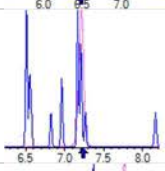
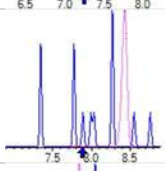
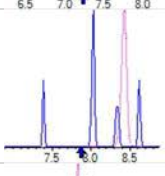
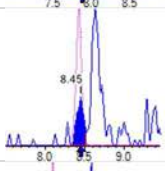
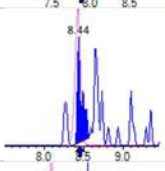
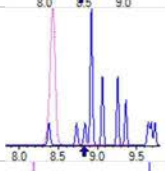
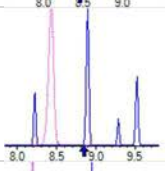
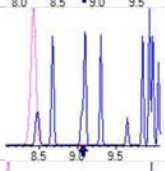
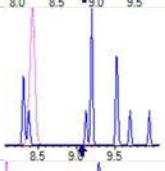
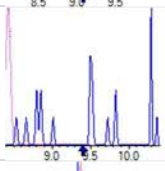
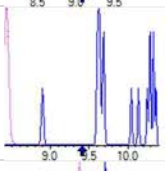
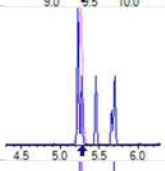
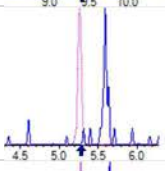
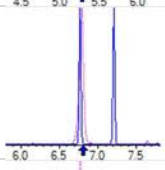
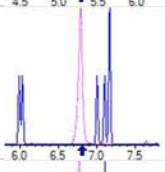
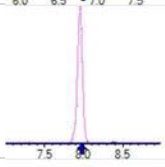
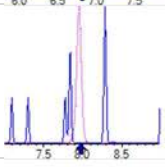
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

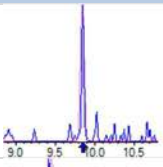
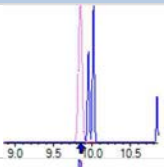
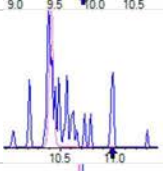
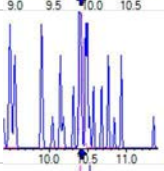
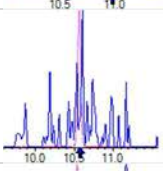
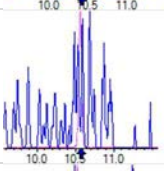
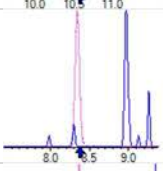
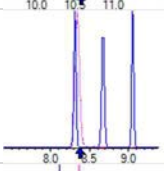
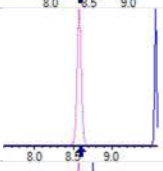
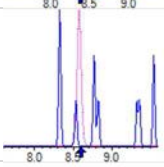
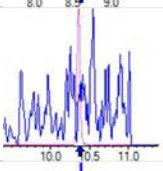
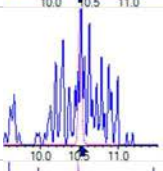
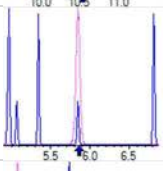
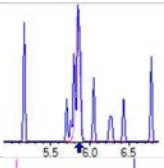
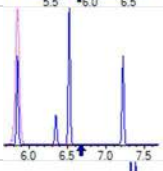
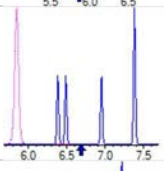
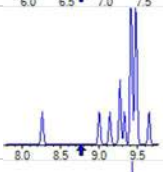
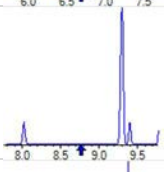
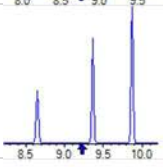
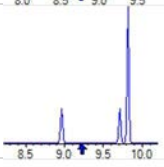
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 6679 (499.0 / 99.0) 2813	(8.45 , 1.00) (0.02 , N/A , 0.6)	12.4 12.7	0.4213 189.5 191.0	0.0069	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

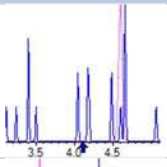
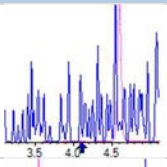
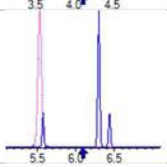
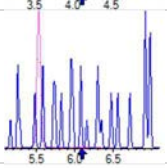
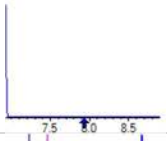
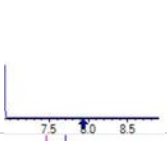
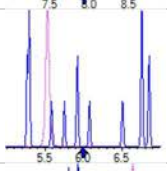
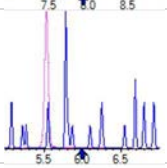
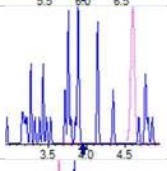
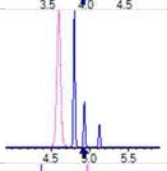
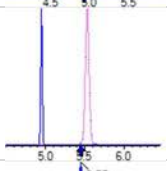
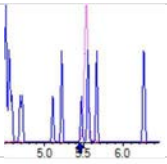
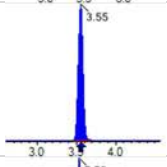
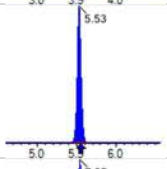
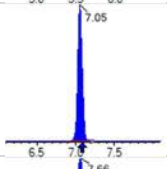
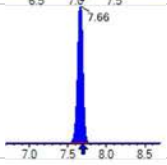
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

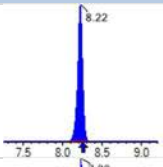
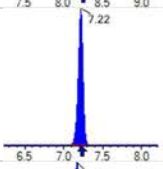
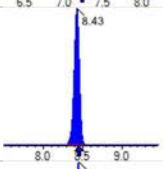
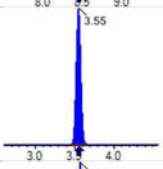
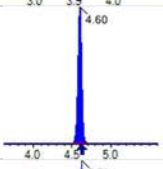
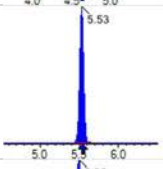
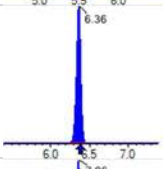
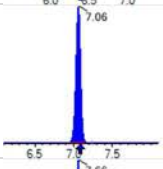
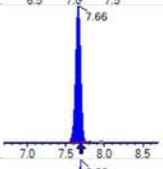
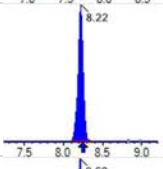
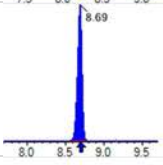
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 141637	(3.55 , N/A) (N/A , 0.02 , N/A)	1429.4	N/A	1.1488 [1.0000]	114.9% { 101.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 436347	(5.53 , N/A) (N/A , 0.00 , N/A)	2404.4	N/A	1.0131 [1.0000]	101.3% { 107.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 357622	(7.05 , N/A) (N/A , 0.00 , N/A)	1325.0	N/A	1.0956 [1.0000]	109.6% { 104.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 271454	(7.66 , N/A) (N/A , 0.01 , N/A)	2088.1	N/A	1.0701 [1.0000]	107.0% { 102.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

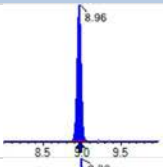
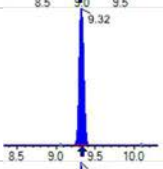
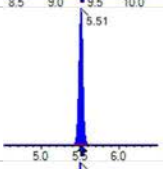
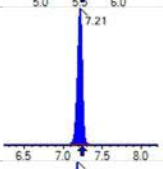
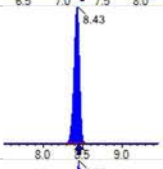
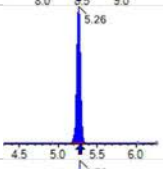
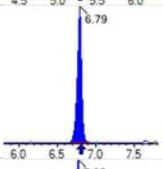
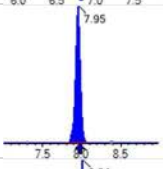
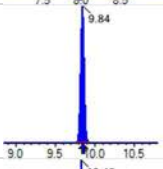
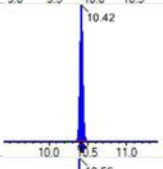
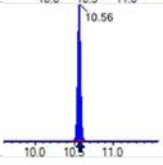
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 320577	(8.22 , N/A) (N/A , 0.01 , N/A)	28572.8	N/A	1.0262 [1.0000]	102.6% { 94.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 641206	(7.22 , N/A) (N/A , 0.01 , N/A)	987.4	N/A	1.0197 [1.0000]	102.0% { 91.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 778564	(8.43 , N/A) (N/A , 0.01 , N/A)	1357.4	N/A	1.1489 [1.0000]	114.9% { 96.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1150216	(3.55 , N/A) (N/A , 0.02 , N/A)	4508.9	N/A	6.8735 [8.0000]	85.9% { 92.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1176756	(4.60 , N/A) (N/A , 0.01 , N/A)	3041.7	N/A	3.7255 [4.0000]	93.1% { 89.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 827140	(5.53 , N/A) (N/A , 0.00 , N/A)	1874.8	N/A	1.7758 [2.0000]	88.8% { 92.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 716227	(6.36 , N/A) (N/A , 0.00 , N/A)	3126.0	N/A	1.8202 [2.0000]	91.0% { 91.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 641989	(7.06 , N/A) (N/A , 0.00 , N/A)	963.0	N/A	1.6490 [2.0000]	82.4% { 90.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 285643	(7.66 , N/A) (N/A , 0.00 , N/A)	1125.1	N/A	0.9932 [1.0000]	99.3% { 109.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 344229	(8.22 , N/A) (N/A , 0.01 , N/A)	963.8	N/A	0.8742 [1.0000]	87.4% { 91.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 475692	(8.69 , N/A) (N/A , 0.01 , N/A)	1188.4	N/A	0.8849 [1.0000]	88.5% { 94.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

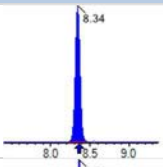
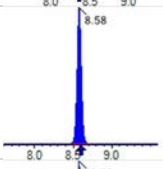
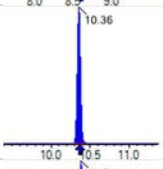
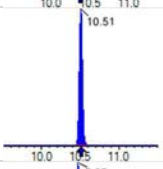
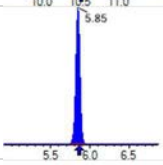
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 520713	(8.96 , N/A) (N/A , 0.01 , N/A)	935.9	N/A	0.9376 [1.0000]	93.8% { 91.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 332393	(9.32 , N/A) (N/A , 0.01 , N/A)	721.7	N/A	0.8294 [1.0000]	82.9% { 72.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2246905	(5.51 , N/A) (N/A , 0.00 , N/A)	2065.0	N/A	1.8306 [2.0000]	91.5% { 94.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 991572	(7.21 , N/A) (N/A , 0.00 , N/A)	2121.8	N/A	1.6496 [2.0000]	82.5% { 77.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1784837	(8.43 , N/A) (N/A , 0.01 , N/A)	1039.0	N/A	1.7168 [2.0000]	85.8% { 92.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 230376	(5.26 , N/A) (N/A , 0.00 , N/A)	933.0	N/A	3.4396 [4.0000]	86.0% { 86.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 216686	(6.79 , N/A) (N/A , 0.00 , N/A)	625.8	N/A	3.2339 [4.0000]	80.8% { 82.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 281369	(7.95 , N/A) (N/A , 0.01 , N/A)	824.7	N/A	3.4738 [4.0000]	86.8% { 87.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3438394	(9.84 , N/A) (N/A , 0.01 , N/A)	1989.8	N/A	1.7477 [2.0000]	87.4% { 91.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1078081	(10.42 , N/A) (N/A , 0.01 , N/A)	2263.5	N/A	1.8288 [2.0000]	91.4% { 94.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1077668	(10.56 , N/A) (N/A , 0.01 , N/A)	2957.8	N/A	1.9993 [2.0000]	100.0% { 99.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (6)
Acquired: 2023/02/09 - 23:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 860396	(8.34 , N/A) (N/A , 0.01 , N/A)	899.5	N/A	3.4474 [4.0000]	86.2% { 81.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 758195	(8.58 , N/A) (N/A , 0.01 , N/A)	4330.2	N/A	3.3927 [4.0000]	84.8% { 104.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3965641	(10.36 , N/A) (N/A , 0.01 , N/A)	1726.0	N/A	18.3747 [20.0000]	91.9% { 91.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5766527	(10.51 , N/A) (N/A , 0.01 , N/A)	1384.4	N/A	20.5501 [20.0000]	102.8% { 95.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2315447	(5.85 , N/A) (N/A , 0.00 , N/A)	1618.3	N/A	7.6517 [8.0000]	95.6% { 90.8% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB3	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00917	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00598	Instrument:	Saphira
Calibration:	2306010		

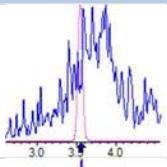
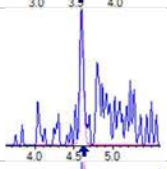
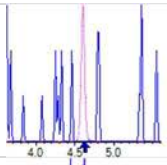
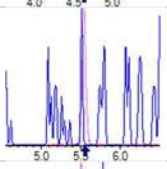
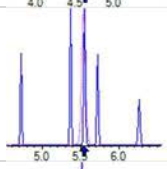
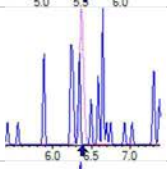
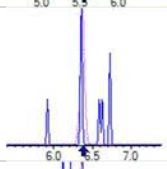
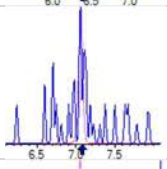
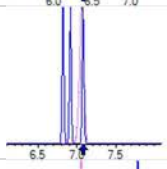
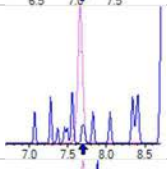
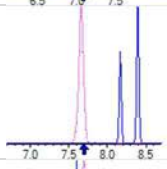
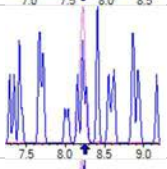
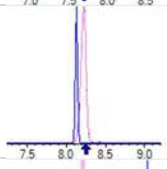
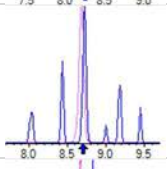
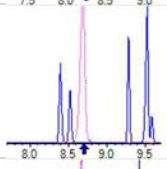
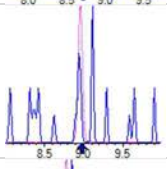
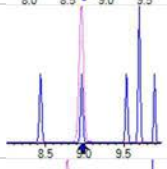
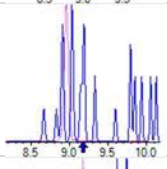
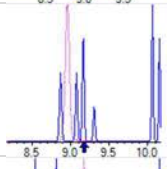
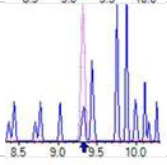
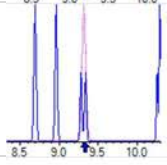
Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	6.78	ng/mL		
	13C5-PFPEA	3.66	ng/mL		
	13C5-PFHXA	1.57	ng/mL		
	13C4-PFHPA	1.51	ng/mL		
	13C8-PFOA	1.55	ng/mL		
	13C9-PFNA	0.870	ng/mL		
	13C6-PFDA	0.883	ng/mL		
	13C7-PFUnA	0.836	ng/mL		
	13C2-PFDOA	0.818	ng/mL		
	13C2-PFTEDA	0.834	ng/mL		
	13C3-PFBS	1.77	ng/mL		
	13C3-PFHXS	1.71	ng/mL		
	13C8-PFOS	1.63	ng/mL		
	13C2-4:2FTS	3.35	ng/mL		
	13C2-6:2FTS	3.04	ng/mL		
	13C2-8:2FTS	3.81	ng/mL		
	13C8-PFOSA	1.64	ng/mL		
	D3-NMEFOSA	1.69	ng/mL		
	D5-NETFOSA	1.88	ng/mL		
	D3-NMEFOSAA	3.16	ng/mL		
	D5-NETFOSAA	3.31	ng/mL		
	D7-NMEFOSE	18.0	ng/mL		
	D9-NETFOSE	19.1	ng/mL		
	13C3-HFPO-DA	7.12	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

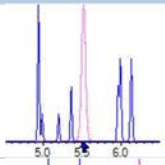
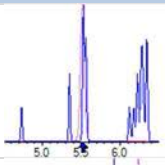
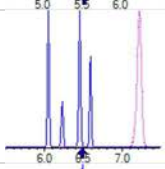
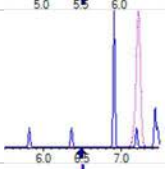
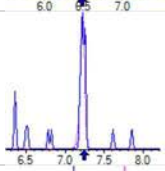
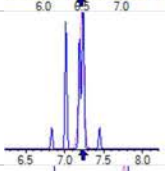
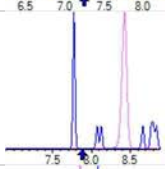
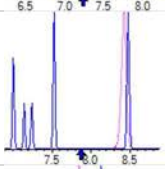
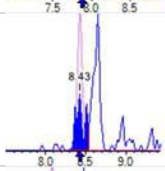
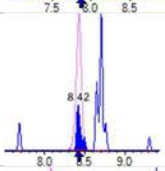
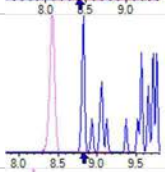
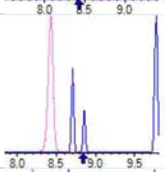
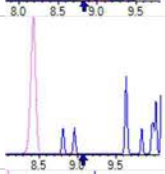
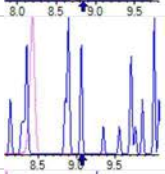
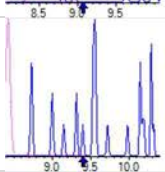
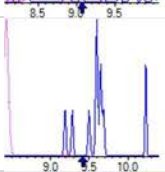
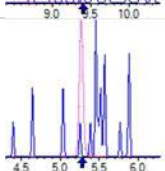
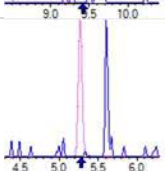
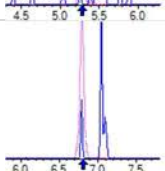
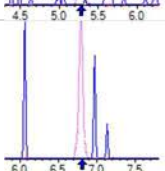
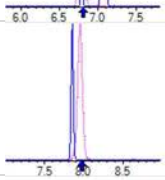
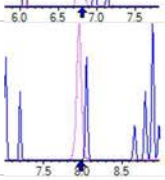
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

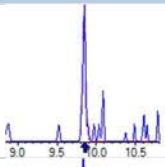
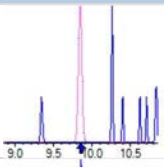
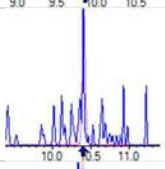
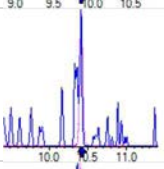
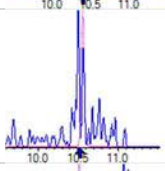
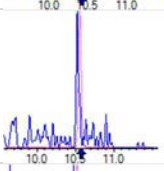
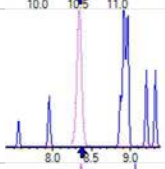
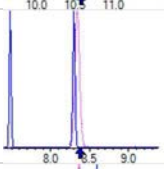
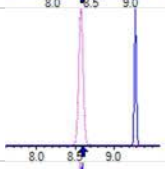
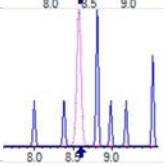
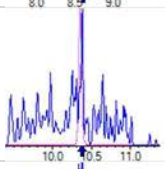
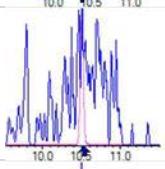
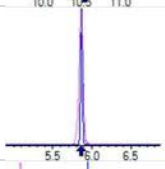
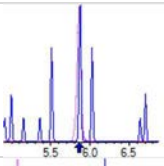
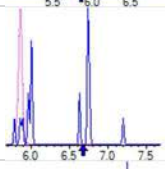
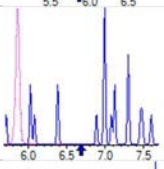
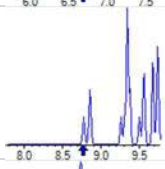
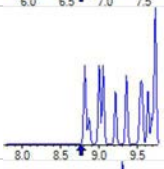
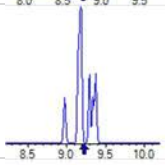
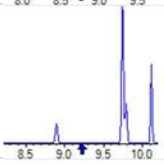
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 9335 (499.0 / 99.0) 1692	(8.43 , 1.00) (0.01 , N/A , 0.9)	21.9 26.4	0.1812 81.5 82.2	0.0092	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

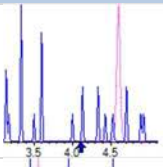
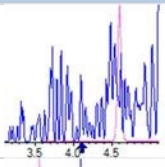
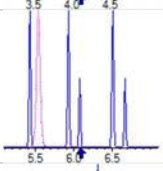
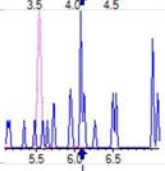
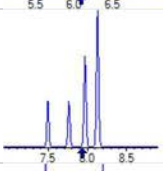
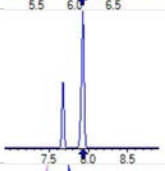
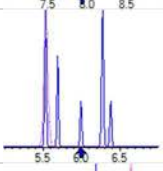
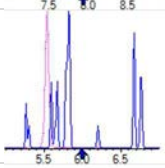
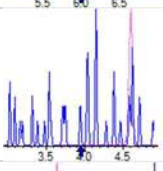
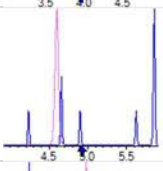
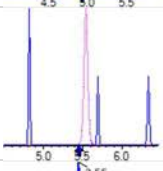
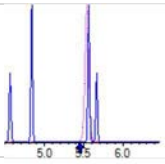
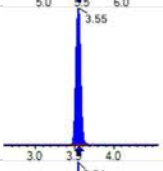
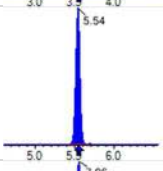
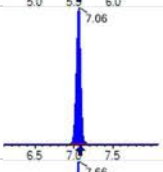
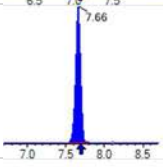
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

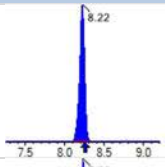
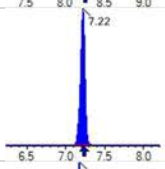
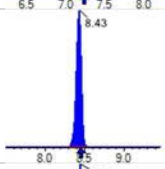
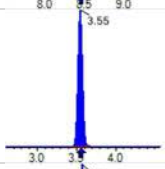
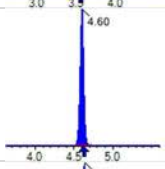
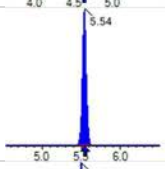
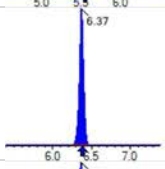
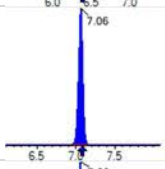
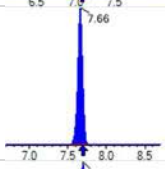
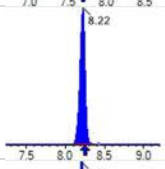
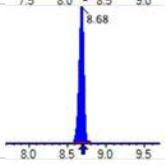
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 151246	(3.55 , N/A) (N/A , 0.01 , N/A)	1407.5	N/A	1.2268 [1.0000]	122.7% { 107.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 480221	(5.54 , N/A) (N/A , 0.01 , N/A)	1673.3	N/A	1.1149 [1.0000]	111.5% { 118.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 389256	(7.06 , N/A) (N/A , 0.01 , N/A)	4523.6	N/A	1.1925 [1.0000]	119.3% { 113.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 284520	(7.66 , N/A) (N/A , 0.01 , N/A)	801.2	N/A	1.1216 [1.0000]	112.2% { 107.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

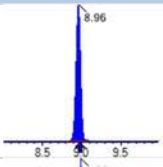
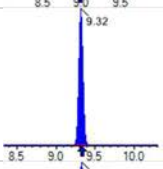
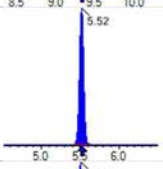
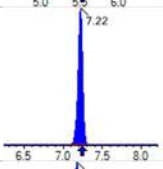
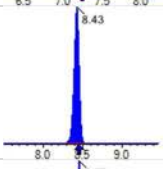
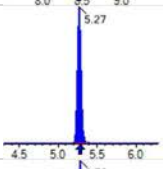
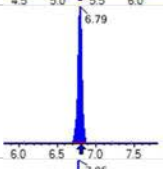
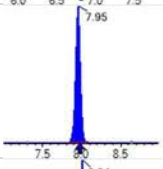
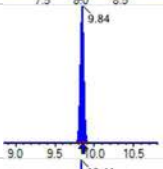
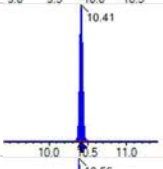
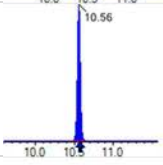
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 384080	(8.22 , N/A) (N/A , 0.01 , N/A)	1260.7	N/A	1.2294 [1.0000]	122.9% { 113.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 678031	(7.22 , N/A) (N/A , 0.01 , N/A)	1210.6	N/A	1.0783 [1.0000]	107.8% { 97.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 863503	(8.43 , N/A) (N/A , 0.01 , N/A)	856.7	N/A	1.2742 [1.0000]	127.4% { 106.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1211375	(3.55 , N/A) (N/A , 0.01 , N/A)	4393.7	N/A	6.7791 [8.0000]	84.7% { 97.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1272754	(4.60 , N/A) (N/A , 0.01 , N/A)	3317.2	N/A	3.6613 [4.0000]	91.5% { 97.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 803882	(5.54 , N/A) (N/A , 0.01 , N/A)	1729.2	N/A	1.5682 [2.0000]	78.4% { 89.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 653231	(6.37 , N/A) (N/A , 0.01 , N/A)	1812.8	N/A	1.5084 [2.0000]	75.4% { 83.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 656075	(7.06 , N/A) (N/A , 0.01 , N/A)	1282.7	N/A	1.5482 [2.0000]	77.4% { 92.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 262135	(7.66 , N/A) (N/A , 0.00 , N/A)	2075254.3	N/A	0.8696 [1.0000]	87.0% { 100.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 416599	(8.22 , N/A) (N/A , 0.01 , N/A)	920.5	N/A	0.8831 [1.0000]	88.3% { 110.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 538161	(8.68 , N/A) (N/A , 0.01 , N/A)	150.5	N/A	0.8356 [1.0000]	83.6% { 107.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

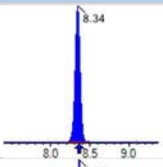
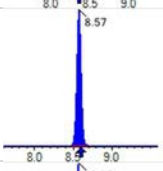
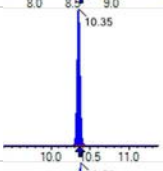
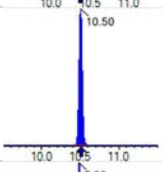
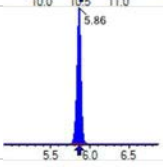
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 544095	(8.96 , N/A) (N/A , 0.00 , N/A)	1884.0	N/A	0.8177 [1.0000]	81.8% { 95.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 400646	(9.32 , N/A) (N/A , 0.00 , N/A)	917.7	N/A	0.8344 [1.0000]	83.4% { 87.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2290962	(5.52 , N/A) (N/A , 0.01 , N/A)	3262.5	N/A	1.7652 [2.0000]	88.3% { 96.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1084616	(7.22 , N/A) (N/A , 0.01 , N/A)	849.5	N/A	1.7064 [2.0000]	85.3% { 84.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1876937	(8.43 , N/A) (N/A , 0.01 , N/A)	1696.2	N/A	1.6278 [2.0000]	81.4% { 96.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 237108	(5.27 , N/A) (N/A , 0.01 , N/A)	1283.2	N/A	3.3478 [4.0000]	83.7% { 89.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 215143	(6.79 , N/A) (N/A , 0.01 , N/A)	1099.2	N/A	3.0365 [4.0000]	75.9% { 81.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 325947	(7.95 , N/A) (N/A , 0.01 , N/A)	909.0	N/A	3.8056 [4.0000]	95.1% { 101.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3575340	(9.84 , N/A) (N/A , 0.01 , N/A)	1979.2	N/A	1.6385 [2.0000]	81.9% { 94.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1104544	(10.41 , N/A) (N/A , 0.01 , N/A)	2477.2	N/A	1.6894 [2.0000]	84.5% { 96.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1124279	(10.56 , N/A) (N/A , 0.01 , N/A)	3142.1	N/A	1.8806 [2.0000]	94.0% { 103.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (24)
Acquired: 2023/02/10 - 02:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 873969	(8.34 , N/A) (N/A , 0.01 , N/A)	792.6	N/A	3.1573 [4.0000]	78.9% { 83.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 821616	(8.57 , N/A) (N/A , 0.01 , N/A)	2795.9	N/A	3.3148 [4.0000]	82.9% { 112.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4305013	(10.35 , N/A) (N/A , 0.00 , N/A)	2604.1	N/A	17.9851 [20.0000]	89.9% { 99.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5958508	(10.50 , N/A) (N/A , 0.01 , N/A)	2086.7	N/A	19.1456 [20.0000]	95.7% { 98.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2372836	(5.86 , N/A) (N/A , 0.01 , N/A)	2276.8	N/A	7.1250 [8.0000]	89.1% { 93.1% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB4	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00892	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

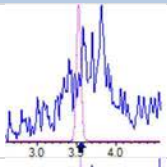
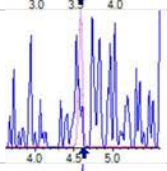
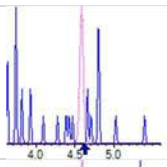
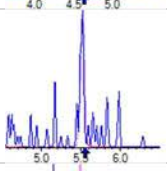
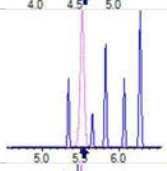
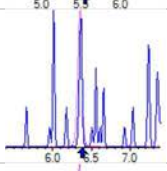
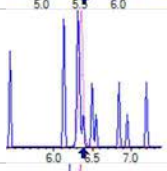
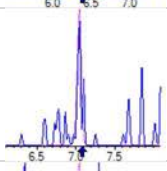
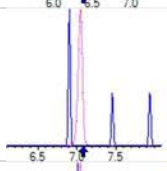
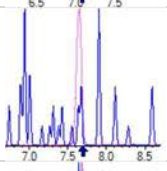
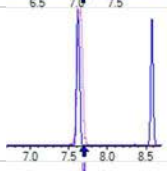
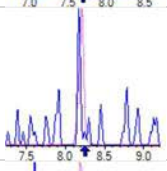
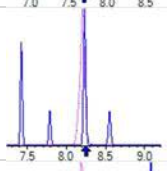
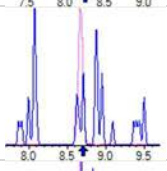
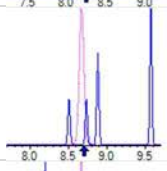
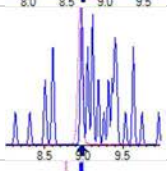
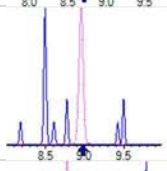
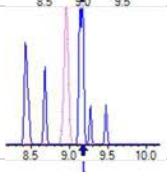
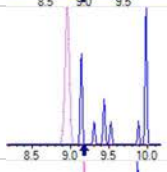
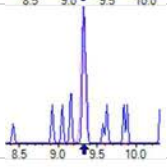
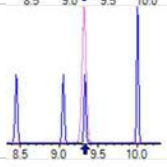
Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.02	ng/mL		
	13C5-PFPEA	4.15	ng/mL		
	13C5-PFHXA	1.93	ng/mL		
	13C4-PFHPA	1.92	ng/mL		
	13C8-PFOA	1.78	ng/mL		
	13C9-PFNA	0.809	ng/mL		
	13C6-PFDA	0.830	ng/mL		
	13C7-PFUnA	0.786	ng/mL		
	13C2-PFDOA	0.789	ng/mL		
	13C2-PFTEDA	0.763	ng/mL		
	13C3-PFBS	1.69	ng/mL		
	13C3-PFHXS	1.86	ng/mL		
	13C8-PFOS	1.75	ng/mL		
	13C2-4:2FTS	3.28	ng/mL		
	13C2-6:2FTS	3.44	ng/mL		
	13C2-8:2FTS	3.43	ng/mL		
	13C8-PFOSA	1.96	ng/mL		
	D3-NMEFOSA	1.89	ng/mL		
	D5-NETFOSA	2.06	ng/mL		
	D3-NMEFOSAA	3.90	ng/mL		
	D5-NETFOSAA	3.58	ng/mL		
	D7-NMEFOSE	19.2	ng/mL		
	D9-NETFOSE	20.5	ng/mL		
	13C3-HFPO-DA	7.67	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

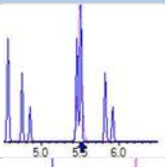
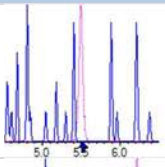
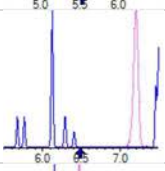
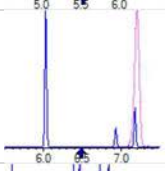
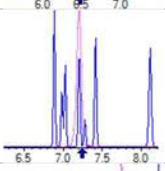
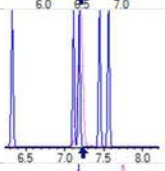
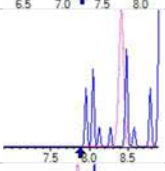
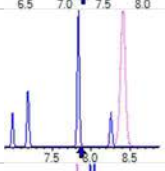
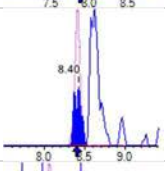
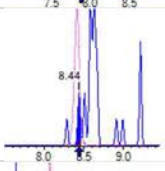
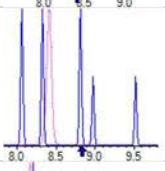
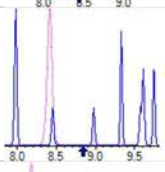
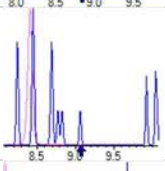
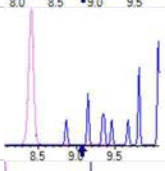
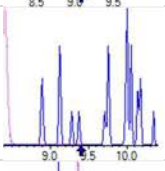
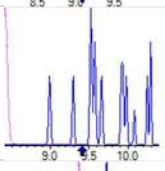
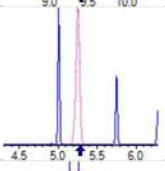
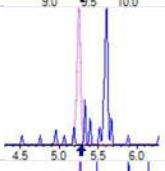
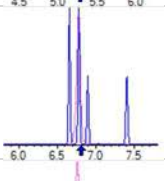
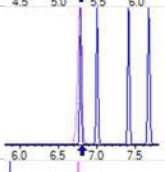
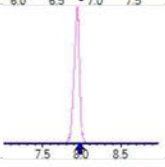
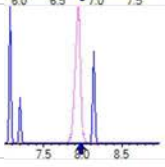
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

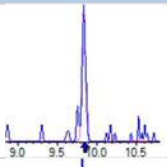
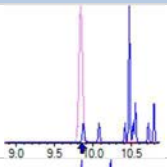
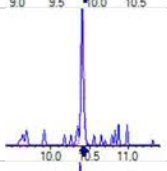
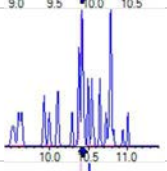
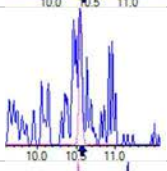
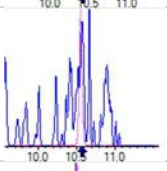
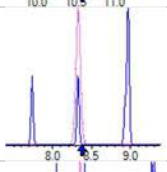
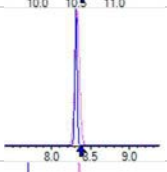
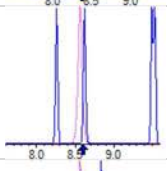
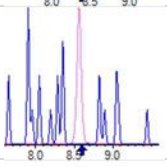
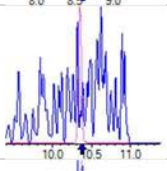
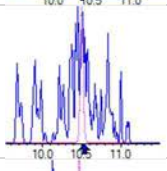
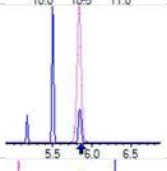
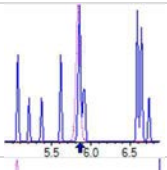
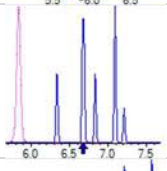
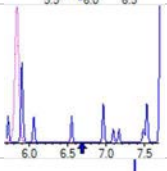
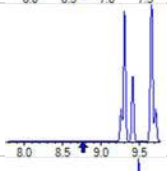
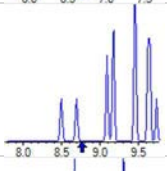
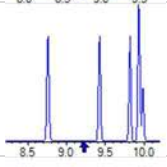
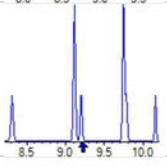
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 8694 (499.0 / 99.0) 551	(8.40 , 1.00) (-0.01 , N/A , -2.0)	60.0 10.4	0.0634 28.5 28.7	0.0089	N/A			IR1,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

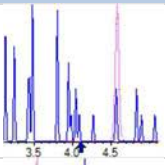
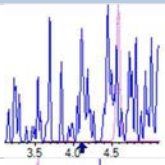
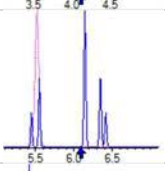
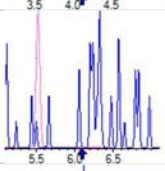
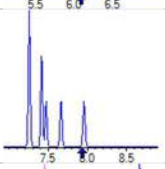
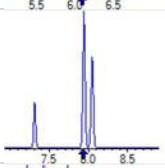
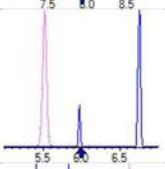
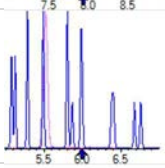
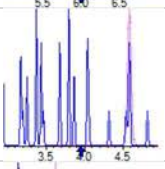
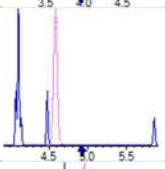
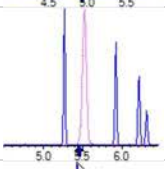
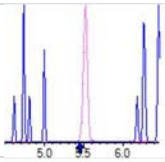
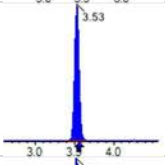
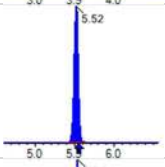
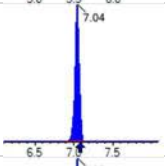
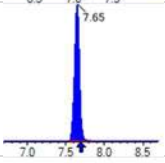
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

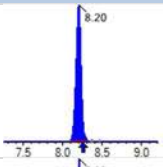
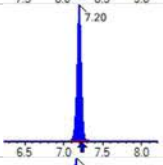
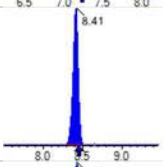
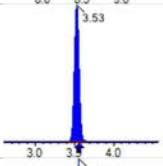
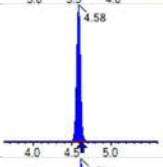
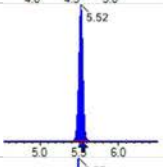
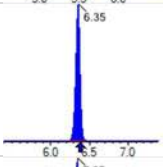
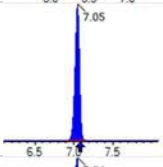
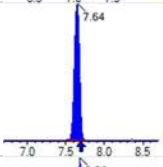
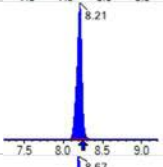
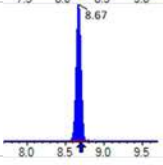
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 146415	(3.53 , N/A) (N/A , -0.01 , N/A)	1702.6	N/A	1.1876 [1.0000]	118.8% { 104.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 424183	(5.52 , N/A) (N/A , -0.01 , N/A)	1618.8	N/A	0.9848 [1.0000]	98.5% { 104.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 337449	(7.04 , N/A) (N/A , -0.01 , N/A)	1292.5	N/A	1.0338 [1.0000]	103.4% { 98.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 269601	(7.65 , N/A) (N/A , -0.01 , N/A)	209.2	N/A	1.0628 [1.0000]	106.3% { 101.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

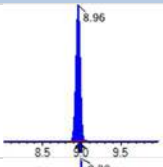
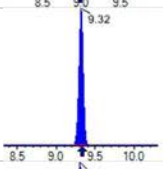
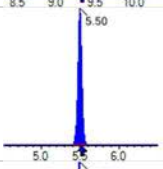
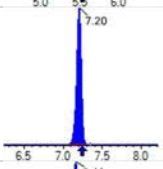
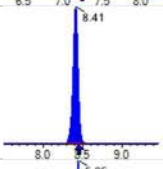
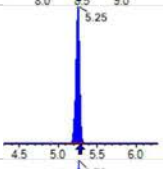
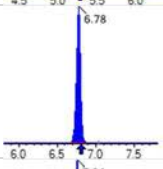
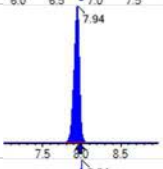
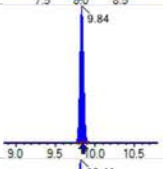
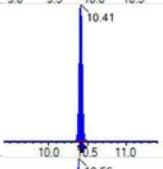
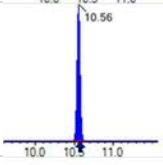
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 360121	(8.20 , N/A) (N/A , -0.01 , N/A)	975.6	N/A	1.1527 [1.0000]	115.3% { 106.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 660024	(7.20 , N/A) (N/A , -0.01 , N/A)	1020.6	N/A	1.0497 [1.0000]	105.0% { 94.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 767980	(8.41 , N/A) (N/A , -0.01 , N/A)	993.4	N/A	1.1333 [1.0000]	113.3% { 94.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1214646	(3.53 , N/A) (N/A , 0.00 , N/A)	3869.1	N/A	7.0216 [8.0000]	87.8% { 97.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1275375	(4.58 , N/A) (N/A , -0.01 , N/A)	2023.3	N/A	4.1535 [4.0000]	103.8% { 97.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 872509	(5.52 , N/A) (N/A , -0.01 , N/A)	1469.5	N/A	1.9269 [2.0000]	96.3% { 97.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 733756	(6.35 , N/A) (N/A , -0.01 , N/A)	2476.3	N/A	1.9182 [2.0000]	95.9% { 94.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 655194	(7.05 , N/A) (N/A , -0.01 , N/A)	1159.0	N/A	1.7835 [2.0000]	89.2% { 91.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 230996	(7.64 , N/A) (N/A , -0.01 , N/A)	21976.7	N/A	0.8087 [1.0000]	80.9% { 88.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 367309	(8.21 , N/A) (N/A , 0.00 , N/A)	1391.9	N/A	0.8304 [1.0000]	83.0% { 97.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 474861	(8.67 , N/A) (N/A , -0.01 , N/A)	2075.0	N/A	0.7864 [1.0000]	78.6% { 94.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

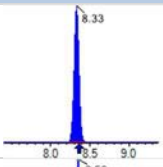
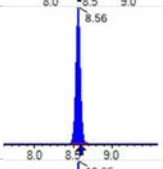
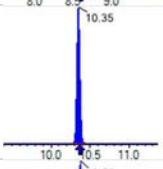
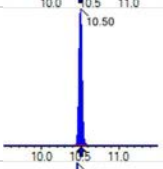
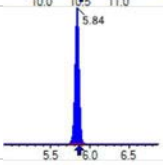
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 492292	(8.96 , N/A) (N/A , 0.00 , N/A)	139.4	N/A	0.7891 [1.0000]	78.9% { 86.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 343456	(9.32 , N/A) (N/A , 0.00 , N/A)	5038.7	N/A	0.7629 [1.0000]	76.3% { 75.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2140593	(5.50 , N/A) (N/A , -0.01 , N/A)	1730.1	N/A	1.6943 [2.0000]	84.7% { 90.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1153445	(7.20 , N/A) (N/A , -0.01 , N/A)	962.2	N/A	1.8642 [2.0000]	93.2% { 89.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1797821	(8.41 , N/A) (N/A , -0.01 , N/A)	973.9	N/A	1.7532 [2.0000]	87.7% { 92.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 226141	(5.25 , N/A) (N/A , -0.01 , N/A)	1137.6	N/A	3.2801 [4.0000]	82.0% { 85.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 237468	(6.78 , N/A) (N/A , -0.01 , N/A)	966.0	N/A	3.4430 [4.0000]	86.1% { 90.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 286224	(7.94 , N/A) (N/A , -0.01 , N/A)	1095.3	N/A	3.4330 [4.0000]	85.8% { 89.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3809726	(9.84 , N/A) (N/A , 0.00 , N/A)	1921.7	N/A	1.9631 [2.0000]	98.2% { 100.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1096384	(10.41 , N/A) (N/A , 0.00 , N/A)	2460.8	N/A	1.8855 [2.0000]	94.3% { 96.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1095373	(10.56 , N/A) (N/A , 0.00 , N/A)	2832.3	N/A	2.0601 [2.0000]	103.0% { 100.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (33)
Acquired: 2023/02/10 - 04:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 959560	(8.33 , N/A) (N/A , -0.01 , N/A)	851.4	N/A	3.8977 [4.0000]	97.4% { 91.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 788417	(8.56 , N/A) (N/A , 0.00 , N/A)	2315.5	N/A	3.5766 [4.0000]	89.4% { 108.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4090974	(10.35 , N/A) (N/A , 0.00 , N/A)	2187.2	N/A	19.2167 [20.0000]	96.1% { 94.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5668821	(10.50 , N/A) (N/A , 0.00 , N/A)	1783.6	N/A	20.4804 [20.0000]	102.4% { 93.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2256498	(5.84 , N/A) (N/A , -0.01 , N/A)	2199.3	N/A	7.6708 [8.0000]	95.9% { 88.5% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB5	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0150	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	0.616	ng/mL	0.40	
	8:2FTS	0.0466	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00598
Calibration: 2306010

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

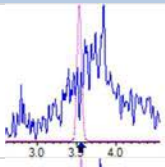
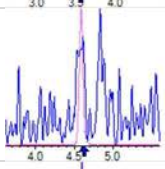
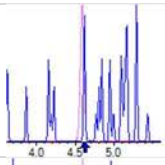
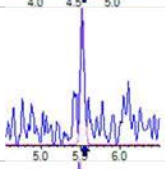
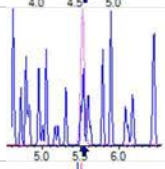
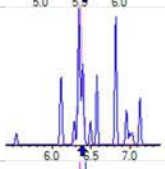
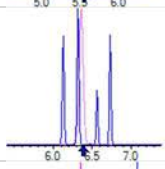
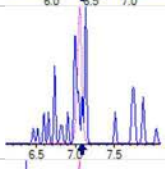
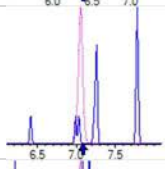
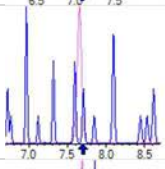
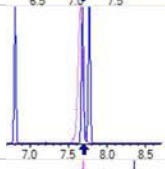
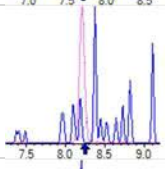
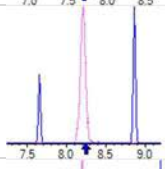
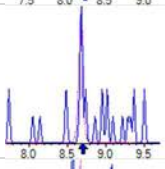
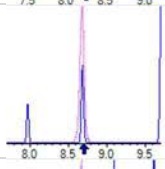
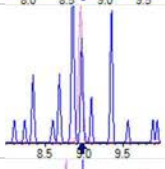
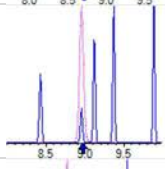
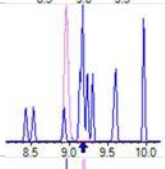
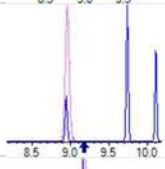
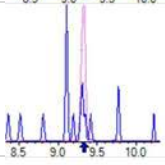
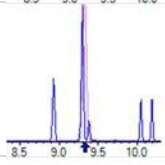
Lab Sample ID	Analyte	Found	Units	RL	C
SC00598-CCB5	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	6.98	ng/mL		
	13C5-PFPEA	4.05	ng/mL		
	13C5-PFHXA	1.96	ng/mL		
	13C4-PFHPA	1.95	ng/mL		
	13C8-PFOA	1.94	ng/mL		
	13C9-PFNA	0.898	ng/mL		
	13C6-PFDA	0.887	ng/mL		
	13C7-PFUnA	0.805	ng/mL		
	13C2-PFDOA	0.792	ng/mL		
	13C2-PFTEDA	0.881	ng/mL		
	13C3-PFBS	1.70	ng/mL		
	13C3-PFHXS	1.66	ng/mL		
	13C8-PFOS	1.84	ng/mL		
	13C2-4:2FTS	2.88	ng/mL		
	13C2-6:2FTS	2.81	ng/mL		
	13C2-8:2FTS	3.26	ng/mL		
	13C8-PFOSA	1.91	ng/mL		
	D3-NMEFOSA	2.02	ng/mL		
	D5-NETFOSA	2.22	ng/mL		
	D3-NMEFOSAA	3.52	ng/mL		
	D5-NETFOSAA	3.37	ng/mL		
	D7-NMEFOSE	20.9	ng/mL		
	D9-NETFOSE	22.2	ng/mL		
	13C3-HFPO-DA	8.50	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

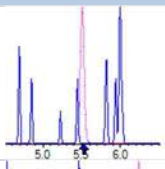
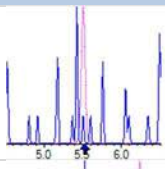
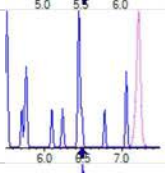
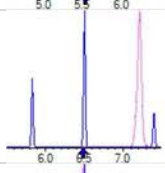
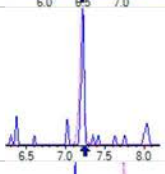
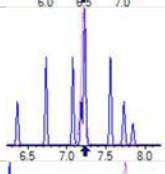
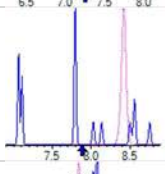
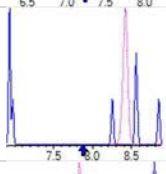
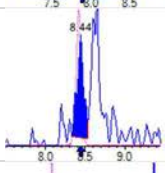
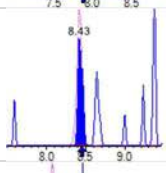
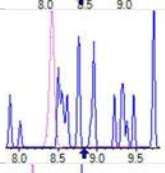
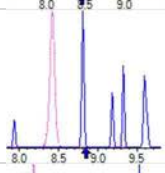
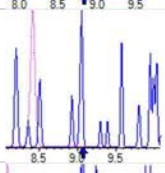
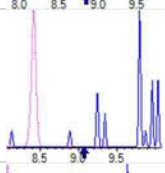
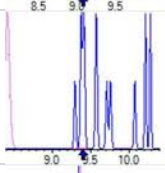
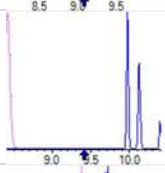
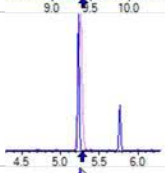
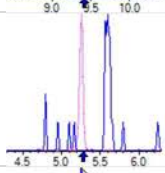
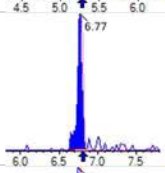
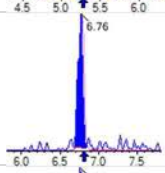
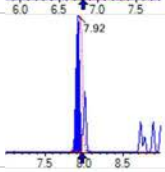
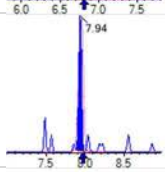
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

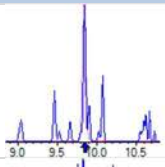
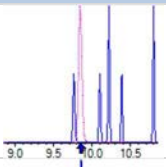
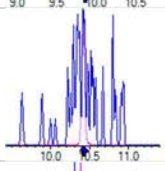
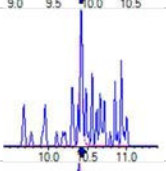
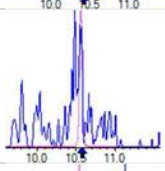
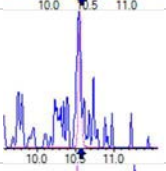
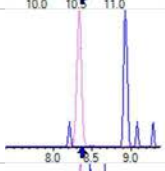
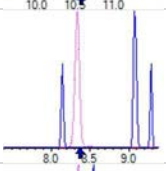
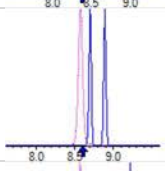
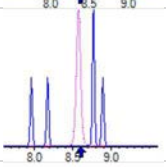
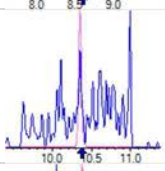
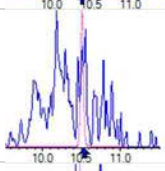
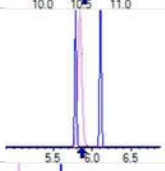
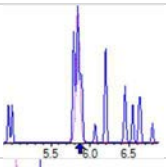
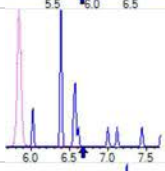
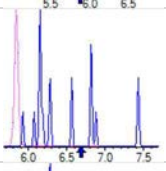
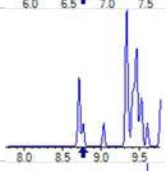
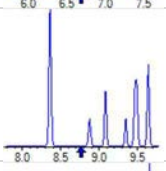
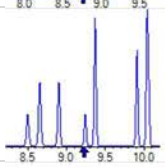
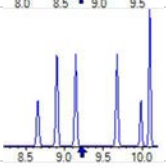
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 13829 (499.0 / 99.0) 3959	(8.44 , 1.00) (0.02 , N/A , 0.8)	23.0 20.2	0.2862 128.8 129.8	0.0150	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) 40734 (427.0 / 81.0) 29244	(6.77 , 1.00) (-0.02 , N/A , 0.2)	80.7 60.8	0.7179 94.2 99.4	0.6158	N/A			
8:2FTS	(527.0 / 507.0) 3741 (527.0 / 81.0) 5328	(7.92 , 1.00) (-0.03 , N/A , -1.0)	80.5 52.9	1.4244 218.5 175.6	0.0466	N/A			IR2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

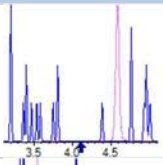
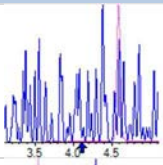
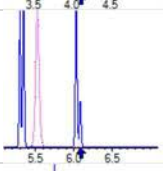
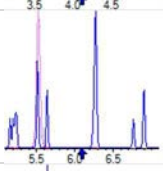
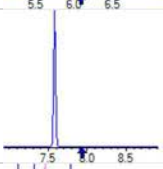
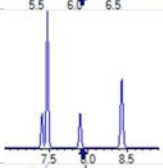
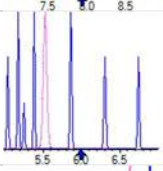
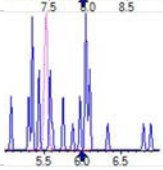
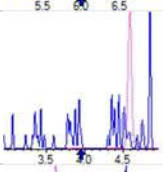
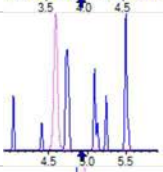
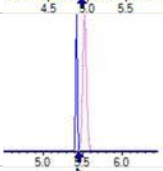
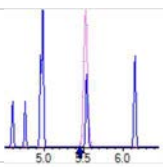
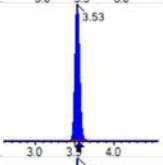
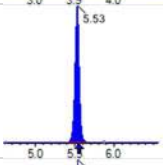
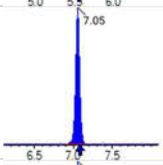
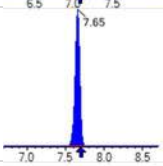
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

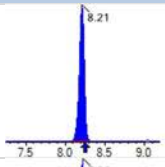
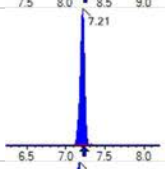
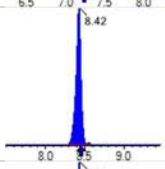
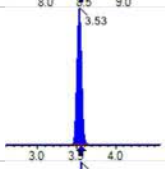
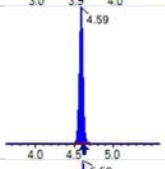
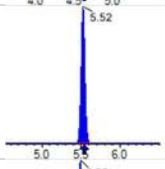
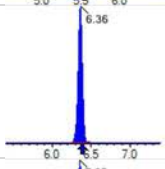
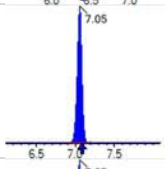
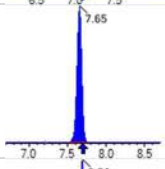
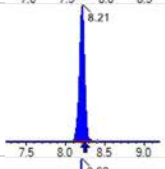
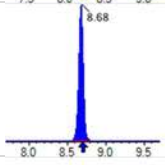
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 131903	(3.53 , N/A) (N/A , 0.00 , N/A)	1196.8	N/A	1.0699 [1.0000]	107.0% { 94.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 373802	(5.53 , N/A) (N/A , 0.00 , N/A)	1400.4	N/A	0.8679 [1.0000]	86.8% { 92.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 292706	(7.05 , N/A) (N/A , 0.00 , N/A)	882.5	N/A	0.8967 [1.0000]	89.7% { 85.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 276755	(7.65 , N/A) (N/A , 0.00 , N/A)	181152.3	N/A	1.0910 [1.0000]	109.1% { 104.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

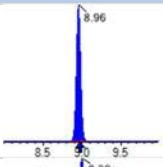
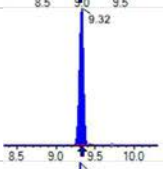
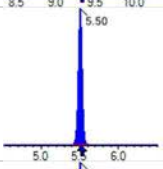
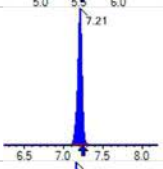
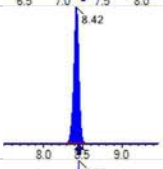
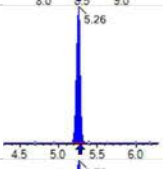
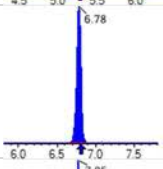
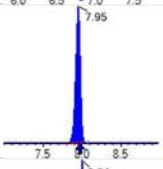
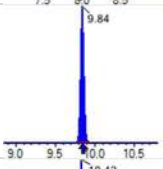
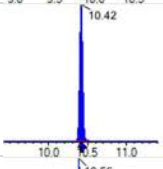
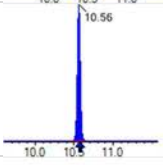
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 327909	(8.21 , N/A) (N/A , 0.00 , N/A)	1375.6	N/A	1.0496 [1.0000]	105.0% { 96.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 650868	(7.21 , N/A) (N/A , 0.00 , N/A)	986.6	N/A	1.0351 [1.0000]	103.5% { 93.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 690396	(8.42 , N/A) (N/A , 0.00 , N/A)	852.7	N/A	1.0188 [1.0000]	101.9% { 85.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1087378	(3.53 , N/A) (N/A , 0.00 , N/A)	3916.9	N/A	6.9775 [8.0000]	87.2% { 87.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1096961	(4.59 , N/A) (N/A , 0.00 , N/A)	1881.6	N/A	4.0540 [4.0000]	101.3% { 83.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 781535	(5.52 , N/A) (N/A , -0.01 , N/A)	2087.2	N/A	1.9586 [2.0000]	97.9% { 87.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 657450	(6.36 , N/A) (N/A , 0.00 , N/A)	1579.0	N/A	1.9504 [2.0000]	97.5% { 84.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 617715	(7.05 , N/A) (N/A , 0.00 , N/A)	1140.0	N/A	1.9385 [2.0000]	96.9% { 86.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 263329	(7.65 , N/A) (N/A , 0.00 , N/A)	920.6	N/A	0.8980 [1.0000]	89.8% { 100.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 357149	(8.21 , N/A) (N/A , 0.00 , N/A)	699.5	N/A	0.8868 [1.0000]	88.7% { 94.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 442544	(8.68 , N/A) (N/A , 0.00 , N/A)	1061.7	N/A	0.8048 [1.0000]	80.5% { 88.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

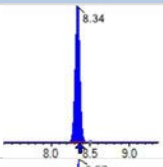
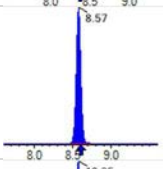
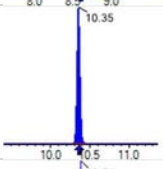
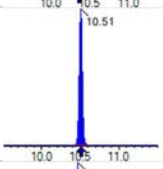
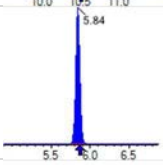
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 449735	(8.96 , N/A) (N/A , 0.00 , N/A)	1321.2	N/A	0.7917 [1.0000]	79.2% { 78.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 361001	(9.32 , N/A) (N/A , 0.01 , N/A)	702.7	N/A	0.8806 [1.0000]	88.1% { 78.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2117043	(5.50 , N/A) (N/A , -0.01 , N/A)	2311.7	N/A	1.6992 [2.0000]	85.0% { 89.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1014340	(7.21 , N/A) (N/A , 0.00 , N/A)	1113.5	N/A	1.6625 [2.0000]	83.1% { 78.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1698163	(8.42 , N/A) (N/A , 0.00 , N/A)	1494.2	N/A	1.8421 [2.0000]	92.1% { 87.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 195547	(5.26 , N/A) (N/A , 0.00 , N/A)	638.2	N/A	2.8762 [4.0000]	71.9% { 73.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 191430	(6.78 , N/A) (N/A , 0.00 , N/A)	147980.9	N/A	2.8146 [4.0000]	70.4% { 72.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 267792	(7.95 , N/A) (N/A , 0.00 , N/A)	1070.6	N/A	3.2571 [4.0000]	81.4% { 83.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3326317	(9.84 , N/A) (N/A , 0.01 , N/A)	2085.2	N/A	1.9066 [2.0000]	95.3% { 88.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1056328	(10.42 , N/A) (N/A , 0.01 , N/A)	1807.2	N/A	2.0208 [2.0000]	101.0% { 92.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1060129	(10.56 , N/A) (N/A , 0.01 , N/A)	2891.3	N/A	2.2179 [2.0000]	110.9% { 97.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00598-CCB5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (56)
Acquired: 2023/02/10 - 09:52

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) 779474	(8.34 , N/A) (N/A , 0.00 , N/A)	1361.1	N/A	3.5220 [4.0000]	88.0% { 74.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 668029	(8.57 , N/A) (N/A , 0.00 , N/A)	2335.5	N/A	3.3710 [4.0000]	84.3% { 91.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4006826	(10.35 , N/A) (N/A , 0.01 , N/A)	2573.4	N/A	20.9365 [20.0000]	104.7% { 92.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5527939	(10.51 , N/A) (N/A , 0.01 , N/A)	2133.9	N/A	22.2157 [20.0000]	111.1% { 91.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2202537	(5.84 , N/A) (N/A , -0.01 , N/A)	2286.4	N/A	8.4965 [8.0000]	106.2% { 86.4% }			

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QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

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Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BLK1	File ID:	S2023-02-09C (34)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:07
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
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	0.20 U	0.40	0.20	0.16	U
PFDOA	0.20 U	0.40	0.20	0.11	U
PFTRDA	0.30 U	0.40	0.30	0.20	U
PFTEDA	0.20 U	0.40	0.20	0.20	U
PFBS	0.20 U	0.40	0.20	0.037	U
PFPES	0.20 U	0.40	0.20	0.063	U
PFHXS	0.20 U	0.40	0.20	0.032	U
PFHPS	0.20 U	0.40	0.20	0.051	U
PFOS	0.0817 J	0.40	0.20	0.064	IR1, J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U	[illegible]	[illegible]	[illegible]	U

ANALYSIS DATA SHEET

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Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BLK1	File ID:	S2023-02-09C (34)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:07
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
Instrument:	Saphira				
Column:	1				

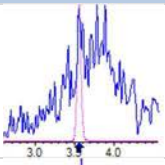
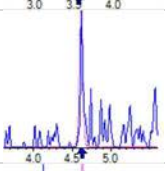
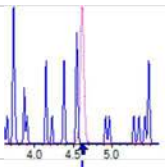
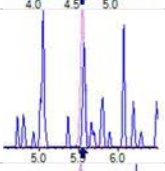
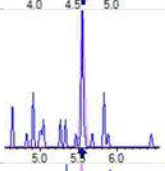
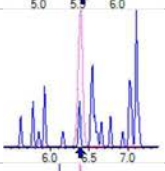
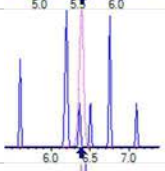
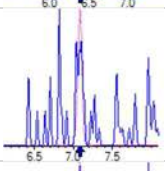
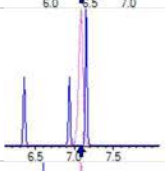
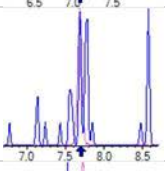
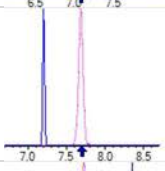
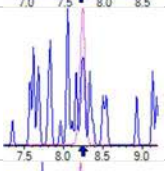
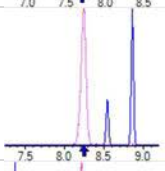
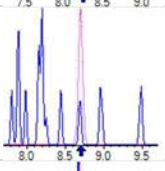
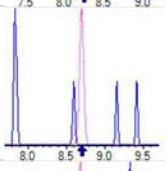
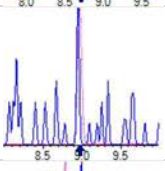
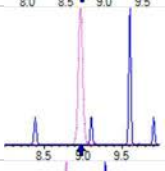
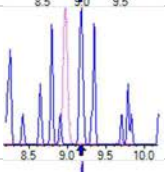
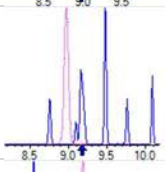
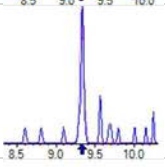
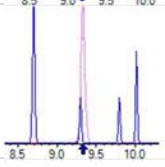
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80 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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

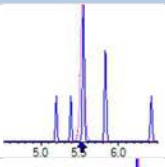
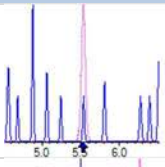
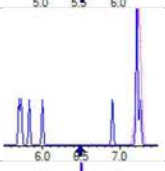
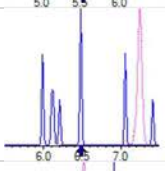
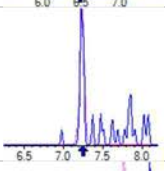
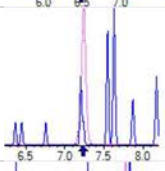
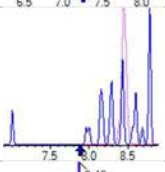
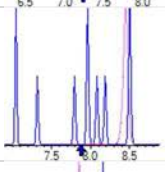
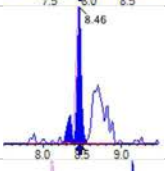
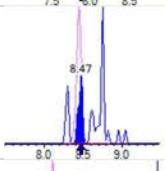
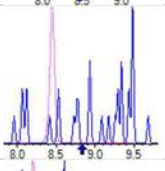
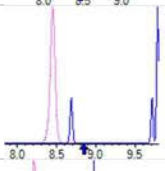
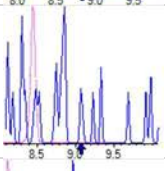
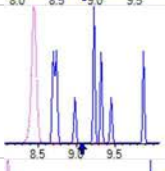
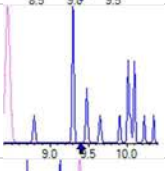
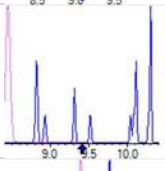
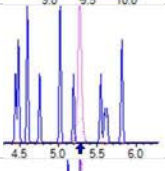
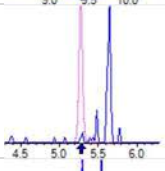
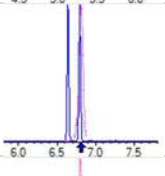
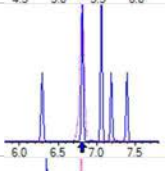
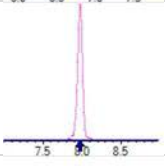
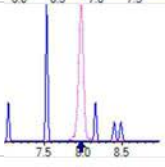
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

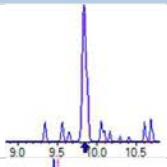
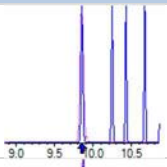
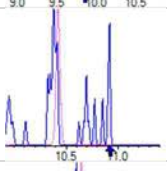
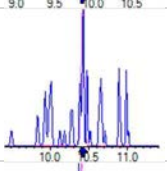
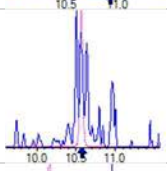
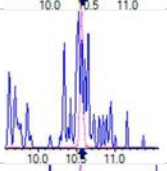
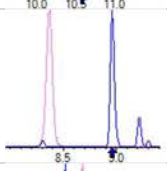
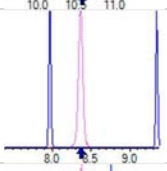
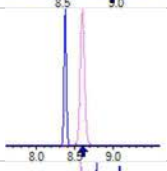
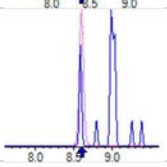
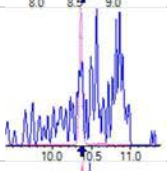
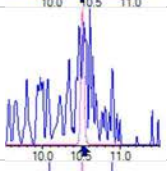
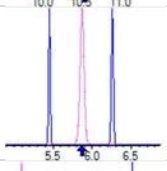
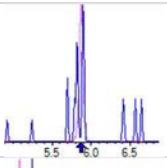
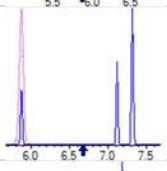
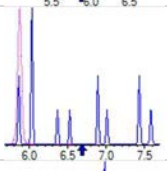
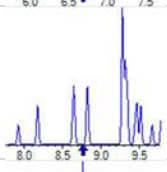
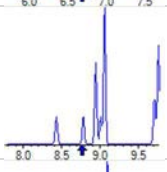
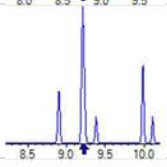
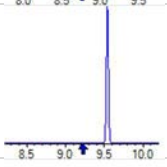
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 23533 (499.0 / 99.0) 2553	(8.46 , 1.00) (0.01 , N/A , -0.9)	82.3 14.9	0.1085 48.8 49.2	0.0204	N/A			IR1,
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

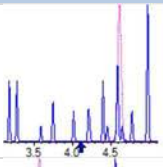
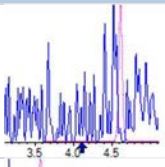
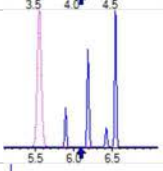
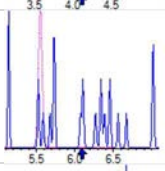
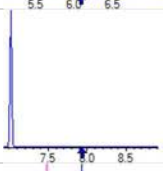
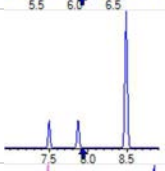
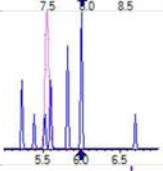
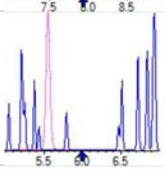
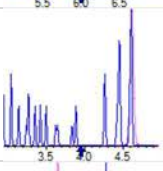
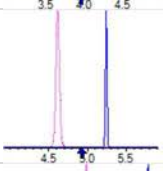
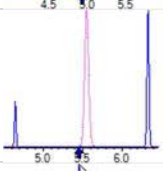
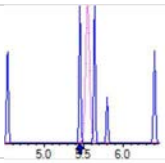
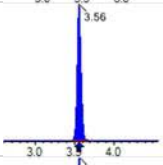
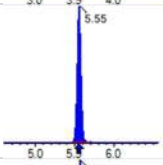
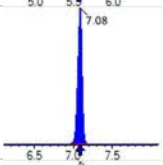
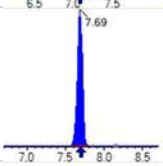
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

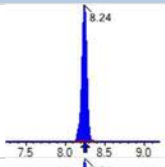
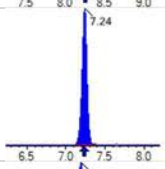
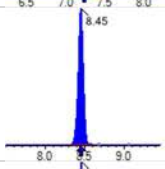
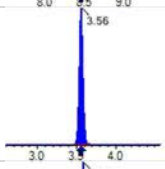
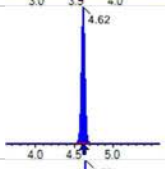
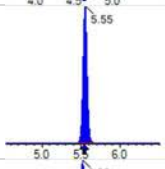
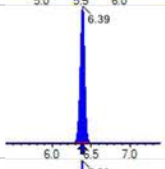
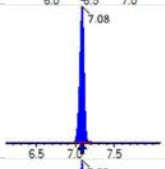
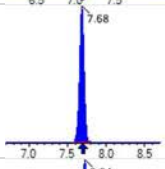
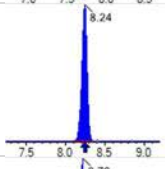
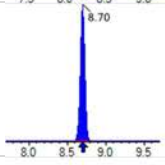
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(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) 151338	(3.56 , N/A) (N/A , 0.02 , N/A)	1649.2	N/A	1.2275 [1.0000]	122.7% { 108.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 478007	(5.55 , N/A) (N/A , 0.02 , N/A)	1872.3	N/A	1.1098 [1.0000]	111.0% { 118.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 353443	(7.08 , N/A) (N/A , 0.03 , N/A)	736.8	N/A	1.0828 [1.0000]	108.3% { 102.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 313646	(7.69 , N/A) (N/A , 0.03 , N/A)	758.3	N/A	1.2364 [1.0000]	123.6% { 118.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

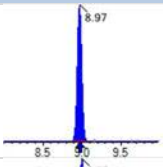
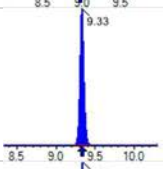
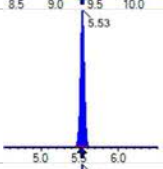
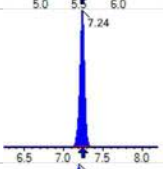
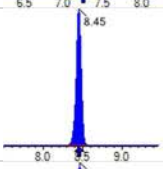
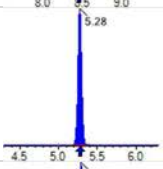
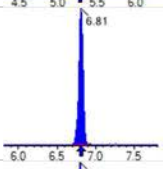
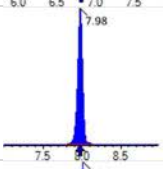
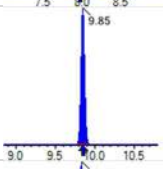
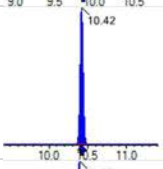
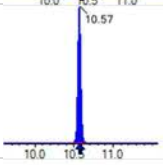
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 415228	(8.24 , N/A) (N/A , 0.03 , N/A)	1251.7	N/A	1.3291 [1.0000]	132.9% { 122.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 762014	(7.24 , N/A) (N/A , 0.03 , N/A)	886.8	N/A	1.2119 [1.0000]	121.2% { 109.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 902119	(8.45 , N/A) (N/A , 0.03 , N/A)	835.5	N/A	1.3312 [1.0000]	133.1% { 111.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1319852	(3.56 , N/A) (N/A , 0.02 , N/A)	4957.7	N/A	7.3816 [8.0000]	92.3% { 106.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1482251	(4.62 , N/A) (N/A , 0.02 , N/A)	2857.6	N/A	4.2837 [4.0000]	107.1% { 113.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 971622	(5.55 , N/A) (N/A , 0.02 , N/A)	1778.4	N/A	1.9042 [2.0000]	95.2% { 108.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 860110	(6.39 , N/A) (N/A , 0.03 , N/A)	1952.6	N/A	1.9953 [2.0000]	99.8% { 110.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 719317	(7.08 , N/A) (N/A , 0.03 , N/A)	1002.1	N/A	1.8695 [2.0000]	93.5% { 100.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 300728	(7.68 , N/A) (N/A , 0.03 , N/A)	30904.9	N/A	0.9050 [1.0000]	90.5% { 114.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 519183	(8.24 , N/A) (N/A , 0.03 , N/A)	842.2	N/A	1.0180 [1.0000]	101.8% { 137.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 584237	(8.70 , N/A) (N/A , 0.02 , N/A)	161471.2	N/A	0.8391 [1.0000]	83.9% { 116.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

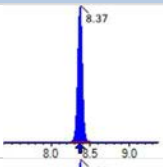
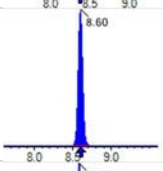
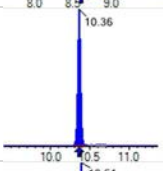
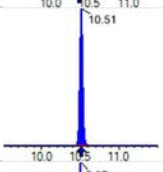
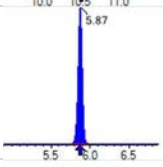
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 620994	(8.97 , N/A) (N/A , 0.01 , N/A)	644.5	N/A	0.8633 [1.0000]	86.3% { 108.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 384260	(9.33 , N/A) (N/A , 0.01 , N/A)	928.2	N/A	0.7402 [1.0000]	74.0% { 84.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2565050	(5.53 , N/A) (N/A , 0.02 , N/A)	1750.8	N/A	1.7585 [2.0000]	87.9% { 108.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1211580	(7.24 , N/A) (N/A , 0.03 , N/A)	1278.3	N/A	1.6961 [2.0000]	84.8% { 94.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2123891	(8.45 , N/A) (N/A , 0.03 , N/A)	1310.8	N/A	1.7632 [2.0000]	88.2% { 109.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 474951	(5.28 , N/A) (N/A , 0.01 , N/A)	1497.3	N/A	5.9669 [4.0000]	149.2% { 178.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 277213	(6.81 , N/A) (N/A , 0.02 , N/A)	877.5	N/A	3.4813 [4.0000]	87.0% { 105.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 378396	(7.98 , N/A) (N/A , 0.03 , N/A)	954.1	N/A	3.9311 [4.0000]	98.3% { 117.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3777408	(9.85 , N/A) (N/A , 0.01 , N/A)	1724.6	N/A	1.6570 [2.0000]	82.9% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 504001	(10.42 , N/A) (N/A , 0.01 , N/A)	1729.6	N/A	0.7379 [2.0000]	36.9% { 44.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 485102	(10.57 , N/A) (N/A , 0.01 , N/A)	2421.0	N/A	0.7767 [2.0000]	38.8% { 44.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (34)
Acquired: 2023/02/10 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1114231	(8.37 , N/A) (N/A , 0.03 , N/A)	741.1	N/A	3.8530 [4.0000]	96.3% { 105.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1120271	(8.60 , N/A) (N/A , 0.03 , N/A)	2125.7	N/A	4.3263 [4.0000]	108.2% { 154.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2422637	(10.36 , N/A) (N/A , 0.02 , N/A)	1343.0	N/A	9.6878 [20.0000]	48.4% { 55.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4227755	(10.51 , N/A) (N/A , 0.02 , N/A)	1894.9	N/A	13.0029 [20.0000]	65.0% { 69.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2583574	(5.87 , N/A) (N/A , 0.02 , N/A)	2146.7	N/A	7.7937 [8.0000]	97.4% { 101.4% }			

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BS1	File ID:	S2023-02-09C (35)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:20
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	18.8	1.6	0.21	
PFPEA	8.79	0.80	0.065	
PFHXA	4.74	0.40	0.055	
PFHPA	4.32	0.40	0.041	
PFOA	4.55	0.40	0.15	
PFNA	5.01	0.40	0.082	
PFDA	4.27	0.40	0.10	
PFUnA	4.60	0.40	0.16	
PFDOA	4.51	0.40	0.11	
PFTRDA	5.00	0.40	0.20	
PFTEDA	4.21	0.40	0.20	
PFBS	4.20	0.40	0.037	
PFPES	4.33	0.40	0.063	
PFHXS	4.24	0.40	0.032	
PFHPS	4.00	0.40	0.051	
PFOS	4.48	0.40	0.064	
PFNS	4.49	0.40	0.12	
PFDS	4.16	0.40	0.15	
PFDOS	3.84	0.40	0.12	
4:2FTS	18.6	1.6	0.29	
6:2FTS	18.6	1.6	0.31	
8:2FTS	19.6	1.6	0.082	
PFOSA	4.80	0.40	0.10	
NMeFOSA	19.3	1.6	0.47	
NEtFOSA	19.2	1.6	0.41	
NMeFOSAA	5.00	0.40	0.11	
NEtFOSAA	5.28	0.40	0.11	
NMeFOSE	19.6	1.6	1.0	
NEtFOSE	17.9	1.6	1.0	
HFPO-DA	9.13	[illegible]	[illegible]	

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-BS1	File ID:	S2023-02-09C (35)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:20
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
Instrument:	Saphira				
Column:	1				

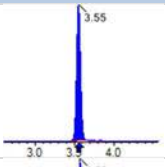
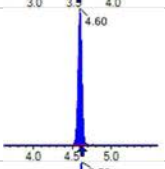
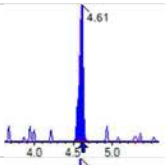
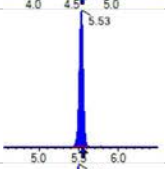
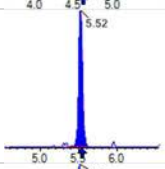
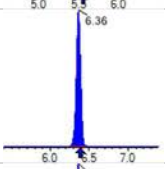
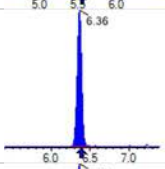
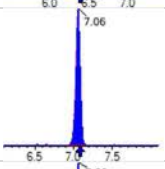
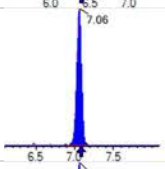
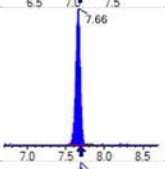
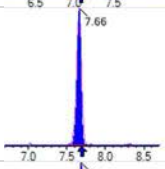
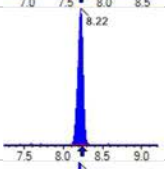
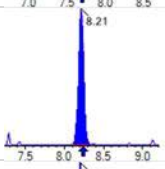
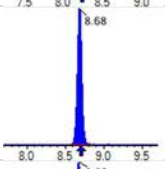
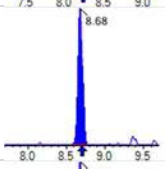
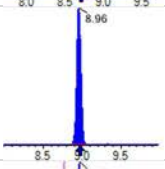
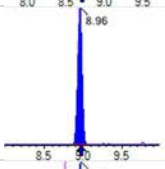
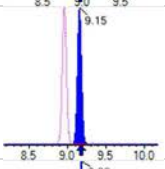
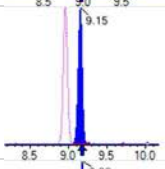
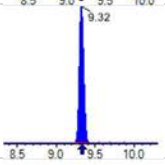
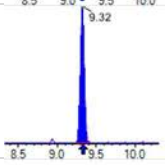
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	8.75	0.80	0.12	
PFEESA	8.00	0.80	0.11	
PFMPA	8.73	0.80	0.054	
PFMBA	8.58	0.80	0.091	
NFDHA	9.82	0.80	0.30	
9CL-PF3ONS	9.38	0.80	0.21	
11CL-PF3OUDS	8.55	0.80	0.21	
3:3FTCA	17.8	1.6	0.57	
5:3FTCA	17.4	1.6	0.44	
7:3FTCA	18.1	1.6	0.55	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

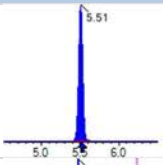
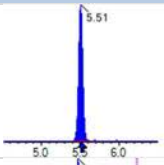
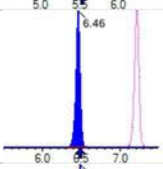
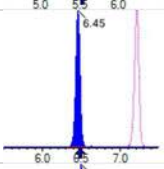
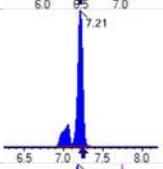
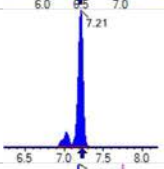
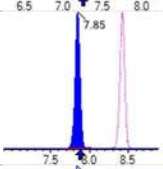
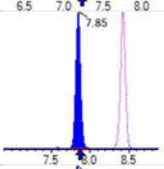
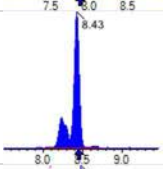
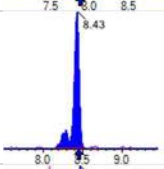
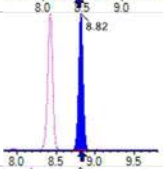
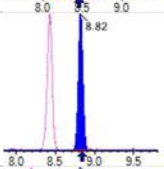
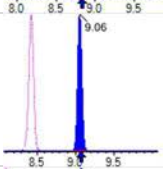
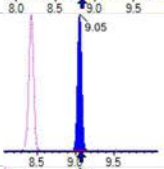
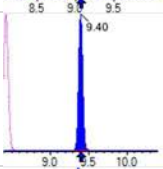
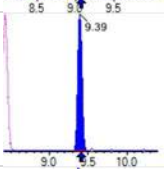
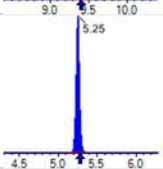
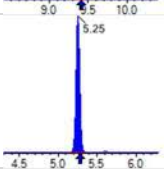
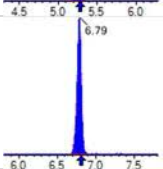
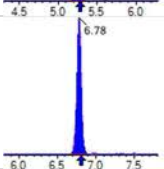
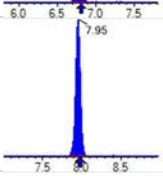
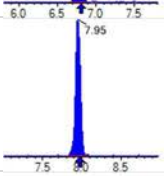
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 609219	(3.55 , 1.00) (0.00 , N/A , 0.0)	240.4	N/A 0.0 0.0	4.6988 [4.0000]	117.5%			
PFPeA	(263.0 / 219.0) 631480 (263.0 / 69.0) 6378	(4.60 , 1.00) (0.00 , N/A , -0.5)	2223.0 123.6	0.0101 68.9 85.9	2.1965 [2.0000]	109.8%			
PFHxA	(313.0 / 269.0) 500360 (313.0 / 119.0) 44399	(5.53 , 1.00) (0.00 , N/A , 0.4)	3781.4 912.5	0.0887 78.2 95.0	1.1842 [1.0000]	118.4%			
PFHpA	(363.0 / 319.0) 438134 (363.0 / 169.0) 127012	(6.36 , 1.00) (0.00 , N/A , 0.0)	9895790.1 11160.0	0.2899 92.2 84.3	1.0797 [1.0000]	108.0%			
PFOA	(413.0 / 369.0) 385009 (413.0 / 169.0) 121971	(7.06 , 1.00) (0.00 , N/A , 0.0)	1844.6 2363.4	0.3168 94.6 99.8	1.1366 [1.0000]	113.7%			
PFNA	(463.0 / 419.0) 341627 (463.0 / 169.0) 66820	(7.66 , 1.00) (0.00 , N/A , 0.0)	1984.4 139851.0	0.1956 85.7 85.9	1.2533 [1.0000]	125.3%			
PFDA	(513.0 / 469.0) 410931 (513.0 / 169.0) 47869	(8.22 , 1.00) (0.00 , N/A , 0.4)	561.1 233.5	0.1165 105.6 129.0	1.0670 [1.0000]	106.7%			
PFUnA	(563.0 / 519.0) 531051 (563.0 / 169.0) 37557	(8.68 , 1.00) (0.00 , N/A , 0.5)	848.7 242.7	0.0707 69.0 71.6	1.1495 [1.0000]	115.0%			
PFDoA	(613.0 / 569.0) 588178 (613.0 / 169.0) 79163	(8.96 , 1.00) (0.00 , N/A , -0.2)	914.6 9800.8	0.1346 93.8 111.4	1.1276 [1.0000]	112.8%			
PFTrDA	(663.0 / 619.0) 544850 (663.0 / 169.0) 117139	(9.15 , 1.02) (N/A , 0.00 , 0.2)	1171.2 801.4	0.2150 94.4 105.5	1.2503 [1.0000]	125.0%			
PFTeDA	(713.0 / 669.0) 421954 (713.0 / 169.0) 102018	(9.32 , 1.00) (0.00 , N/A , 0.0)	851.6 1289.4	0.2418 117.7 139.3	1.0521 [1.0000]	105.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

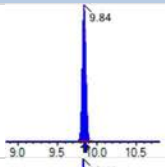
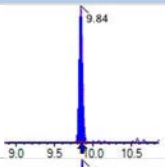
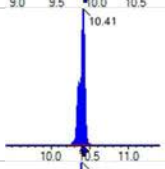
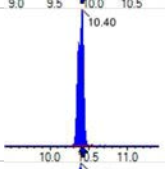
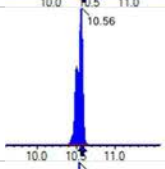
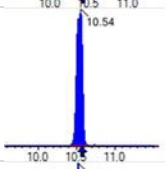
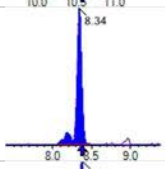
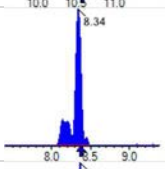
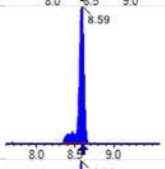
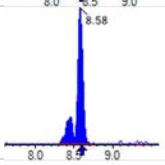
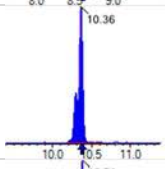
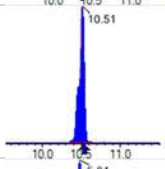
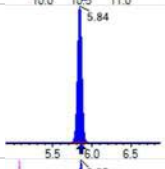
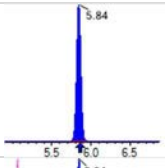
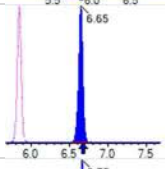
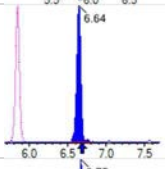
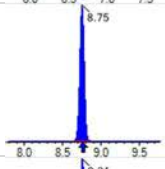
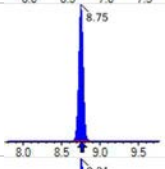
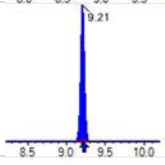
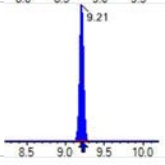
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 710342 (299.0 / 99.0) 488058	(5.51 , 1.00) (0.00 , N/A , 0.0)	1566.6 1027.4	0.6871 118.4 108.3	1.0496 [0.8847]	118.6%			
PFPeS	(349.0 / 80.0) 1295103 (349.0 / 99.0) 447859	(6.46 , 0.90) (N/A , 0.00 , 0.2)	63885.9 46688.5	0.3458 101.0 103.7	1.0836 [0.9384]	115.5%			
PFHxS	(399.0 / 80.0) 954511 (399.0 / 99.0) 306817	(7.21 , 1.00) (0.00 , N/A , 0.1)	10704.2 31904.8	0.3214 102.0 93.6	1.0598 [0.9110]	116.3%			
PFHpS	(449.0 / 80.0) 858237 (449.0 / 99.0) 223408	(7.85 , 0.93) (N/A , 0.01 , -0.1)	1528.4 5804.1	0.2603 98.0 90.1	0.9990 [0.9514]	105.0%			
PFOS	(499.0 / 80.0) 1269250 (499.0 / 99.0) 284514	(8.43 , 1.00) (0.00 , N/A , -0.1)	591.0 290.9	0.2242 100.8 101.6	1.1205 [0.9275]	120.8%			
PFNS	(549.0 / 80.0) 1490040 (549.0 / 99.0) 337285	(8.82 , 1.05) (N/A , 0.00 , -0.1)	3348.8 278047.1	0.2264 93.2 101.0	1.1224 [0.9599]	116.9%			
PFDS	(599.0 / 80.0) 1817976 (599.0 / 99.0) 430267	(9.06 , 1.07) (N/A , 0.00 , 0.1)	1464.4 830.0	0.2367 117.0 113.2	1.0396 [0.9631]	107.9%			
PFDoS	(699.0 / 80.0) 1297252 (699.0 / 99.0) 272486	(9.40 , 1.12) (N/A , 0.00 , 0.3)	1367.0 1408.5	0.2100 103.0 111.0	0.9594 [0.9696]	99.0%			
4:2FTS	(327.0 / 307.0) 1675025 (327.0 / 81.0) 971498	(5.25 , 1.00) (0.00 , N/A , -0.1)	2940.3 1673.2	0.5800 101.2 95.4	4.6502 [3.7381]	124.4%			
6:2FTS	(427.0 / 407.0) 450457 (427.0 / 81.0) 293109	(6.79 , 1.00) (0.00 , N/A , 0.2)	1364.3 668.5	0.6507 85.4 90.1	4.6436 [3.7962]	122.3%			
8:2FTS	(527.0 / 507.0) 502499 (527.0 / 81.0) 312374	(7.95 , 1.00) (0.00 , N/A , 0.0)	982.9 605.0	0.6216 95.3 76.6	4.9014 [3.8332]	127.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

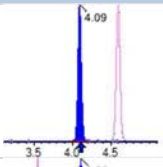
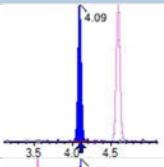
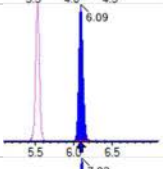
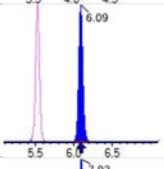
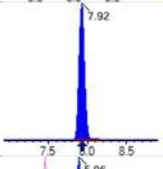
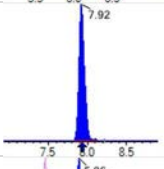
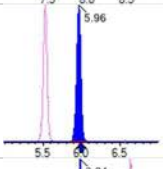
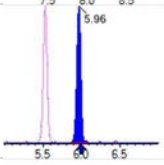
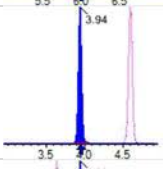
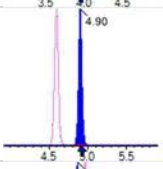
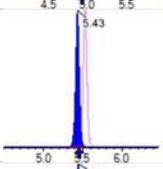
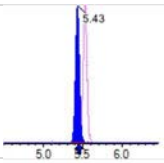
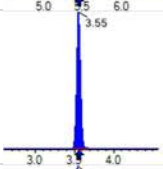
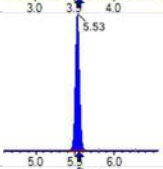
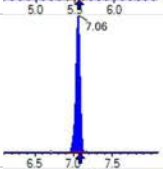
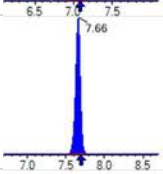
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2035462 (498.0 / 478.0) 38405	(9.84 , 1.00) (0.00 , N/A , 0.2)	1559.3 540.5	0.0189 90.1 86.9	1.2009 [1.0000]	120.1%			
NMeFOSA	(512.0 / 219.0) 970944 (512.0 / 169.0) 841620	(10.41 , 1.00) (0.00 , N/A , 0.9)	2405.4 2639.0	0.8668 105.6 106.4	4.8331 [4.0000]	120.8%			
NEtFOSA	(526.0 / 219.0) 1186367 (526.0 / 169.0) 1537763	(10.56 , 1.00) (0.00 , N/A , 0.9)	3582.4 3279.4	1.2962 103.4 99.8	4.8005 [4.0000]	120.0%			
NMeFOSAA	(570.0 / 419.0) 225324 (570.0 / 483.0) 129058	(8.34 , 1.00) (0.00 , N/A , 0.1)	719.2 2610788.6	0.5728 105.5 114.7	1.2488 [1.0000]	124.9%			
NEtFOSAA	(584.0 / 419.0) 224726 (584.0 / 526.0) 121200	(8.59 , 1.00) (0.01 , N/A , 0.4)	607.2 828.1	0.5393 80.1 88.1	1.3203 [1.0000]	132.0%			QC,
NMeFOSE	(616.0 / 59.0) 614088	(10.36 , 1.00) (0.01 , N/A , 0.0)	907.1	N/A 0.0 0.0	4.9031 [4.0000]	122.6%			
NEtFOSE	(630.0 / 59.0) 962964	(10.51 , 1.00) (0.01 , N/A , 0.0)	870.0	N/A 0.0 0.0	4.4873 [4.0000]	112.2%			
HFPO-DA	(285.0 / 169.0) 434134 (285.0 / 185.0) 1261355	(5.84 , 1.00) (0.00 , N/A , 0.0)	1650.4 1601.0	2.9054 102.5 98.6	2.2819 [2.0000]	114.1%			
ADONA	(377.0 / 85.0) 1488081 (377.0 / 251.0) 154578	(6.65 , 1.14) (N/A , 0.00 , 0.2)	1505.3 548.8	0.1039 97.1 92.9	2.1872 [1.8854]	116.0%			
9Cl-Pf3ONS	(531.0 / 351.0) 4609379 (533.0 / 353.0) 1457284	(8.75 , 1.50) (N/A , 0.01 , 0.0)	1362.1 1272.3	0.3162 101.3 103.0	2.3445 [1.8665]	125.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 3299952 (633.0 / 453.0) 1015704	(9.21 , 1.58) (N/A , 0.00 , 0.0)	1783.9 1959.2	0.3078 96.9 101.3	2.1373 [1.8864]	113.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

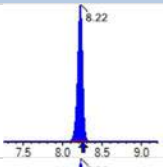
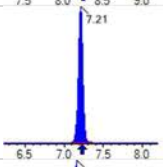
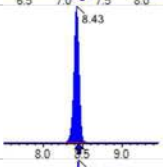
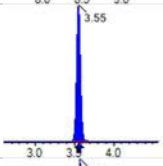
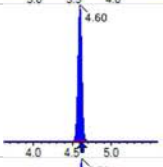
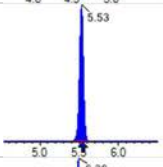
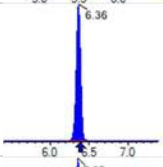
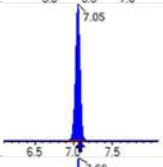
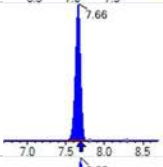
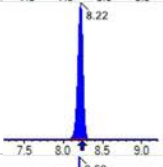
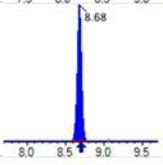
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 37831 (241.0 / 117.0) 61866	(4.09 , 0.89) (N/A , 0.01 , 0.0)	589.0 427.2	1.6353 97.1 93.2	4.4494 [4.0000]	111.2%			
5:3FTCA	(341.0 / 236.7) 329764 (341.0 / 217.0) 690582	(6.09 , 1.10) (N/A , 0.00 , 0.1)	1900.5 735.6	2.0942 116.7 122.0	4.3438 [4.0000]	108.6%			
7:3FTCA	(441.0 / 317.0) 384048 (441.0 / 337.0) 309113	(7.92 , 1.43) (N/A , 0.01 , 0.1)	1072.3 812.9	0.8049 95.9 98.6	4.5252 [4.0000]	113.1%			
PFEESA	(315.0 / 135.0) 866414 (315.0 / 83.0) 258895	(5.96 , 1.08) (N/A , 0.00 , 0.0)	1521.8 557.6	0.2988 97.9 96.1	2.0006 [1.7849]	112.1%			
PFMPA	(229.0 / 85.0) 120261	(3.94 , 0.86) (N/A , 0.01 , 0.0)	1673.6	N/A 0.0 0.0	2.1824 [2.0000]	109.1%			
PFMBA	(279.0 / 85.0) 560437	(4.90 , 1.07) (N/A , 0.00 , 0.0)	1805.4	N/A 0.0 0.0	2.1442 [2.0000]	107.2%			
NFDHA	(295.0 / 201.0) 586236 (295.0 / 85.0) 533108	(5.43 , 0.98) (N/A , 0.00 , 0.0)	2244.4 1428.3	0.9094 91.3 91.8	2.4540 [2.0000]	122.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 147604	(3.55 , N/A) (N/A , 0.02 , N/A)	1626.4	N/A	1.1972 [1.0000]	119.7% { 105.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 471464	(5.53 , N/A) (N/A , 0.00 , N/A)	1253.6	N/A	1.0946 [1.0000]	109.5% { 116.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 358254	(7.06 , N/A) (N/A , 0.00 , N/A)	1126.8	N/A	1.0975 [1.0000]	109.8% { 104.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 297270	(7.66 , N/A) (N/A , 0.00 , N/A)	1146.8	N/A	1.1719 [1.0000]	117.2% { 112.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

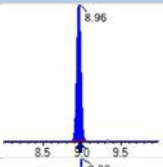
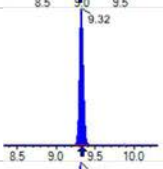
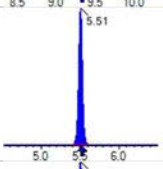
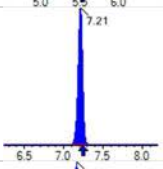
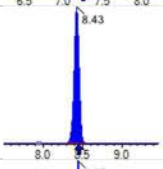
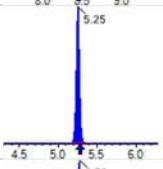
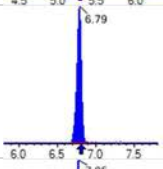
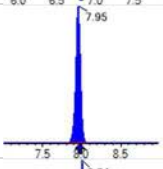
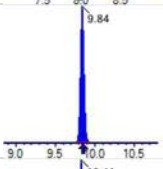
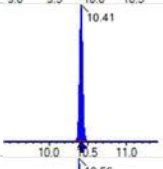
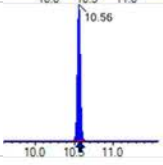
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 400066	(8.22 , N/A) (N/A , 0.01 , N/A)	3258.7	N/A	1.2806 [1.0000]	128.1% { 118.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 718493	(7.21 , N/A) (N/A , 0.00 , N/A)	1374.9	N/A	1.1427 [1.0000]	114.3% { 102.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 903194	(8.43 , N/A) (N/A , 0.01 , N/A)	884.8	N/A	1.3328 [1.0000]	133.3% { 111.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1263680	(3.55 , N/A) (N/A , 0.02 , N/A)	4924.3	N/A	7.2462 [8.0000]	90.6% { 101.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1375016	(4.60 , N/A) (N/A , 0.00 , N/A)	3129.1	N/A	4.0289 [4.0000]	100.7% { 105.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 945534	(5.53 , N/A) (N/A , 0.00 , N/A)	2502.0	N/A	1.8788 [2.0000]	93.9% { 105.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 837235	(6.36 , N/A) (N/A , 0.00 , N/A)	1700.0	N/A	1.9692 [2.0000]	98.5% { 107.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 667258	(7.05 , N/A) (N/A , 0.00 , N/A)	1611.9	N/A	1.7109 [2.0000]	85.5% { 93.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 289798	(7.66 , N/A) (N/A , 0.00 , N/A)	713.3	N/A	0.9201 [1.0000]	92.0% { 110.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 415036	(8.22 , N/A) (N/A , 0.01 , N/A)	793.9	N/A	0.8446 [1.0000]	84.5% { 109.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 560002	(8.68 , N/A) (N/A , 0.01 , N/A)	1585.7	N/A	0.8348 [1.0000]	83.5% { 111.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

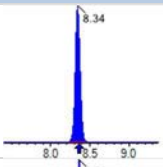
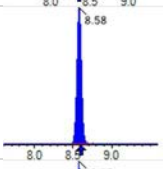
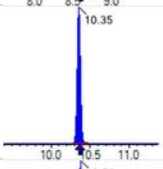
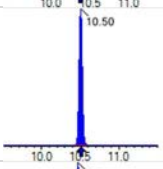
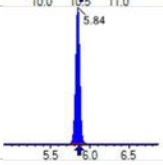
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 605538	(8.96 , N/A) (N/A , 0.00 , N/A)	1535.8	N/A	0.8737 [1.0000]	87.4% { 106.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 440661	(9.32 , N/A) (N/A , 0.00 , N/A)	1192.3	N/A	0.8811 [1.0000]	88.1% { 96.3% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2399065	(5.51 , N/A) (N/A , 0.00 , N/A)	2056.5	N/A	1.7444 [2.0000]	87.2% { 101.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1221560	(7.21 , N/A) (N/A , 0.00 , N/A)	1824.5	N/A	1.8137 [2.0000]	90.7% { 95.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2088745	(8.43 , N/A) (N/A , 0.01 , N/A)	955.1	N/A	1.7319 [2.0000]	86.6% { 107.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 502323	(5.25 , N/A) (N/A , -0.01 , N/A)	1622.1	N/A	6.6930 [4.0000]	167.3% { 189.0% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 280749	(6.79 , N/A) (N/A , 0.00 , N/A)	508.6	N/A	3.7393 [4.0000]	93.5% { 106.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 341805	(7.95 , N/A) (N/A , 0.01 , N/A)	713.8	N/A	3.7660 [4.0000]	94.2% { 106.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3505566	(9.84 , N/A) (N/A , 0.01 , N/A)	1267.4	N/A	1.5359 [2.0000]	76.8% { 92.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 507946	(10.41 , N/A) (N/A , 0.01 , N/A)	1452.3	N/A	0.7428 [2.0000]	37.1% { 44.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 517405	(10.56 , N/A) (N/A , 0.01 , N/A)	2381.3	N/A	0.8274 [2.0000]	41.4% { 47.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (35)
Acquired: 2023/02/10 - 05:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	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) 923318	(8.34 , N/A) (N/A , 0.01 , N/A)	819.3	N/A	3.1890 [4.0000]	79.7% { 87.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 847473	(8.58 , N/A) (N/A , 0.01 , N/A)	2604.6	N/A	3.2689 [4.0000]	81.7% { 116.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2416990	(10.35 , N/A) (N/A , 0.01 , N/A)	1456.3	N/A	9.6537 [20.0000]	48.3% { 55.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4428127	(10.50 , N/A) (N/A , 0.01 , N/A)	1862.0	N/A	13.6030 [20.0000]	68.0% { 73.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2426982	(5.84 , N/A) (N/A , 0.00 , N/A)	2092.2	N/A	7.4229 [8.0000]	92.8% { 95.2% }			

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-MRL1	File ID:	S2023-02-09C (36)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:33
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.84	1.6	0.21	
PFPEA	0.999	0.80	0.065	
PFHXA	0.461	0.40	0.055	
PFHPA	0.574	0.40	0.041	
PFOA	0.596	0.40	0.15	
PFNA	0.497	0.40	0.082	
PFDA	0.426	0.40	0.10	
PFUnA	0.508	0.40	0.16	
PFDOA	0.505	0.40	0.11	
PFTRDA	0.518	0.40	0.20	
PFTEDA	0.492	0.40	0.20	
PFBS	0.380	0.40	0.037	J
PFPES	0.462	0.40	0.063	
PFHXS	0.400	0.40	0.032	
PFHPS	0.457	0.40	0.051	
PFOS	0.489	0.40	0.064	
PFNS	0.503	0.40	0.12	
PFDS	0.485	0.40	0.15	
PFDOS	0.397	0.40	0.12	J
4:2FTS	1.76	1.6	0.29	
6:2FTS	2.73	1.6	0.31	BS2
8:2FTS	2.73	1.6	0.082	BS2
PFOSA	0.535	0.40	0.10	
NMeFOSA	1.84	1.6	0.47	
NEtFOSA	1.84	1.6	0.41	
NMeFOSAA	0.473	0.40	0.11	
NEtFOSAA	0.493	0.40	0.11	
NMeFOSE	2.14	1.6	1.0	
NEtFOSE	1.69	1.6	1.0	
HFPO-DA	0.904	[illegible]	[illegible]	

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0167-MRL1	File ID:	S2023-02-09C (36)
Sampled:		Prepared:	02/08/23 15:02	Analyzed:	02/10/23 05:33
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0167	Sequence:	SC00598	Calibration:	2306010
Instrument:	Saphira				
Column:	1				

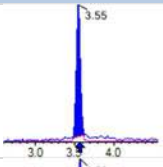
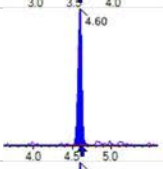
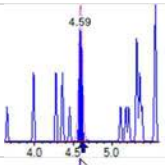
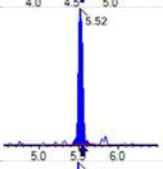
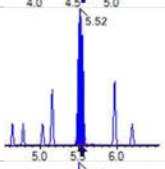
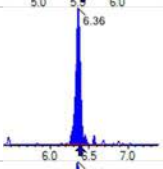
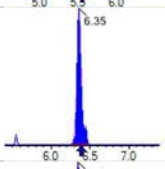
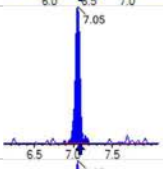
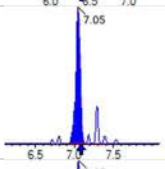
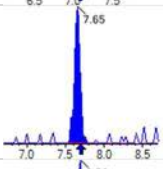
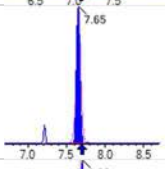
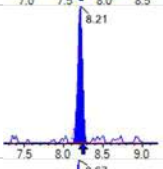
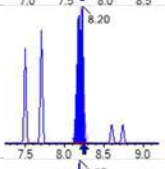
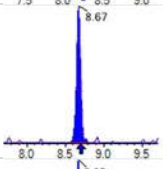
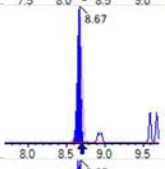
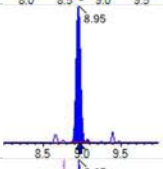
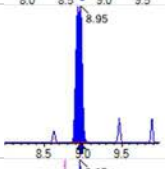
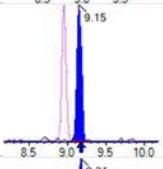
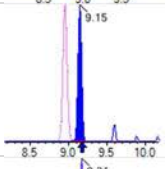
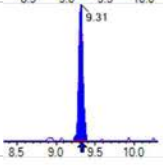
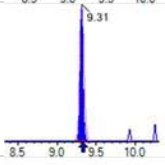
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.849	0.80	0.12	
PFEESA	0.830	0.80	0.11	
PFMPA	1.15	0.80	0.054	
PFMBA	0.963	0.80	0.091	
NFDHA	0.869	0.80	0.30	
9CL-PF3ONS	1.06	0.80	0.21	
11CL-PF3OUDS	0.887	0.80	0.21	
3:3FTCA	1.99	1.6	0.57	
5:3FTCA	1.66	1.6	0.44	
7:3FTCA	1.64	1.6	0.55	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

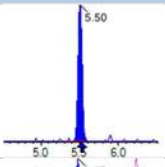
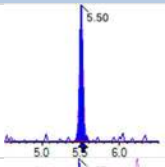
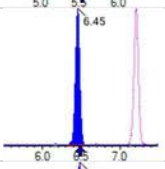
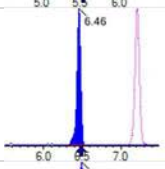
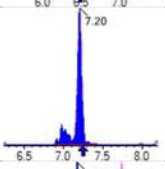
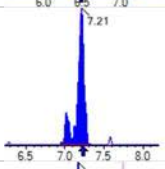
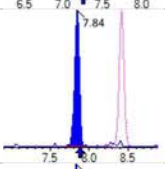
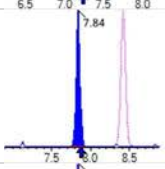
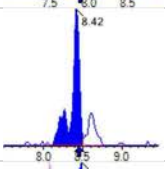
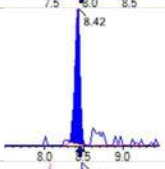
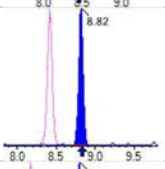
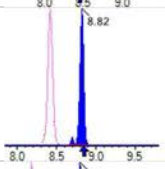
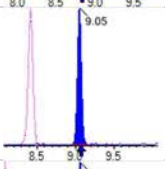
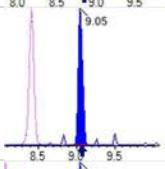
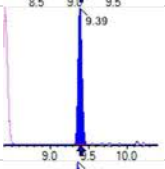
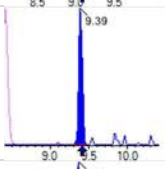
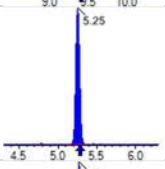
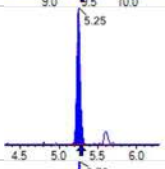
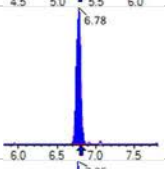
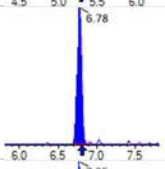
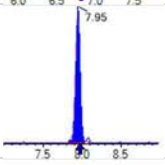
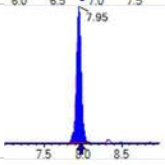
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 58300	(3.55 , 1.00) (0.00 , N/A , 0.0)	91.6	N/A 0.0 0.0	0.4598 [0.4000]	115.0%			
PFPeA	(263.0 / 219.0) 65289 (263.0 / 69.0) 434	(4.60 , 1.00) (0.01 , N/A , 0.4)	412.2 15.6	0.0066 45.3 56.5	0.2497 [0.2000]	124.9%			
PFHxA	(313.0 / 269.0) 45075 (313.0 / 119.0) 3340	(5.52 , 1.00) (0.00 , N/A , 0.0)	2018.3 257.1	0.0741 65.3 79.3	0.1152 [0.1000]	115.2%			
PFHpA	(363.0 / 319.0) 51519 (363.0 / 169.0) 13464	(6.36 , 1.00) (0.00 , N/A , 0.4)	6073.1 546.7	0.2613 83.1 76.0	0.1435 [0.1000]	143.5%			QC,
PFOA	(413.0 / 369.0) 48693 (413.0 / 169.0) 15753	(7.05 , 1.00) (0.00 , N/A , 0.4)	472.4 186.1	0.3235 96.6 101.9	0.1491 [0.1000]	149.1%			QC,
PFNA	(463.0 / 419.0) 29745 (463.0 / 169.0) 6474	(7.65 , 1.00) (-0.01 , N/A , 0.2)	506.1 1936.9	0.2176 95.4 95.6	0.1244 [0.1000]	124.4%			
PFDA	(513.0 / 469.0) 42227 (513.0 / 169.0) 4760	(8.21 , 1.00) (0.00 , N/A , 0.7)	95.0 81.5	0.1127 102.1 124.8	0.1064 [0.1000]	106.4%			
PFUnA	(563.0 / 519.0) 58520 (563.0 / 169.0) 5108	(8.67 , 1.00) (0.00 , N/A , 0.3)	217.8 243.3	0.0873 85.2 88.4	0.1270 [0.1000]	127.0%			
PFDoA	(613.0 / 569.0) 58926 (613.0 / 169.0) 8143	(8.95 , 1.00) (0.00 , N/A , 0.2)	216.9 337.7	0.1382 96.4 114.4	0.1262 [0.1000]	126.2%			
PFTrDA	(663.0 / 619.0) 50504 (663.0 / 169.0) 12208	(9.15 , 1.02) (N/A , 0.00 , 0.3)	205.9 825.4	0.2417 106.2 118.6	0.1294 [0.1000]	129.4%			
PFTeDA	(713.0 / 669.0) 39887 (713.0 / 169.0) 7654	(9.31 , 1.00) (0.00 , N/A , 0.1)	306.9 23980.7	0.1919 93.4 110.5	0.1229 [0.1000]	122.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

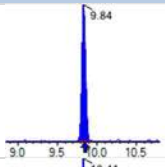
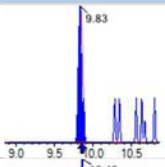
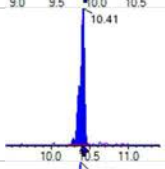
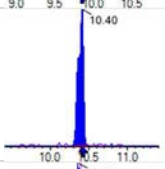
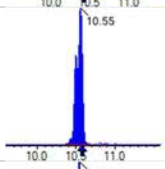
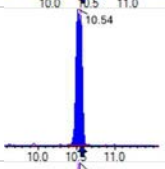
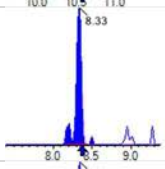
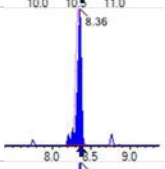
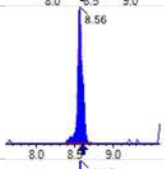
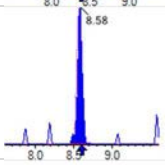
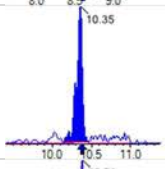
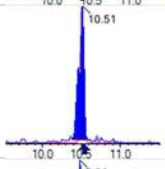
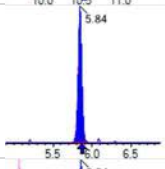
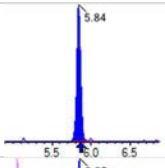
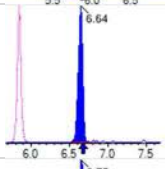
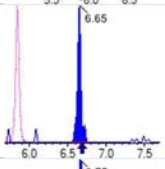
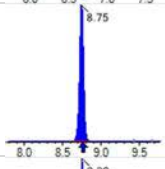
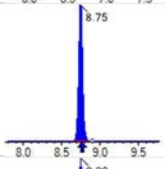
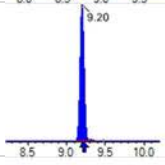
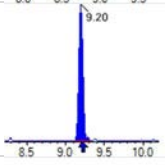
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 69292 (299.0 / 99.0) 37369	(5.50 , 1.00) (0.00 , N/A , 0.0)	260.2 128.3	0.5393 93.0 85.0	0.0951 [0.0885]	107.5%			
PFPeS	(349.0 / 80.0) 133155 (349.0 / 99.0) 54592	(6.45 , 0.90) (N/A , -0.01 , -0.2)	3736425.7 2089385.8	0.4100 119.7 123.0	0.1156 [0.0938]	123.2%			
PFHxS	(399.0 / 80.0) 86769 (399.0 / 99.0) 40463	(7.20 , 1.00) (0.00 , N/A , -0.5)	291.7 79010.6	0.4663 148.0 135.7	0.1000 [0.0911]	109.7%			
PFHpS	(449.0 / 80.0) 93402 (449.0 / 99.0) 24464	(7.84 , 0.93) (N/A , 0.00 , 0.4)	81001.7 96716.7	0.2619 98.6 90.6	0.1142 [0.0951]	120.0%			
PFOS	(499.0 / 80.0) 131829 (499.0 / 99.0) 26700	(8.42 , 1.00) (0.01 , N/A , 0.0)	165.5 69.5	0.2025 91.1 91.8	0.1223 [0.0927]	131.8%			QC,
PFNS	(549.0 / 80.0) 158857 (549.0 / 99.0) 38772	(8.82 , 1.05) (N/A , 0.00 , -0.3)	17767.2 36700.7	0.2441 100.5 109.0	0.1257 [0.0960]	130.9%			QC,
PFDS	(599.0 / 80.0) 201837 (599.0 / 99.0) 37172	(9.05 , 1.08) (N/A , 0.00 , 0.1)	375.9 209.5	0.1842 91.0 88.1	0.1212 [0.0963]	125.9%			
PFDoS	(699.0 / 80.0) 127601 (699.0 / 99.0) 27096	(9.39 , 1.12) (N/A , 0.00 , 0.1)	375.8 164.8	0.2123 104.1 112.2	0.0991 [0.0970]	102.2%			
4:2FTS	(327.0 / 307.0) 161782 (327.0 / 81.0) 94111	(5.25 , 1.00) (0.00 , N/A , 0.2)	32120.1 362.6	0.5817 101.5 95.7	0.4397 [0.3738]	117.6%			
6:2FTS	(427.0 / 407.0) 53785 (427.0 / 81.0) 39922	(6.78 , 1.00) (-0.01 , N/A , 0.0)	8431.4 689.4	0.7423 97.4 102.8	0.6832 [0.3796]	180.0%			QC,
8:2FTS	(527.0 / 507.0) 64380 (527.0 / 81.0) 44246	(7.95 , 1.00) (0.00 , N/A , 0.1)	2710.7 6947.3	0.6873 105.4 84.7	0.6823 [0.3833]	178.0%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

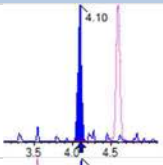
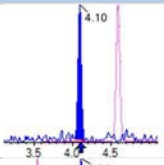
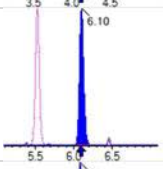
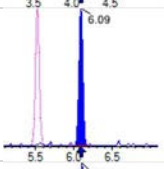
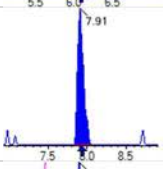
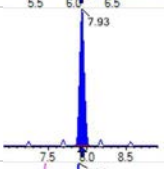
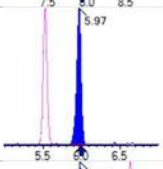
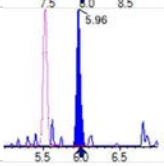
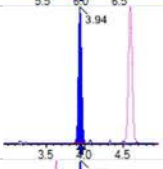
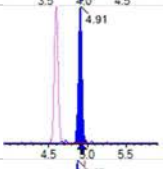
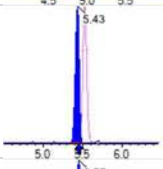
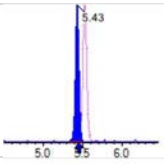
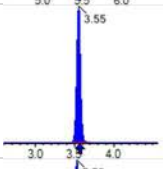
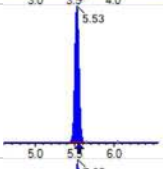
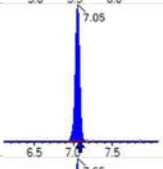
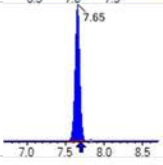
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 218056 (498.0 / 478.0) 2669	(9.84 , 1.00) (0.00 , N/A , 0.6)	690.0 52.6	0.0122 58.4 56.3	0.1339 [0.1000]	133.9%			QC,
NMeFOSA	(512.0 / 219.0) 82551 (512.0 / 169.0) 69150	(10.41 , 1.00) (0.00 , N/A , 0.5)	1031.7 493.5	0.8377 102.0 102.8	0.4603 [0.4000]	115.1%			
NEtFOSA	(526.0 / 219.0) 107045 (526.0 / 169.0) 127569	(10.55 , 1.00) (-0.01 , N/A , 0.7)	1170.1 850.0	1.1917 95.1 91.7	0.4604 [0.4000]	115.1%			
NMeFOSAA	(570.0 / 419.0) 22350 (570.0 / 483.0) 11768	(8.33 , 1.00) (0.00 , N/A , -1.4)	27887.2 899.8	0.5265 97.0 105.4	0.1182 [0.1000]	118.2%			
NEtFOSAA	(584.0 / 419.0) 20714 (584.0 / 526.0) 14188	(8.56 , 1.00) (0.00 , N/A , -1.0)	64461.1 29781.5	0.6849 101.7 111.9	0.1232 [0.1000]	123.2%			
NMeFOSE	(616.0 / 59.0) 60056	(10.35 , 1.00) (0.00 , N/A , 0.0)	108.1	N/A 0.0 0.0	0.5358 [0.4000]	134.0%			QC,
NEtFOSE	(630.0 / 59.0) 78737	(10.51 , 1.00) (0.01 , N/A , 0.0)	166.2	N/A 0.0 0.0	0.4217 [0.4000]	105.4%			
HFPO-DA	(285.0 / 169.0) 42068 (285.0 / 185.0) 128557	(5.84 , 1.00) (0.00 , N/A , 0.3)	8463.5 618.2	3.0559 107.8 103.7	0.2260 [0.2000]	113.0%			
ADONA	(377.0 / 85.0) 141324 (377.0 / 251.0) 17503	(6.64 , 1.14) (N/A , -0.01 , -0.3)	434.9 164.9	0.1238 115.8 110.8	0.2123 [0.1885]	112.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 499290 (533.0 / 353.0) 142675	(8.75 , 1.50) (N/A , 0.00 , 0.0)	690.1 1319.7	0.2858 91.5 93.1	0.2647 [0.1867]	141.8%			QC,
11Cl-PF3OUDS	(631.0 / 451.0) 316031 (633.0 / 453.0) 82560	(9.20 , 1.57) (N/A , 0.00 , 0.1)	1032.7 522.5	0.2612 82.3 86.0	0.2219 [0.1886]	117.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

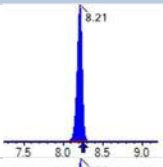
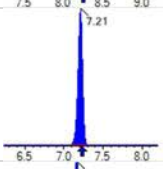
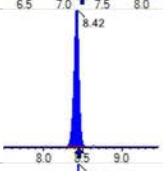
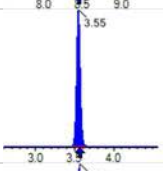
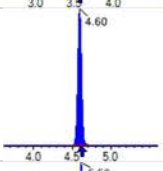
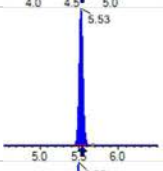
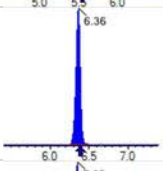
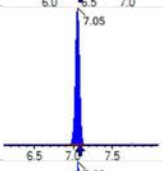
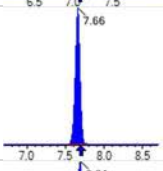
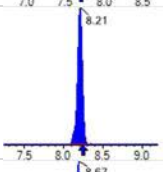
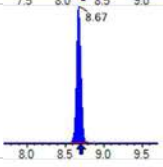
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3854 (241.0 / 117.0) 7440	(4.10 , 0.89) (N/A , 0.01 , 0.2)	125.4 70.4	1.9308 114.7 110.0	0.4984 [0.4000]	124.6%			
5:3FTCA	(341.0 / 236.7) 29173 (341.0 / 217.0) 63052	(6.10 , 1.10) (N/A , 0.01 , 0.4)	48201.9 231.8	2.1613 120.5 125.9	0.4148 [0.4000]	103.7%			
7:3FTCA	(441.0 / 317.0) 32311 (441.0 / 337.0) 35119	(7.91 , 1.43) (N/A , -0.01 , -1.3)	486.0 397.7	1.0869 129.5 133.2	0.4110 [0.4000]	102.7%			
PFEESA	(315.0 / 135.0) 83253 (315.0 / 83.0) 25208	(5.97 , 1.08) (N/A , 0.00 , 0.5)	977.9 78.3	0.3028 99.2 97.4	0.2075 [0.1785]	116.3%			
PFMPA	(229.0 / 85.0) 14364	(3.94 , 0.86) (N/A , 0.01 , 0.0)	562.7	N/A 0.0 0.0	0.2867 [0.2000]	143.3%			QC,
PFMBA	(279.0 / 85.0) 57200	(4.91 , 1.07) (N/A , 0.00 , 0.0)	777.8	N/A 0.0 0.0	0.2407 [0.2000]	120.3%			
NFDHA	(295.0 / 201.0) 48058 (295.0 / 85.0) 60774	(5.43 , 0.98) (N/A , 0.00 , 0.2)	9446.7 722.2	1.2646 127.0 127.6	0.2172 [0.2000]	108.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 146781	(3.55 , N/A) (N/A , 0.02 , N/A)	1859.1	N/A	1.1905 [1.0000]	119.1% { 104.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 426498	(5.53 , N/A) (N/A , -0.01 , N/A)	1517.7	N/A	0.9902 [1.0000]	99.0% { 105.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 346879	(7.05 , N/A) (N/A , 0.00 , N/A)	736.5	N/A	1.0627 [1.0000]	106.3% { 100.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 285847	(7.65 , N/A) (N/A , 0.00 , N/A)	2418.9	N/A	1.1268 [1.0000]	112.7% { 108.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

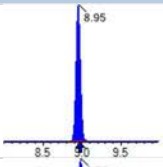
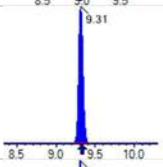
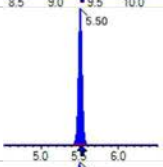
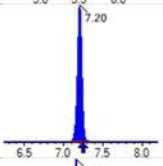
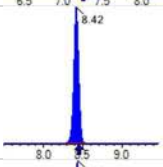
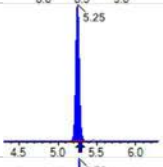
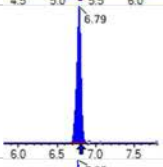
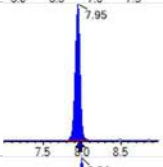
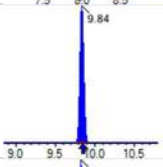
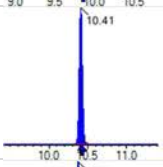
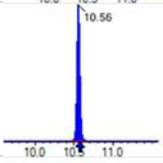
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 365462	(8.21 , N/A) (N/A , 0.00 , N/A)	16826.1	N/A	1.1698 [1.0000]	117.0% { 107.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 725087	(7.21 , N/A) (N/A , 0.00 , N/A)	1345.1	N/A	1.1531 [1.0000]	115.3% { 103.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 866707	(8.42 , N/A) (N/A , 0.00 , N/A)	797.9	N/A	1.2789 [1.0000]	127.9% { 107.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1235679	(3.55 , N/A) (N/A , 0.01 , N/A)	4005.8	N/A	7.1254 [8.0000]	89.1% { 99.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1250316	(4.60 , N/A) (N/A , 0.00 , N/A)	2314.7	N/A	4.0498 [4.0000]	101.2% { 95.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 875894	(5.53 , N/A) (N/A , -0.01 , N/A)	1886.6	N/A	1.9239 [2.0000]	96.2% { 97.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 740633	(6.36 , N/A) (N/A , 0.00 , N/A)	1500.0	N/A	1.9257 [2.0000]	96.3% { 94.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 643252	(7.05 , N/A) (N/A , 0.00 , N/A)	1180.0	N/A	1.7034 [2.0000]	85.2% { 90.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 254293	(7.66 , N/A) (N/A , 0.00 , N/A)	2535.2	N/A	0.8396 [1.0000]	84.0% { 97.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 427586	(8.21 , N/A) (N/A , 0.00 , N/A)	1221.5	N/A	0.9526 [1.0000]	95.3% { 113.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 558672	(8.67 , N/A) (N/A , 0.00 , N/A)	1226.8	N/A	0.9116 [1.0000]	91.2% { 111.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

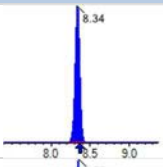
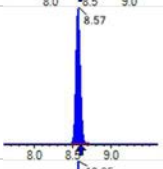
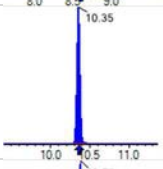
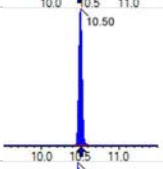
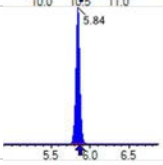
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 542176	(8.95 , N/A) (N/A , 0.00 , N/A)	1396.9	N/A	0.8564 [1.0000]	85.6% { 95.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 356659	(9.31 , N/A) (N/A , 0.00 , N/A)	692.1	N/A	0.7806 [1.0000]	78.1% { 78.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2582862	(5.50 , N/A) (N/A , -0.01 , N/A)	2445.4	N/A	1.8609 [2.0000]	93.0% { 108.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1177195	(7.20 , N/A) (N/A , 0.00 , N/A)	1060.4	N/A	1.7319 [2.0000]	86.6% { 91.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1988451	(8.42 , N/A) (N/A , 0.00 , N/A)	1454.5	N/A	1.7182 [2.0000]	85.9% { 102.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 513113	(5.25 , N/A) (N/A , -0.01 , N/A)	1211.7	N/A	6.7746 [4.0000]	169.4% { 193.1% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 227844	(6.79 , N/A) (N/A , 0.00 , N/A)	695.9	N/A	3.0071 [4.0000]	75.2% { 86.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 314607	(7.95 , N/A) (N/A , 0.00 , N/A)	677.0	N/A	3.4348 [4.0000]	85.9% { 97.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 3368919	(9.84 , N/A) (N/A , 0.00 , N/A)	1825.2	N/A	1.5382 [2.0000]	76.9% { 89.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 453422	(10.41 , N/A) (N/A , 0.00 , N/A)	1446.7	N/A	0.6909 [2.0000]	34.5% { 39.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 486740	(10.56 , N/A) (N/A , 0.00 , N/A)	2479.9	N/A	0.8112 [2.0000]	40.6% { 44.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: HH
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0167-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-08.dam

Quant Method: 1633 - S2023-02-09A
Path: S2023-02-09C (36)
Acquired: 2023/02/10 - 05:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 967814	(8.34 , N/A) (N/A , 0.00 , N/A)	1053.9	N/A	3.4834 [4.0000]	87.1% { 92.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 837218	(8.57 , N/A) (N/A , 0.00 , N/A)	2570.2	N/A	3.3653 [4.0000]	84.1% { 115.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 2163073	(10.35 , N/A) (N/A , 0.01 , N/A)	1771.7	N/A	9.0033 [20.0000]	45.0% { 49.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 3853149	(10.50 , N/A) (N/A , 0.00 , N/A)	2080.3	N/A	12.3350 [20.0000]	61.7% { 63.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2374286	(5.84 , N/A) (N/A , 0.00 , N/A)	2776.1	N/A	8.0274 [8.0000]	100.3% { 93.2% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC			Work Order:	23B0060
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Batch:	BCB0167	Batch Matrix:	Water	Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW10-WGN01LF-2302W1	23B0060-01	02/08/23 15:02	554.43	2.00
AF-RHMW10-WGFD01LF-2302W1	23B0060-02	02/08/23 15:02	560.74	2.00
AF-HDMW225303-WGN01LF-2302W1	23B0060-03	02/08/23 15:02	554.96	2.00
Blank	BCB0167-BLK1	02/08/23 15:02	500.00	2.00
LCS	BCB0167-BS1	02/08/23 15:02	500.00	2.00
MRL Check	BCB0167-MRL1	02/08/23 15:02	500.00	2.00

PREPARATION BENCH SHEET
Organics

Print Date/Time: 02/14/2023 4:42 pm

BCB0167

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)
23A0557 PFAS - MIX 1633 10ng/mL

Surrogate Solution(s)
23B0135 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
23B0060-01	AF-RHMW10-WGN01LF-2302W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	554.43	2		200	
23B0060-01RE1	AF-RHMW10-WGN01LF-2302W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	554.43	2		200	Added 2/9/2023 by ABK
23B0060-02	AF-RHMW10-WGFD01LF-2302W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	560.74	2		200	
23B0060-02RE1	AF-RHMW10-WGFD01LF-2302W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	560.74	2		200	Added 2/9/2023 by ABK
23B0060-03	AF-HDMW225303-WGN01LF-230 2W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	554.96	2		200	
23B0060-03RE1	AF-HDMW225303-WGN01LF-230 2W1	02/10/2023	03/07/2023	2/8/2023 3:02:00PM	554.96	2		200	Added 2/9/2023 by ABK
BCB0167-BLK1	Blank			2/8/2023 3:02:00PM	500	2	0	200	
BCB0167-BS1	LCS			2/8/2023 3:02:00PM	500	2	200	200	
BCB0167-MRL1	MRL Check			2/8/2023 3:02:00PM	500	2	20	200	

tart Date/Time _____

topDate/Time _____

Reagents

Standard	Description	LotNum
22C0296	Envi-carb	122395
22L0094	Reagent - 0.05MFA wash	x
23A0369	Reagent -0.3M Formic Acid	M13H051
23A0442	Am. Ac. preservative	*

atch Comments:
Spiked by: ABK 2/8/23 3:00 PM
Balance #: WB2
Cartridge: Oasis Waters
Concentration: 2/9/23 4:40 - 5:10 PM

piking 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:	SC00597	Instrument:	Saphira
Calibration:	2306010		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC00597-CAL1	S2023-02-09A (1)	02/09/23 12:17
Cal Standard	SC00597-CAL2	S2023-02-09A (2)	02/09/23 12:30
Cal Standard	SC00597-CAL3	S2023-02-09A (3)	02/09/23 12:43
Cal Standard	SC00597-CAL4	S2023-02-09A (4)	02/09/23 12:56
Cal Standard	SC00597-CAL5	S2023-02-09A (5)	02/09/23 13:09
Cal Standard	SC00597-CAL6	S2023-02-09A (6)	02/09/23 13:22
Cal Standard	SC00597-CAL7	S2023-02-09A (7)	02/09/23 13:35
Cal Standard	SC00597-CAL8	S2023-02-09A (8)	02/09/23 13:48
Initial Cal Blank	SC00597-ICB1	S2023-02-09A (9)	02/09/23 14:01
Secondary Cal Check	SC00597-SCV1	S2023-02-09A (10)	02/09/23 14:14

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00598	Instrument:	Saphira
Calibration:	2306010		

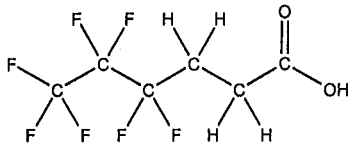
Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC00598-CCB1	S2023-02-09C (1)	02/09/23 21:59
Low Cal Check	SC00598-LCV1	S2023-02-09C (2)	02/09/23 22:12
Calibration Check	SC00598-CCV1	S2023-02-09C (3)	02/09/23 22:25
Calibration Blank	SC00598-CCB2	S2023-02-09C (6)	02/09/23 23:04
Calibration Check	SC00598-CCV2	S2023-02-09C (23)	02/10/23 02:44
Calibration Blank	SC00598-CCB3	S2023-02-09C (24)	02/10/23 02:57
Calibration Check	SC00598-CCV3	S2023-02-09C (32)	02/10/23 04:41
Calibration Blank	SC00598-CCB4	S2023-02-09C (33)	02/10/23 04:54
Blank	BCB0167-BLK1	S2023-02-09C (34)	02/10/23 05:07
LCS	BCB0167-BS1	S2023-02-09C (35)	02/10/23 05:20
MRL Check	BCB0167-MRL1	S2023-02-09C (36)	02/10/23 05:33
AF-RHMW10-WGN01LF-2302W1	23B0060-01	S2023-02-09C (37)	02/10/23 05:46
AF-RHMW10-WGFD01LF-2302W1	23B0060-02	S2023-02-09C (39)	02/10/23 06:12
AF-HDMW225303-WGN01LF-2302W1	23B0060-03	S2023-02-09C (41)	02/10/23 06:38
Calibration Check	SC00598-CCV4	S2023-02-09C (55)	02/10/23 09:39
Calibration Blank	SC00598-CCB5	S2023-02-09C (56)	02/10/23 09:52

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:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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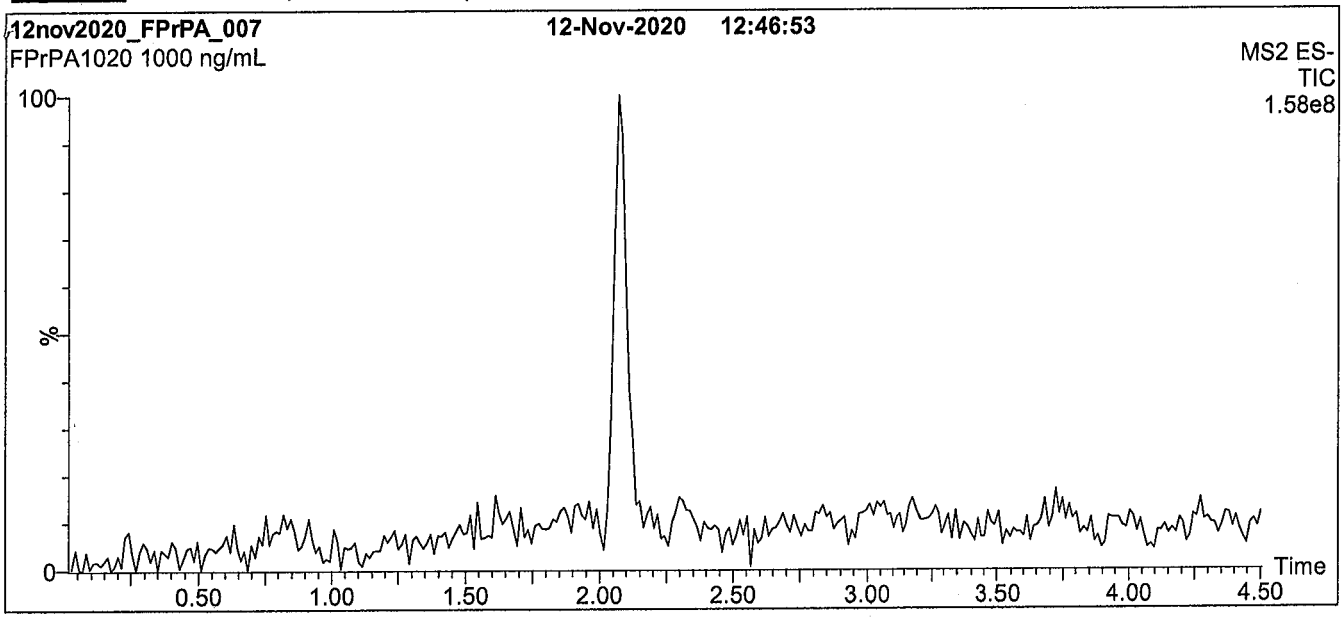
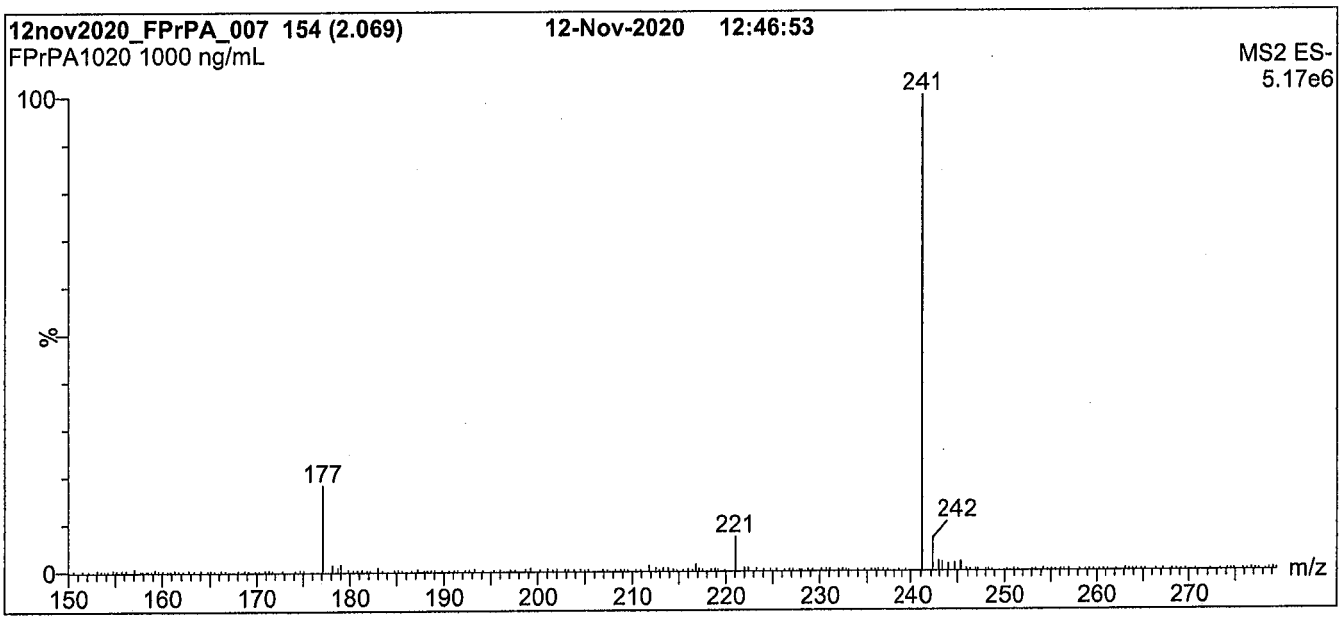
Figure 1: **FPrPA; LC/MS Data (TIC and Mass Spectrum)**





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

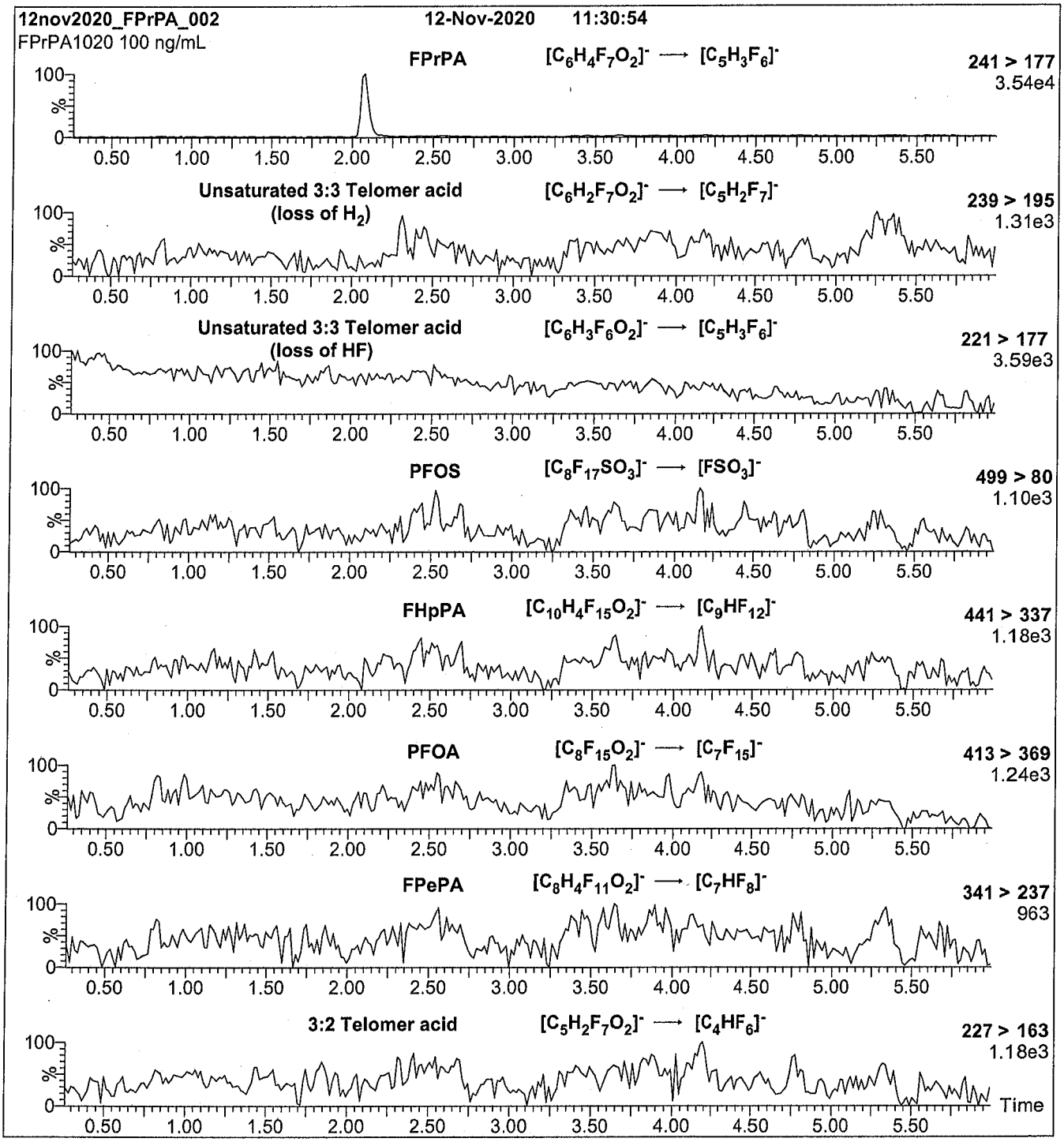
Flow: 300 µL/min

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

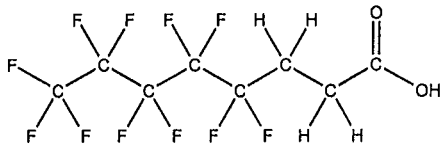
CERTIFICATE OF ANALYSIS DOCUMENTATION

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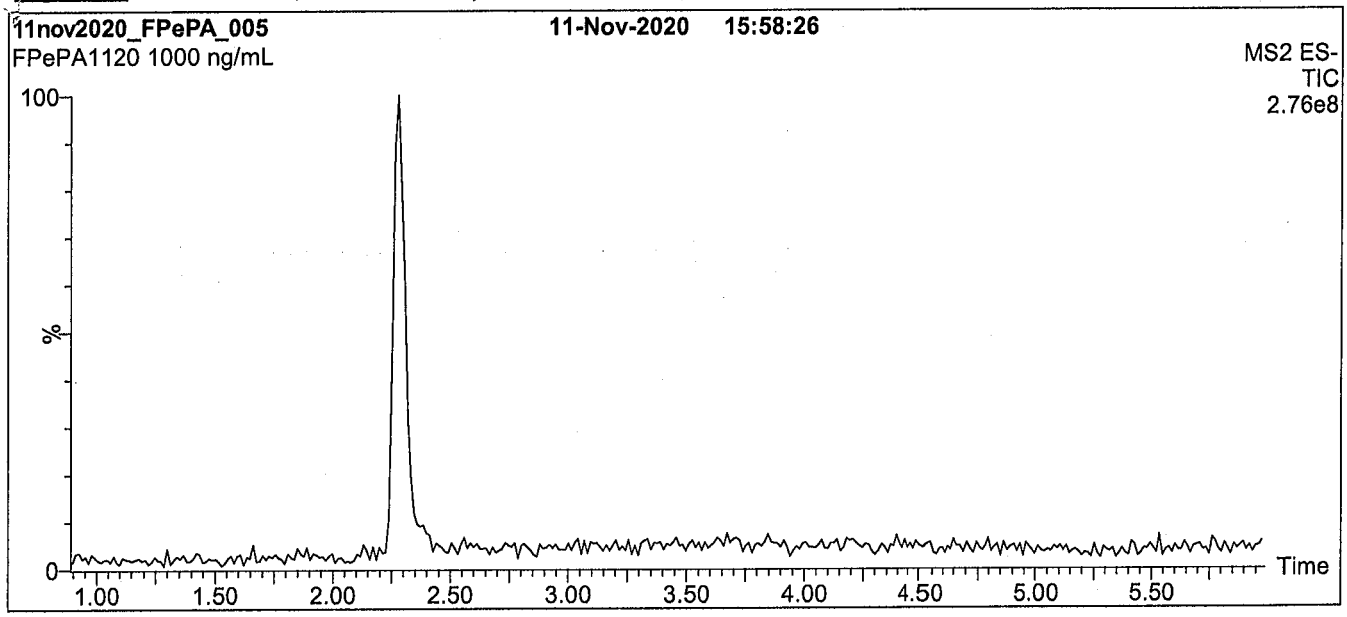
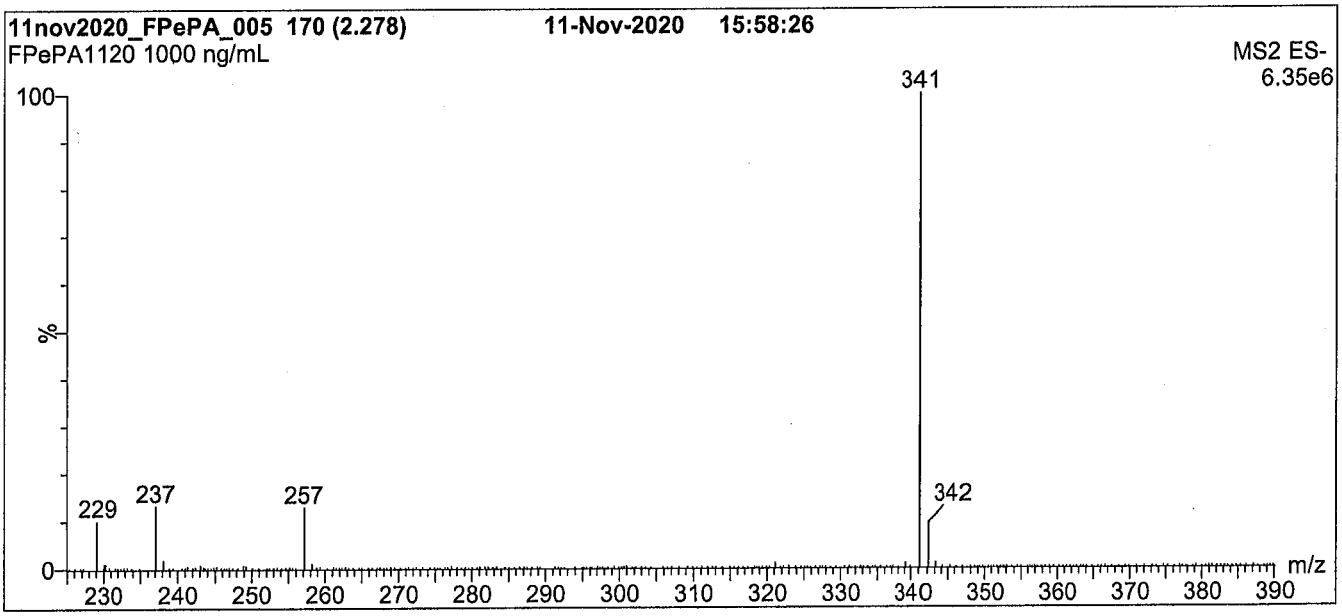
Figure 1: **FPePA; LC/MS Data (TIC and Mass Spectrum)**





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

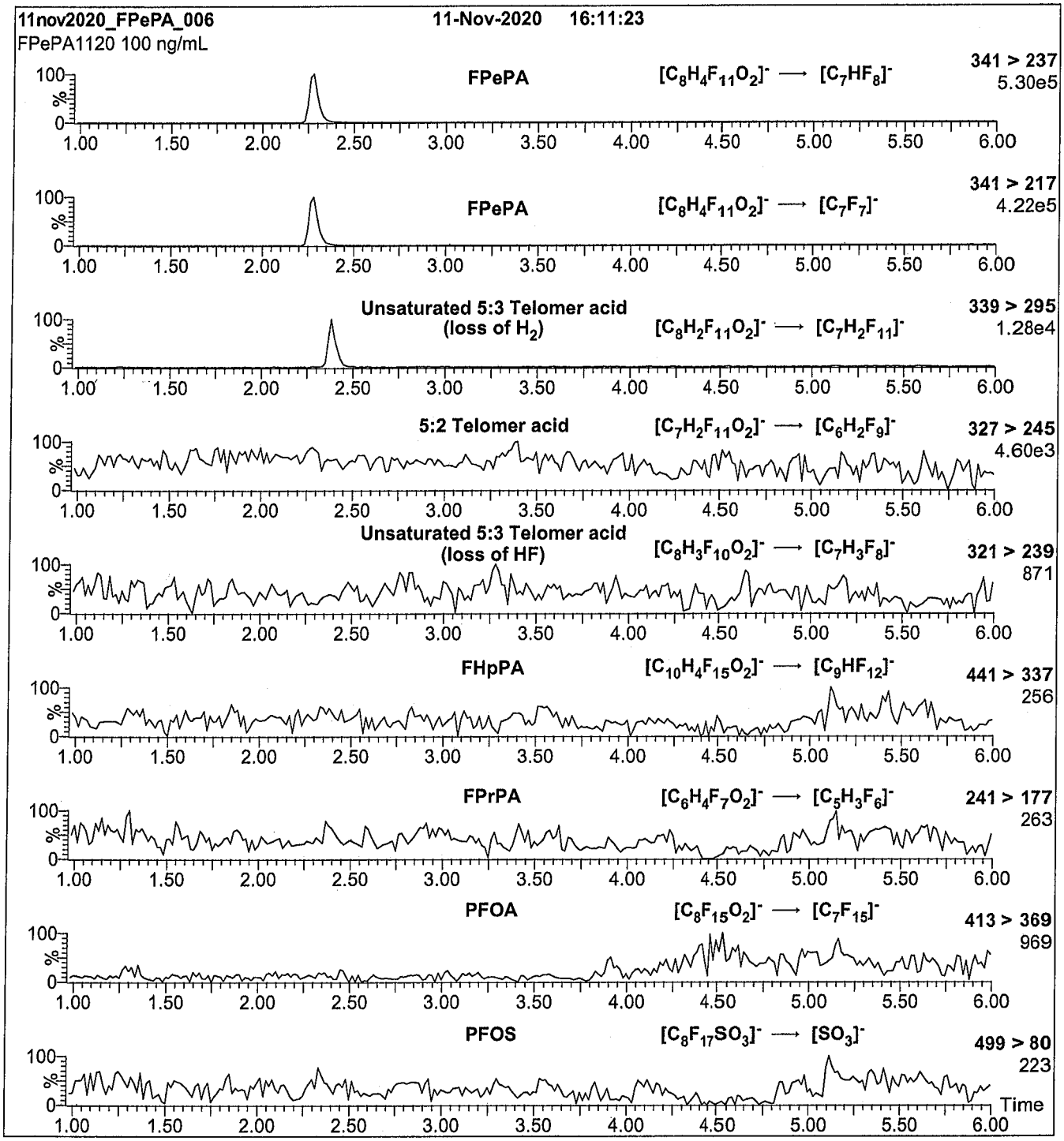
Flow: 300 µL/min

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

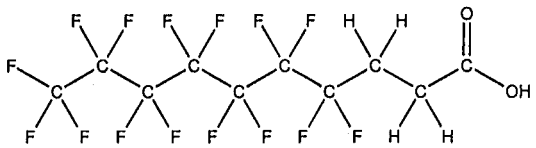
Description:	PFAS - SAS 5:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

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)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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

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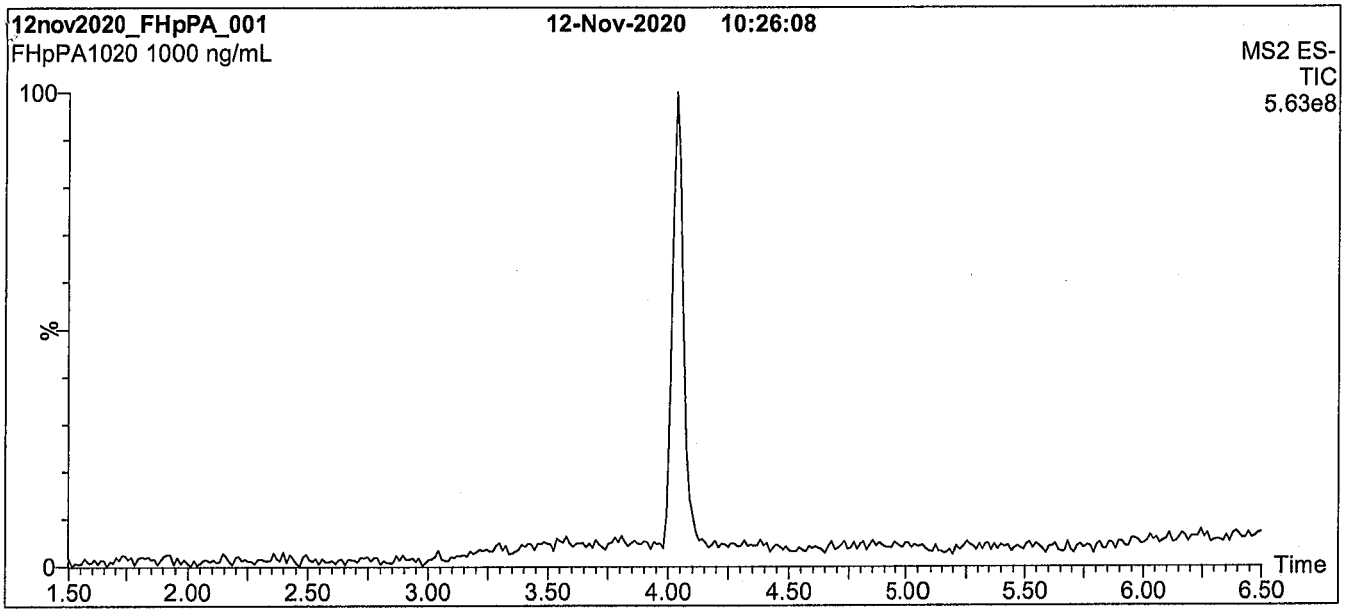
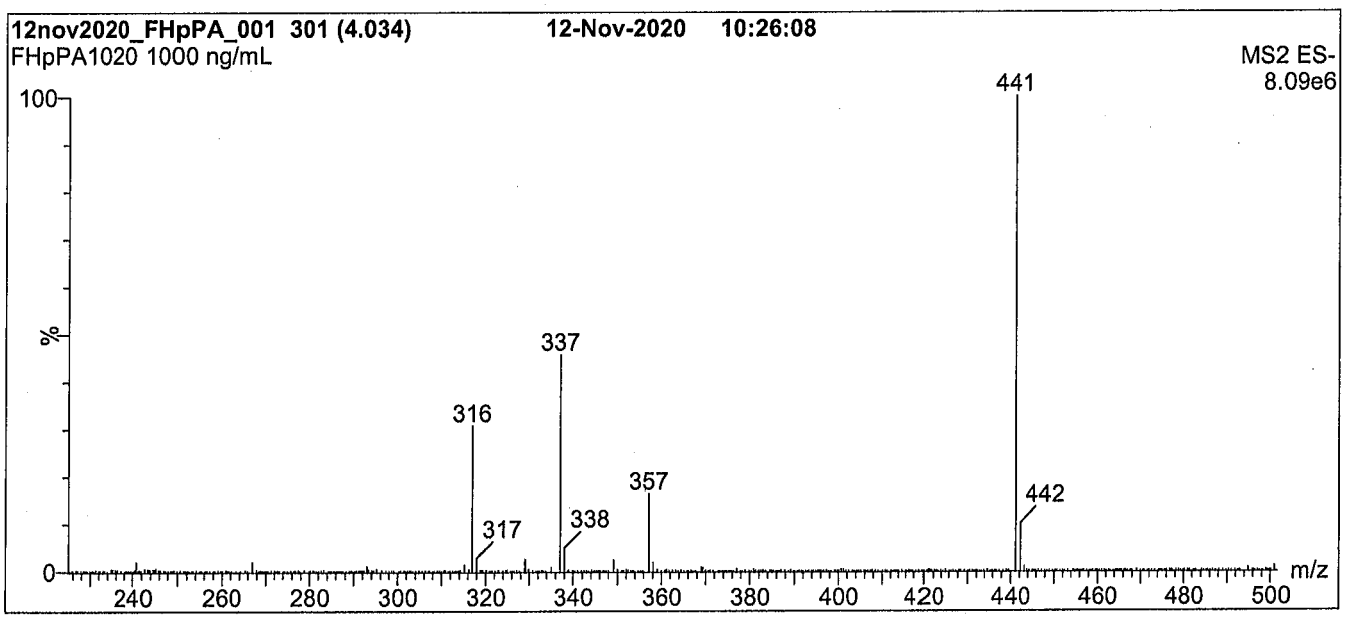
Figure 1: **FHpPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{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

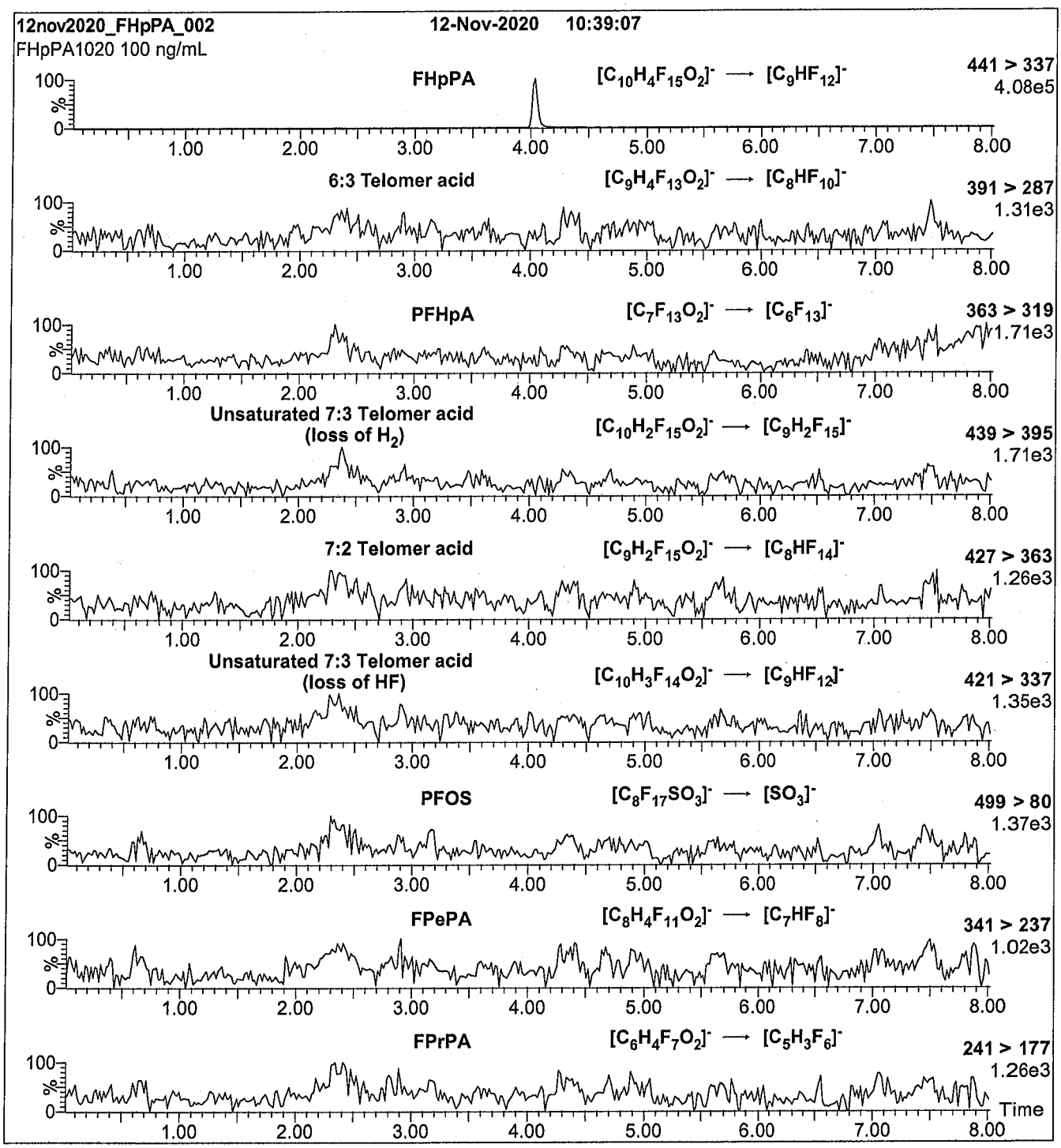
Flow: 300 µL/min

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

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

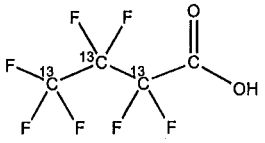
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

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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:

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

HANDLING:

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

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UNCERTAINTY:

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

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CALA Testing Accreditation No. A1226

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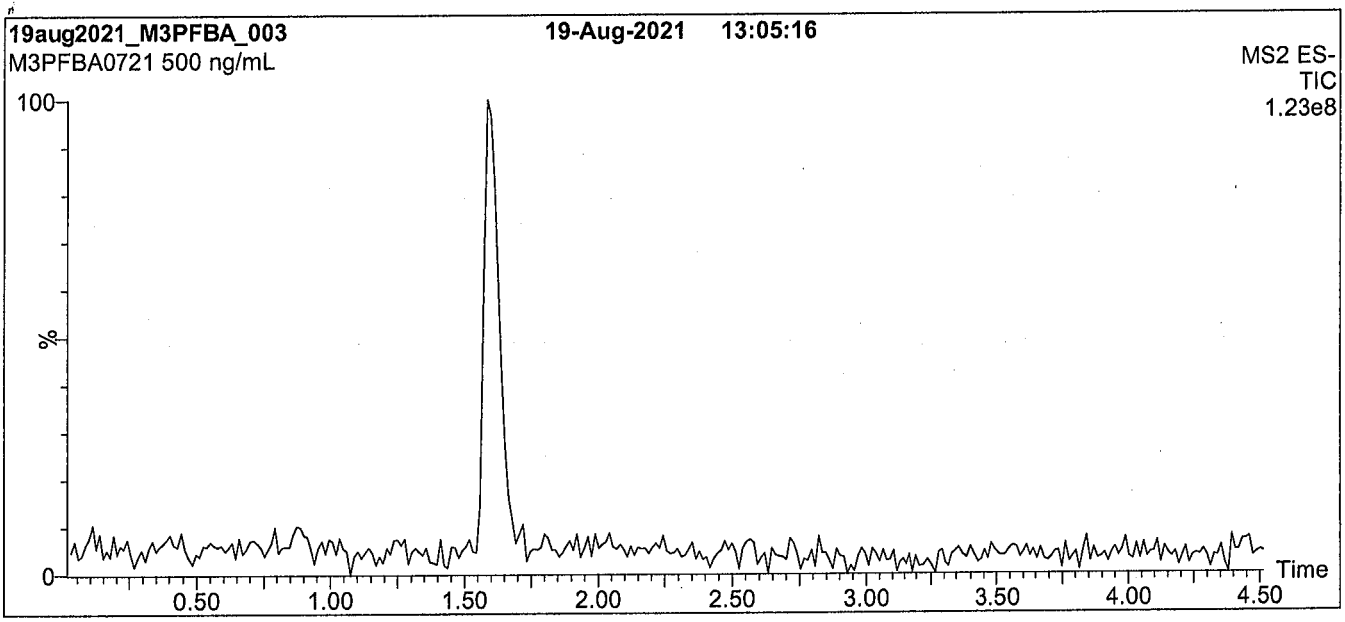
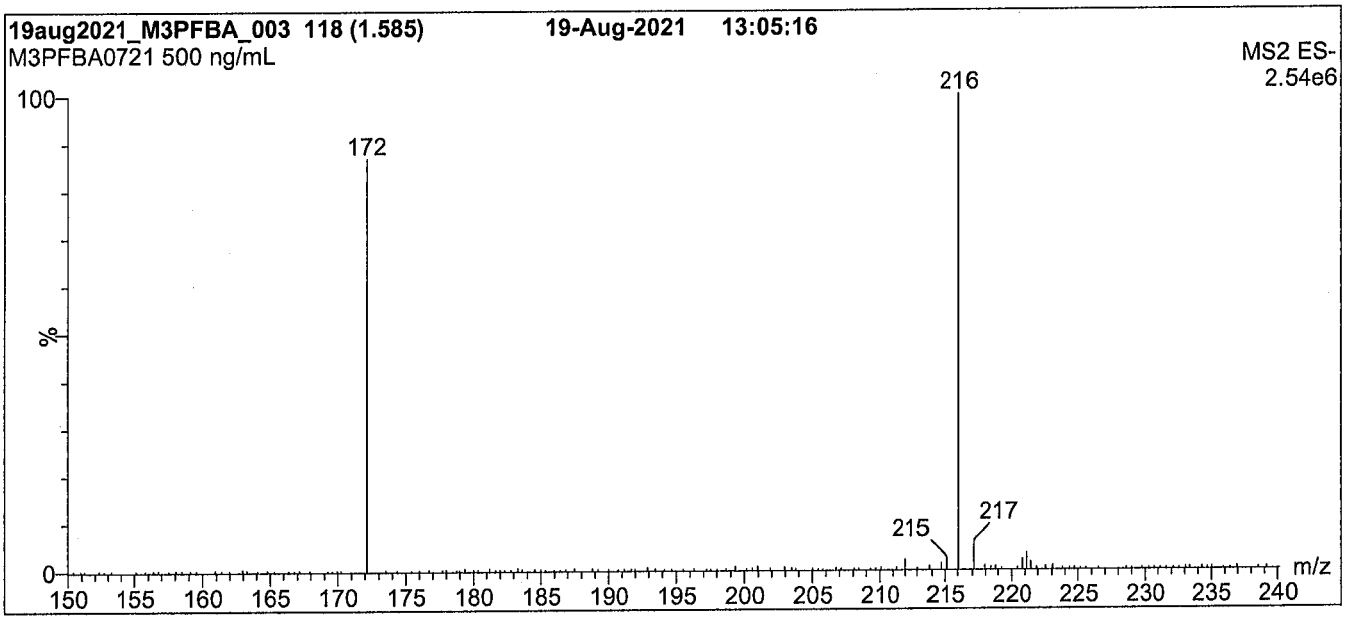
Figure 1: **M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)**





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

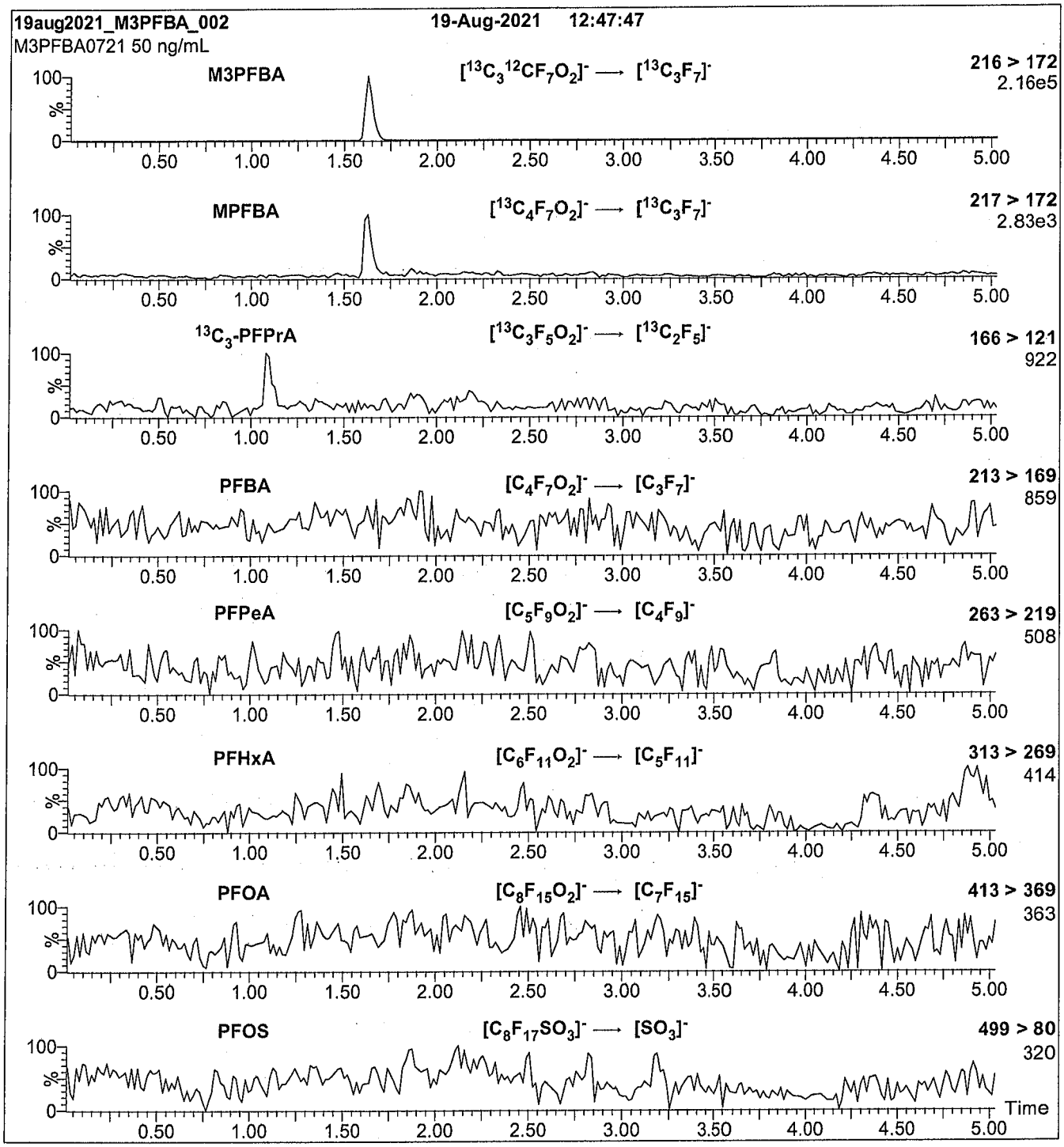
Flow: 300 µL/min

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

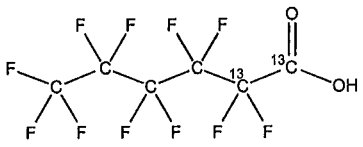
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxA
COMPOUND: Perfluoro-n-(1,2-$^{13}C_2$)hexanoic acid

LOT NUMBER: MPFHxA0921

STRUCTURE:

CAS #: 960315-47-3



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/04/2021		
EXPIRY DATE: (mm/dd/yyyy)	10/04/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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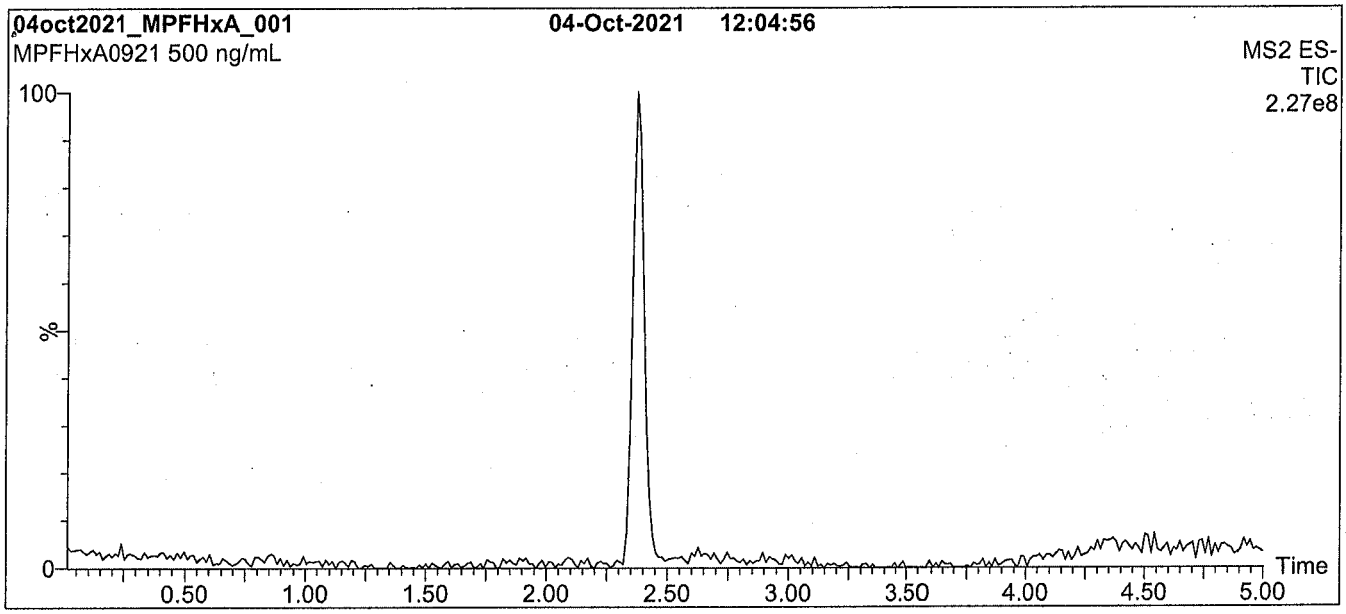
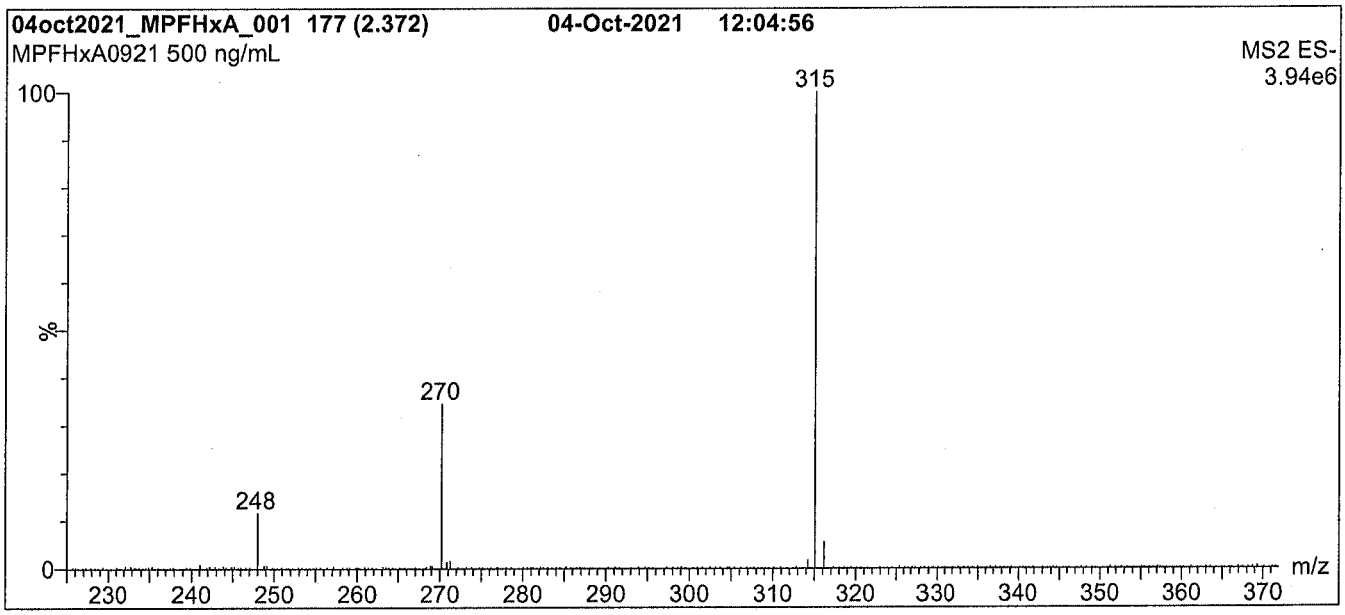




Conditions for Figure 1:

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: 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

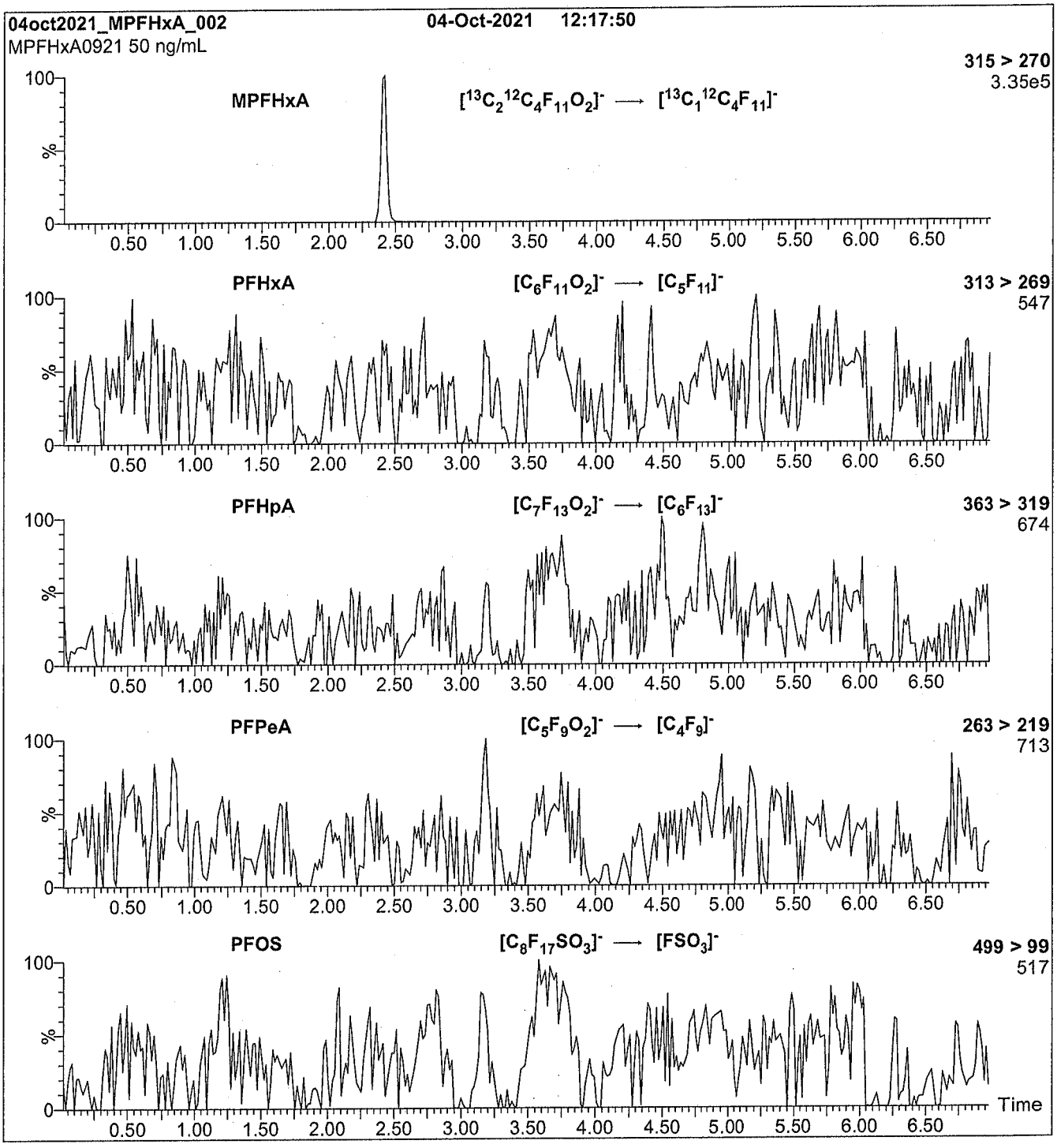
Flow: 300 µL/min

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
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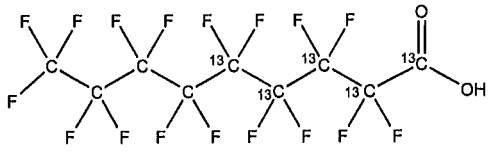
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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Certified By: _____ **Date:** 11/01/2021 (mm/dd/yyyy)
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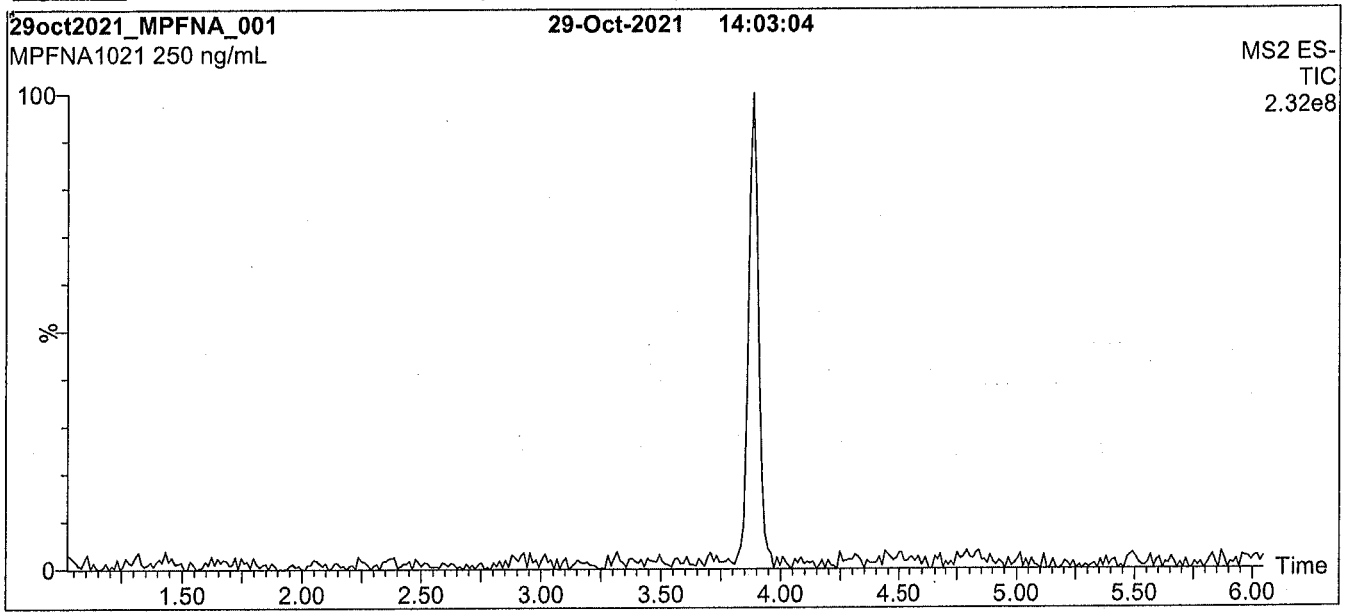
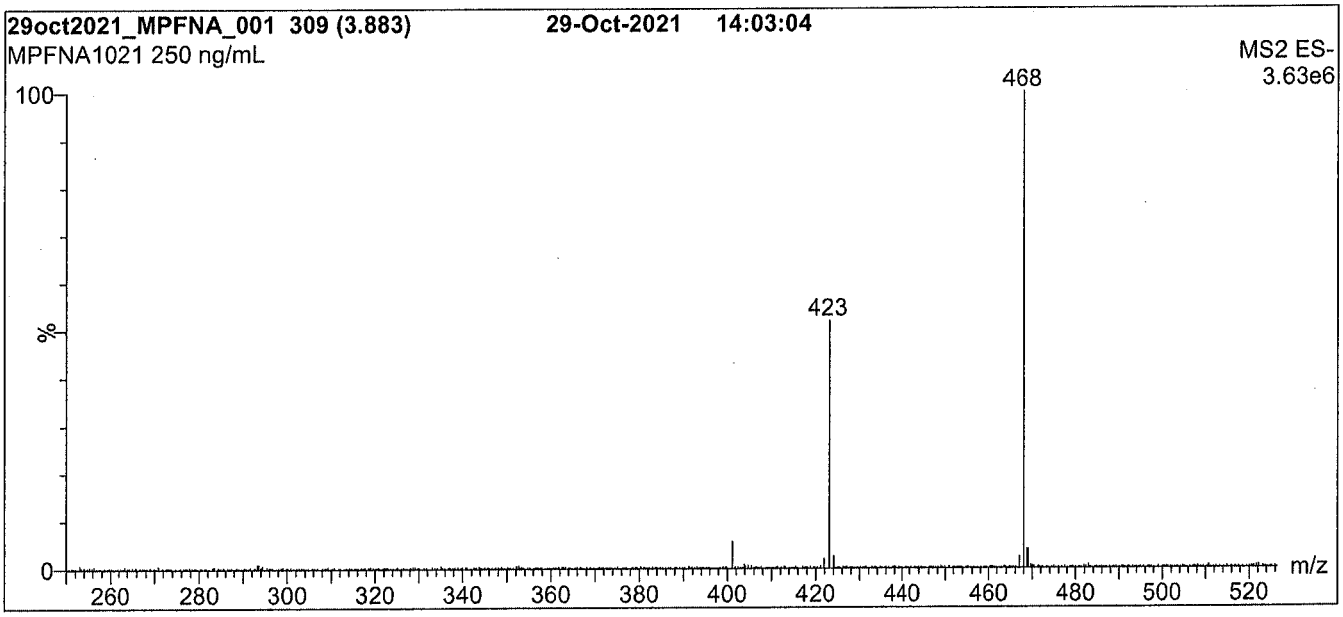




Conditions for Figure 1:

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

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

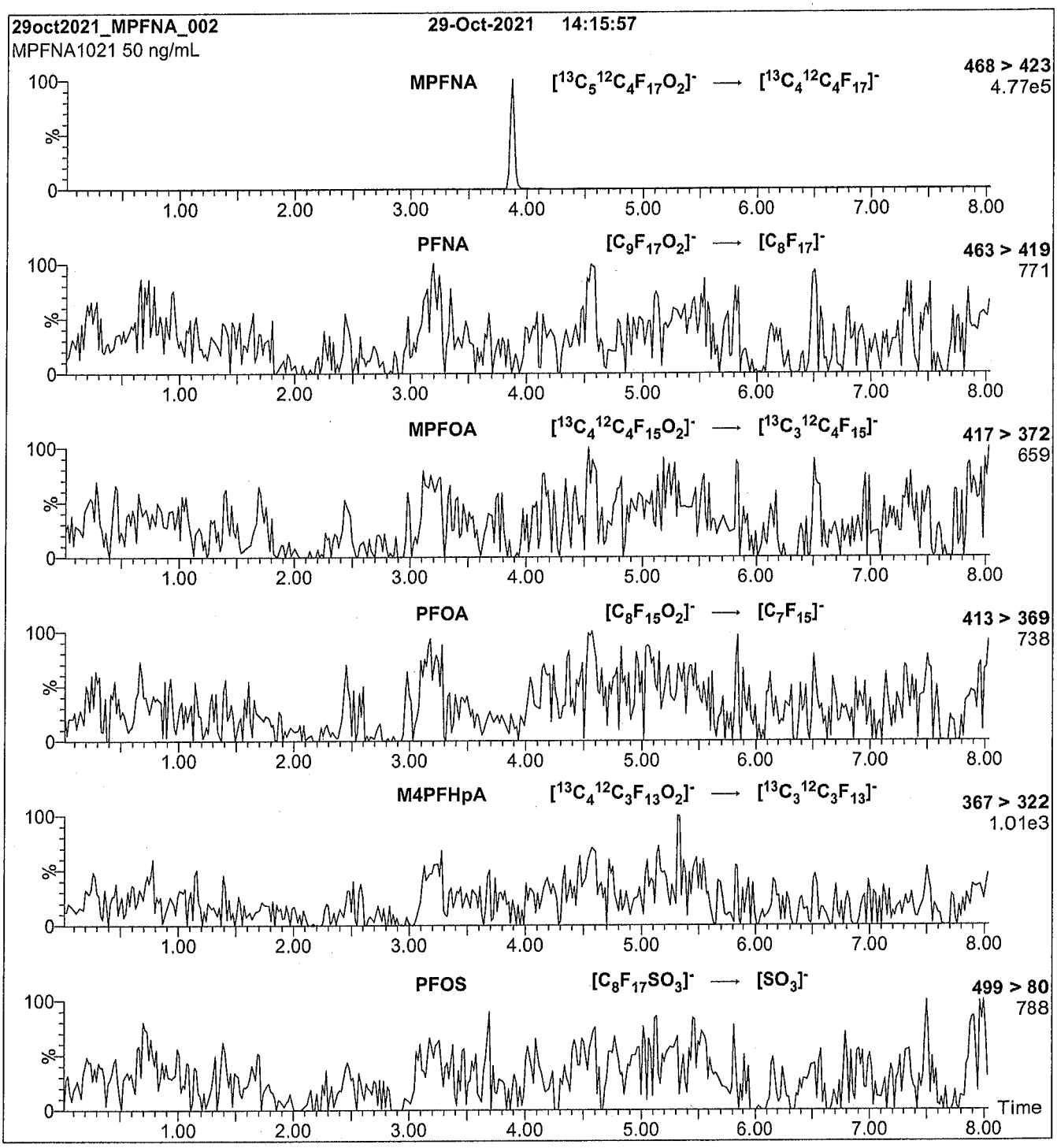
Flow: 300 µL/min

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: **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

Analytical Standard Record

22A0118

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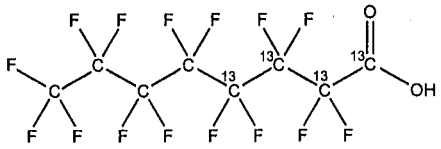
13C5-PFNA		13C5-PFNA	50	ug/mL

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		
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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.

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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:

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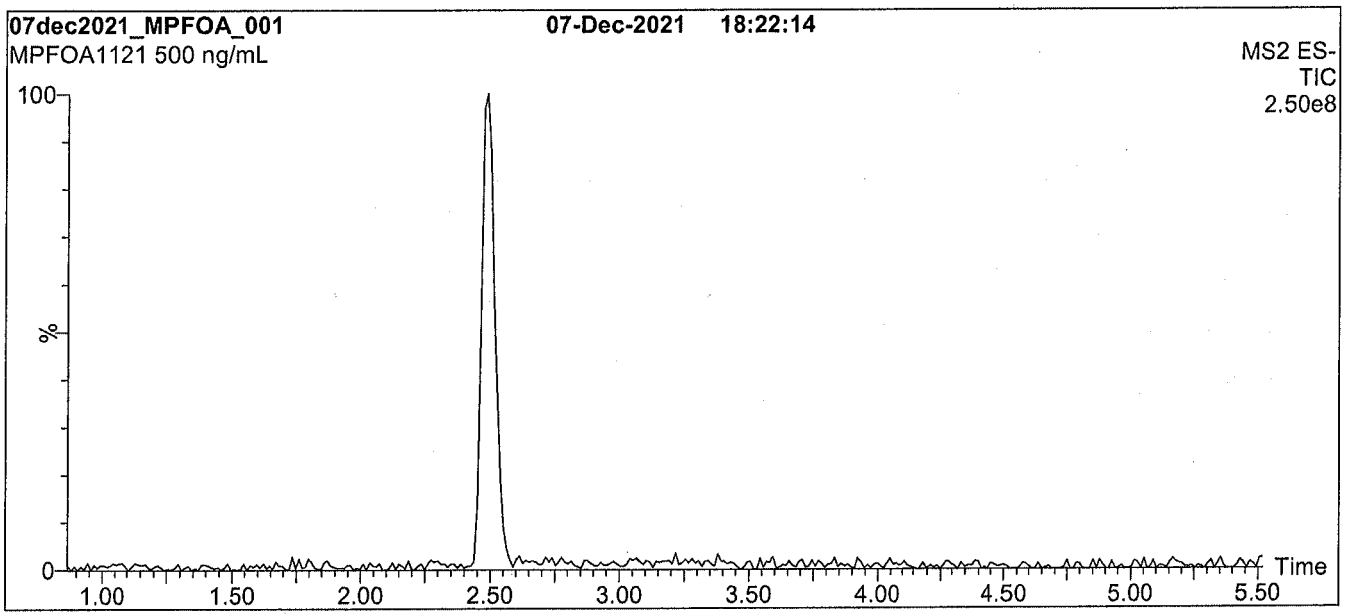
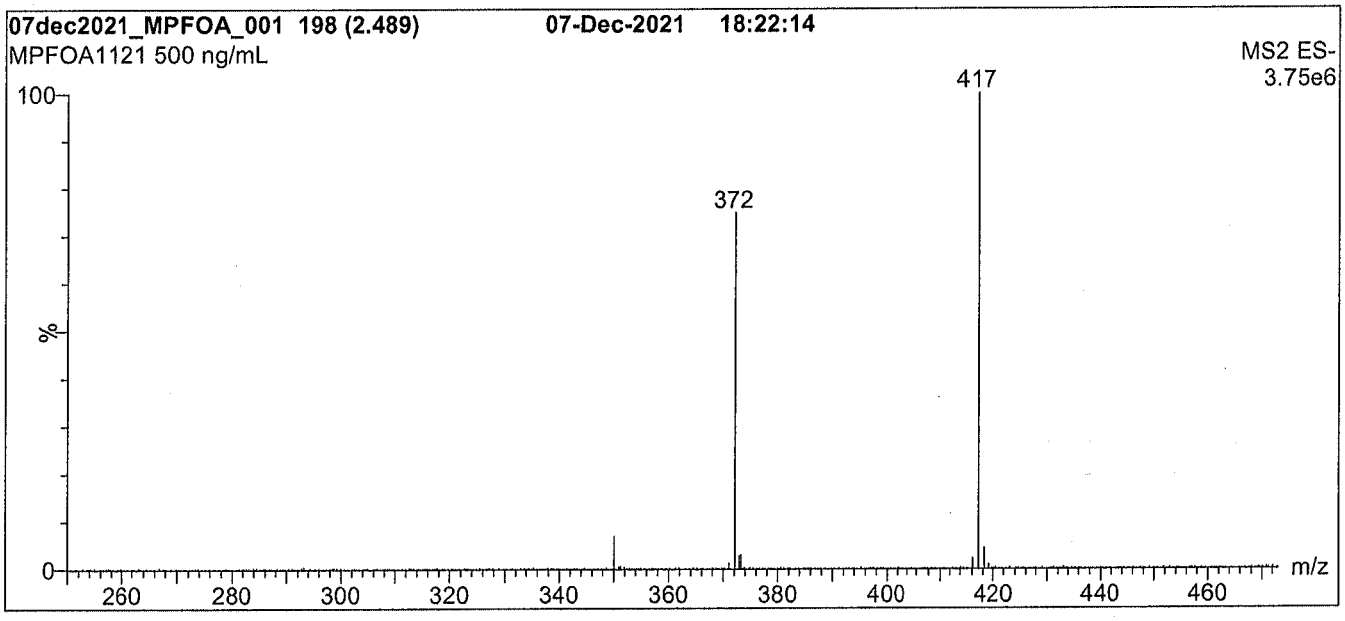
CALA Testing Accreditation No. A1226

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: **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

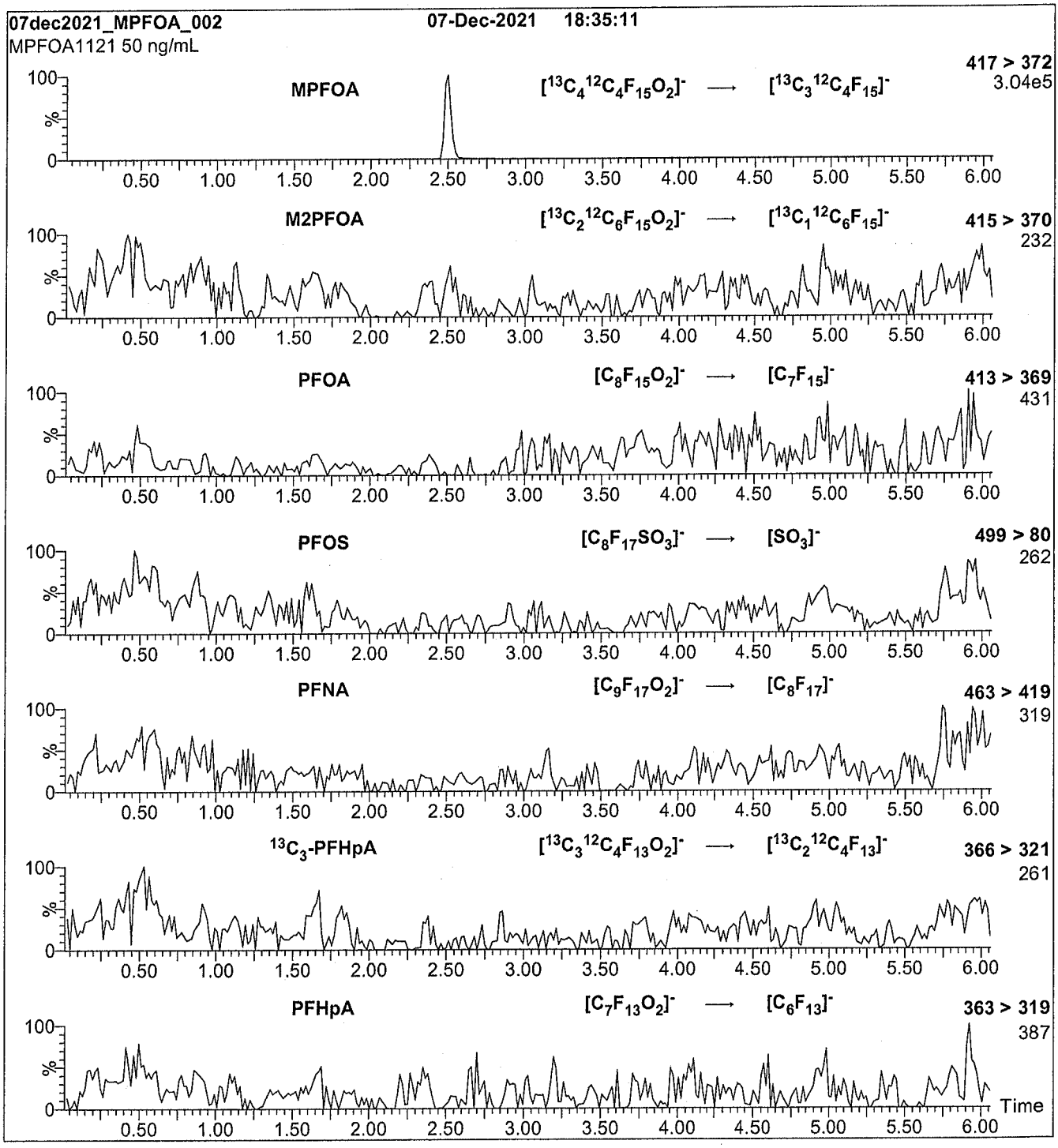
Flow: 300 µL/min

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

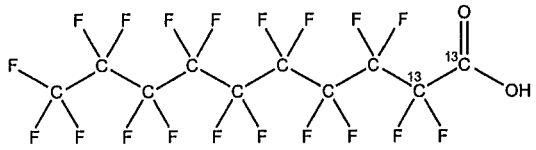
Description:	PFAS - IIS MPFOA 50ug/mL	Expires:	12/07/2026
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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.
- 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:** 12/13/2021 (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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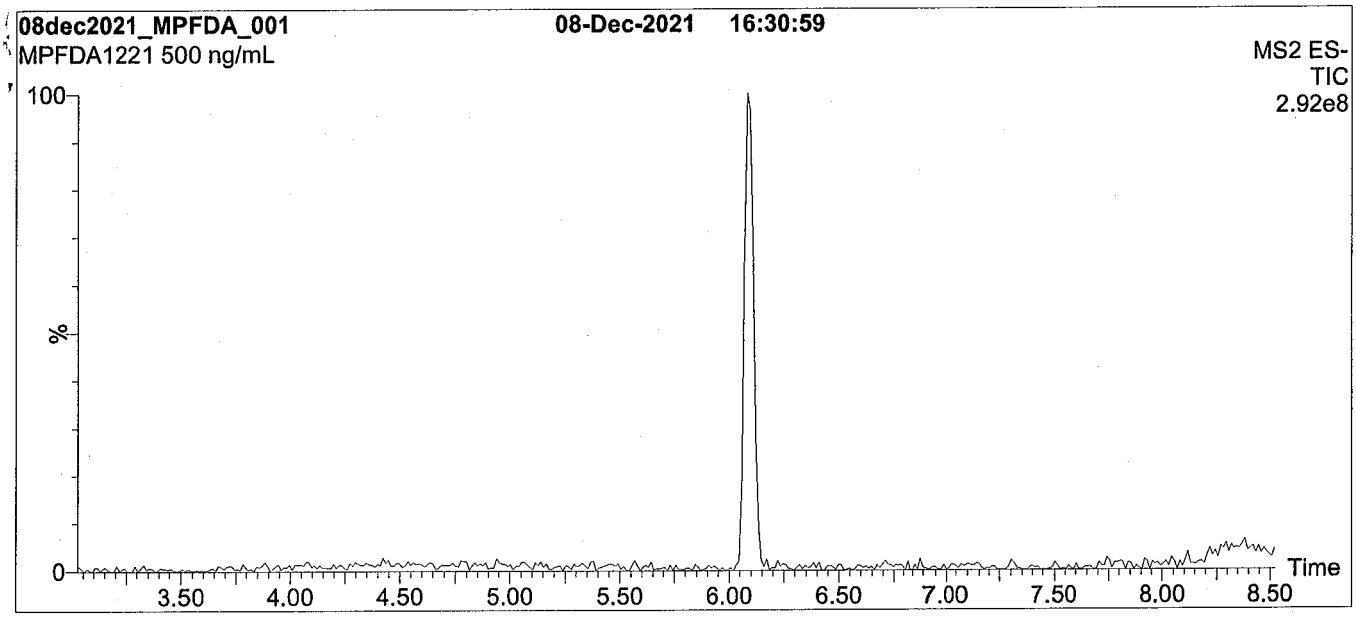
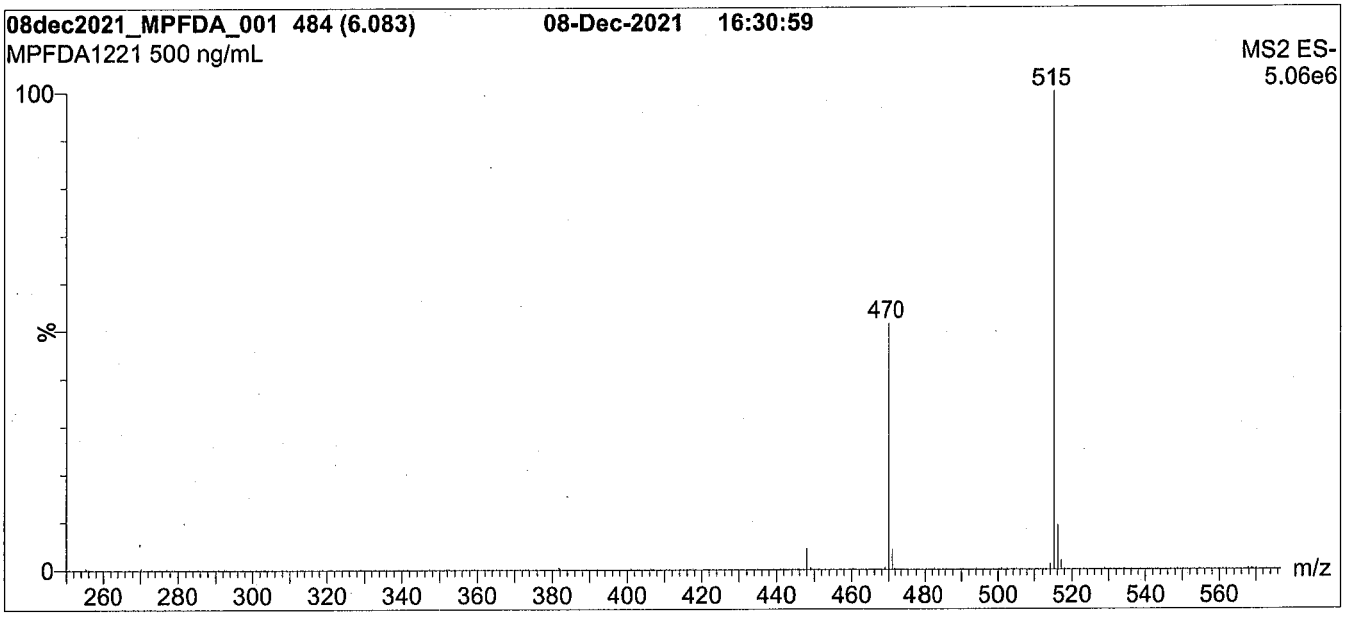
Figure 1: **MPFDA; LC/MS Data (Full Scan and Mass Spectrum)**





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

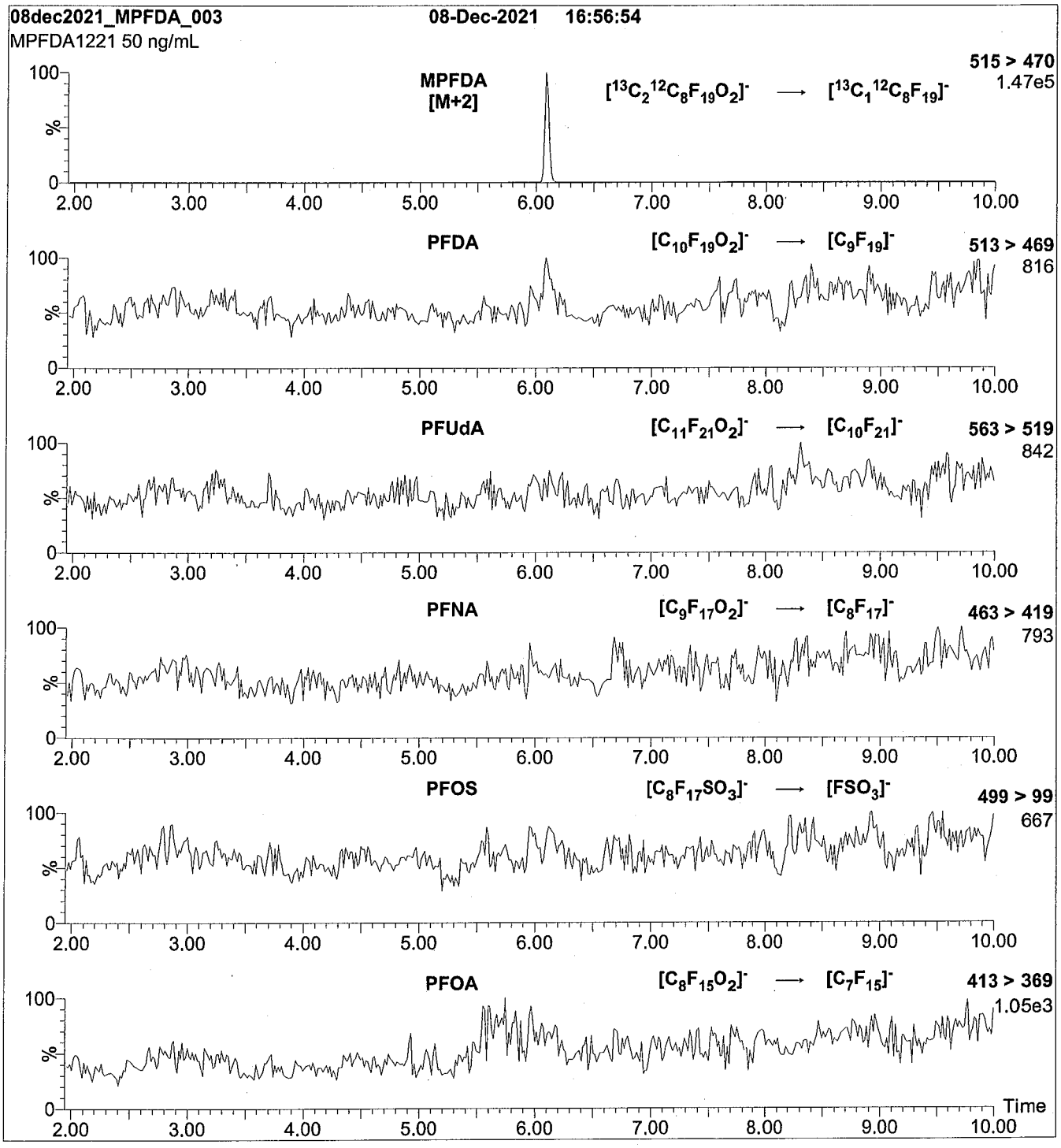
Flow: 300 µL/min

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

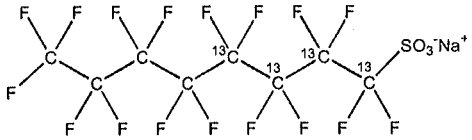
Description:	PFAS - IIS MPFDA 50ug/mL	Expires:	12/08/2026
Standard Type:	Analyte Spike	Prepared:	12/08/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

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

INTENDED USE:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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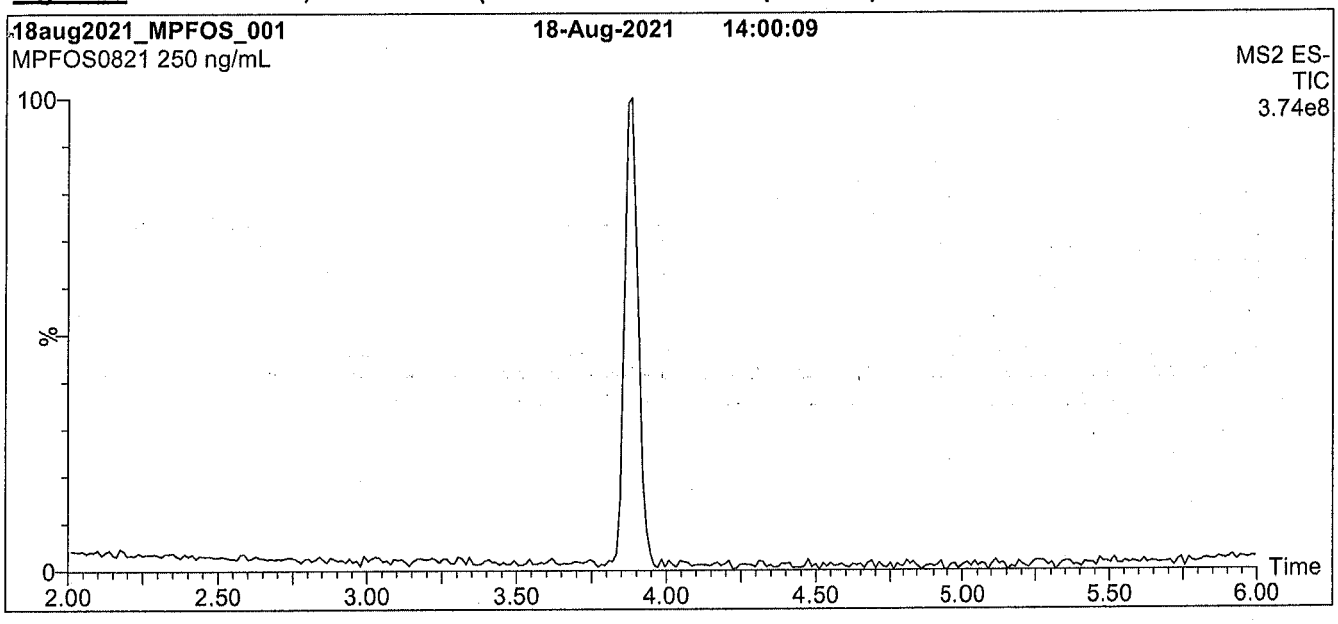
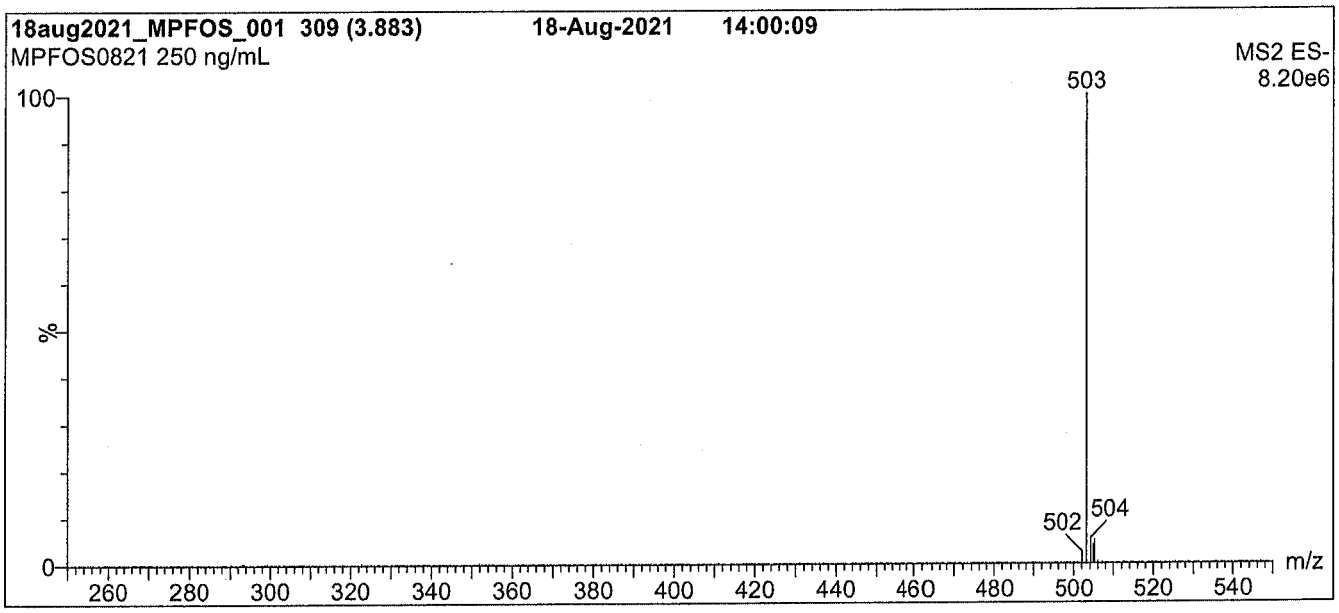
Figure 1: **MPFOS; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{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

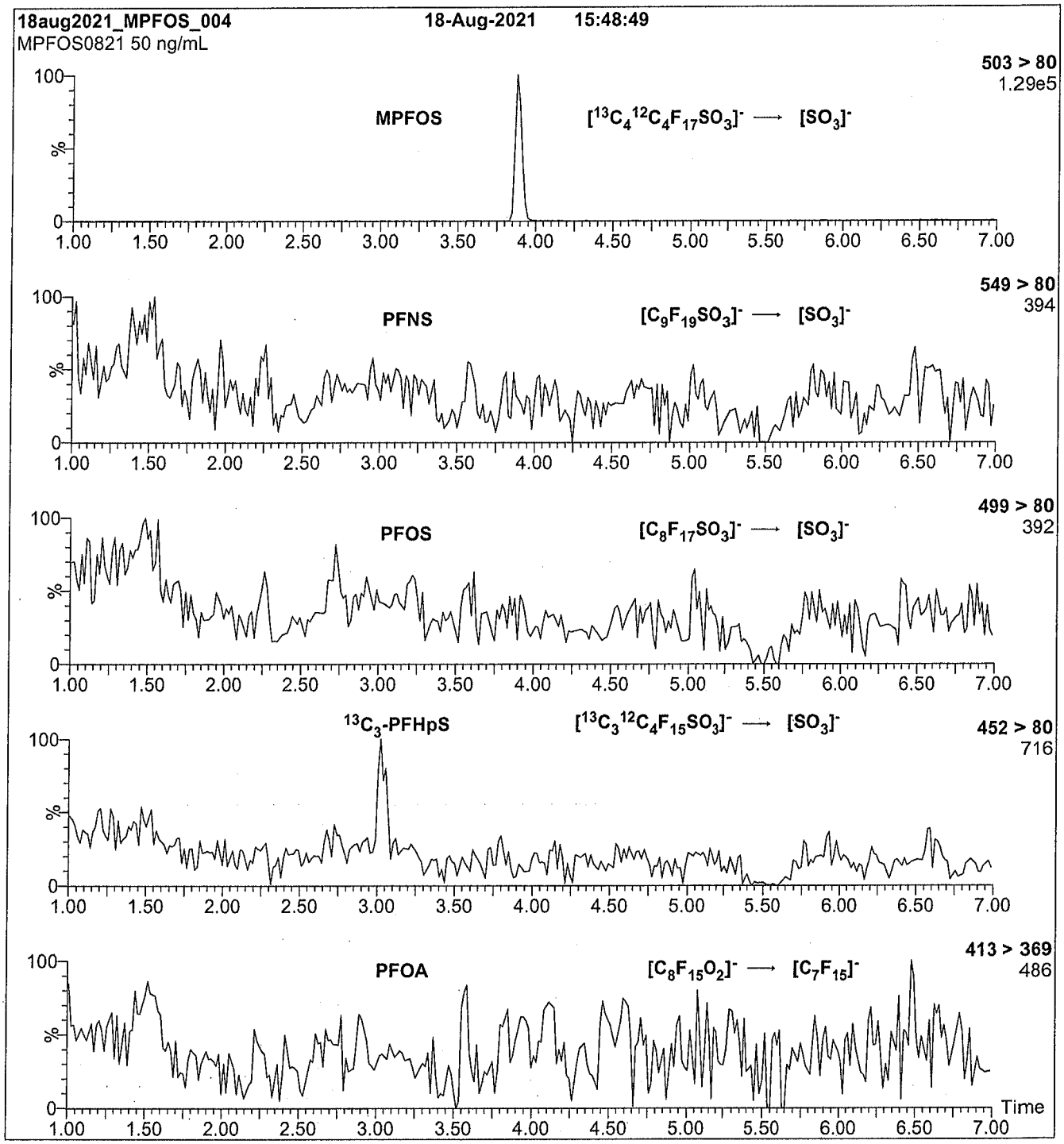
Flow: 300 µL/min

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

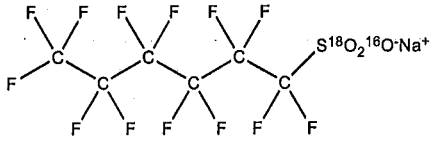
22A0121

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
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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.

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:

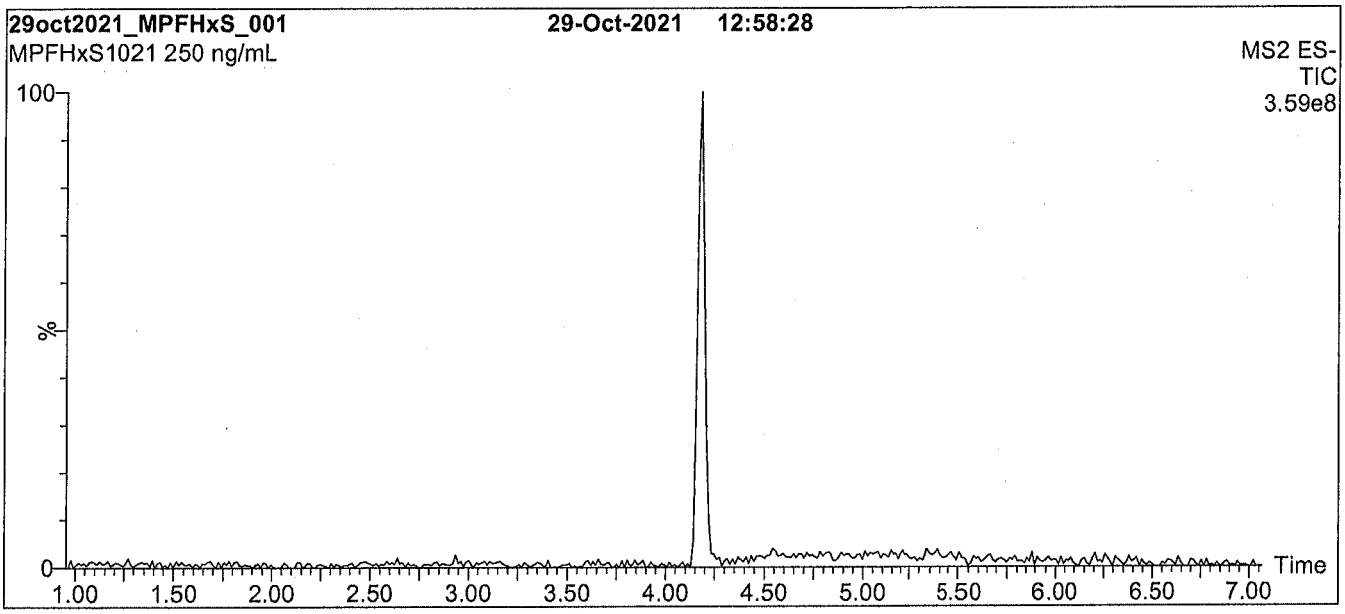
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

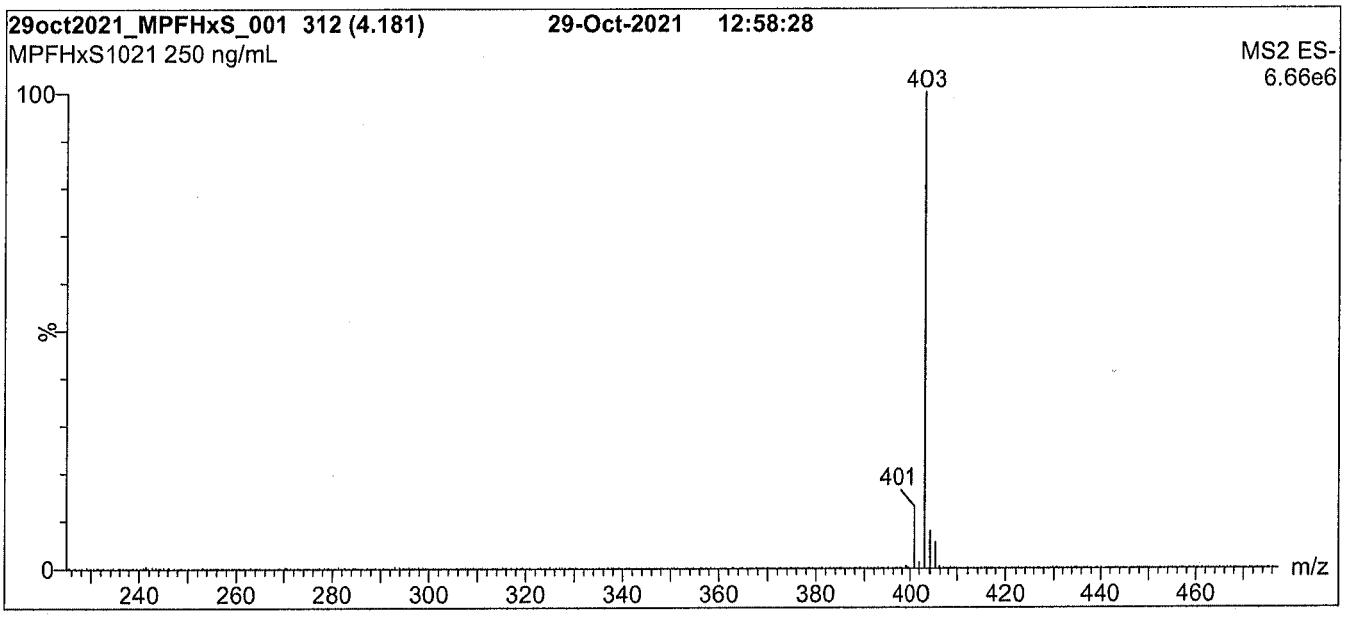
CALA Testing Accreditation No. A1226

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: **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

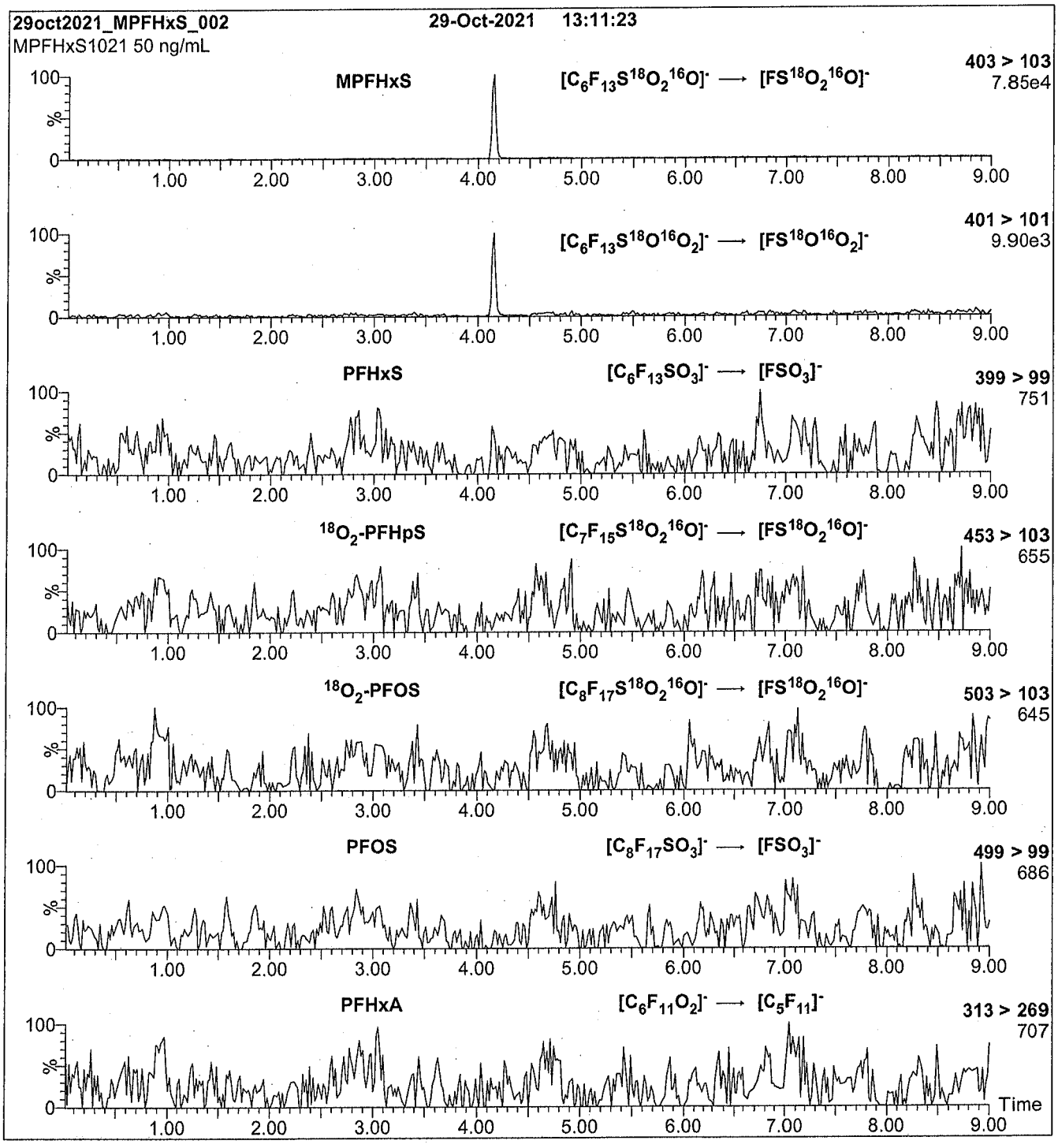
Flow: 300 µL/min

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

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.		

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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:

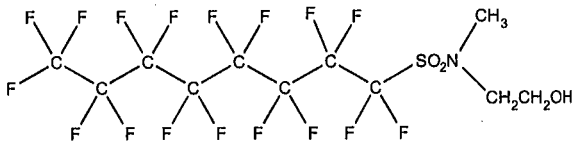
Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48	by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48	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

INTENDED USE:

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

HANDLING:

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

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

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

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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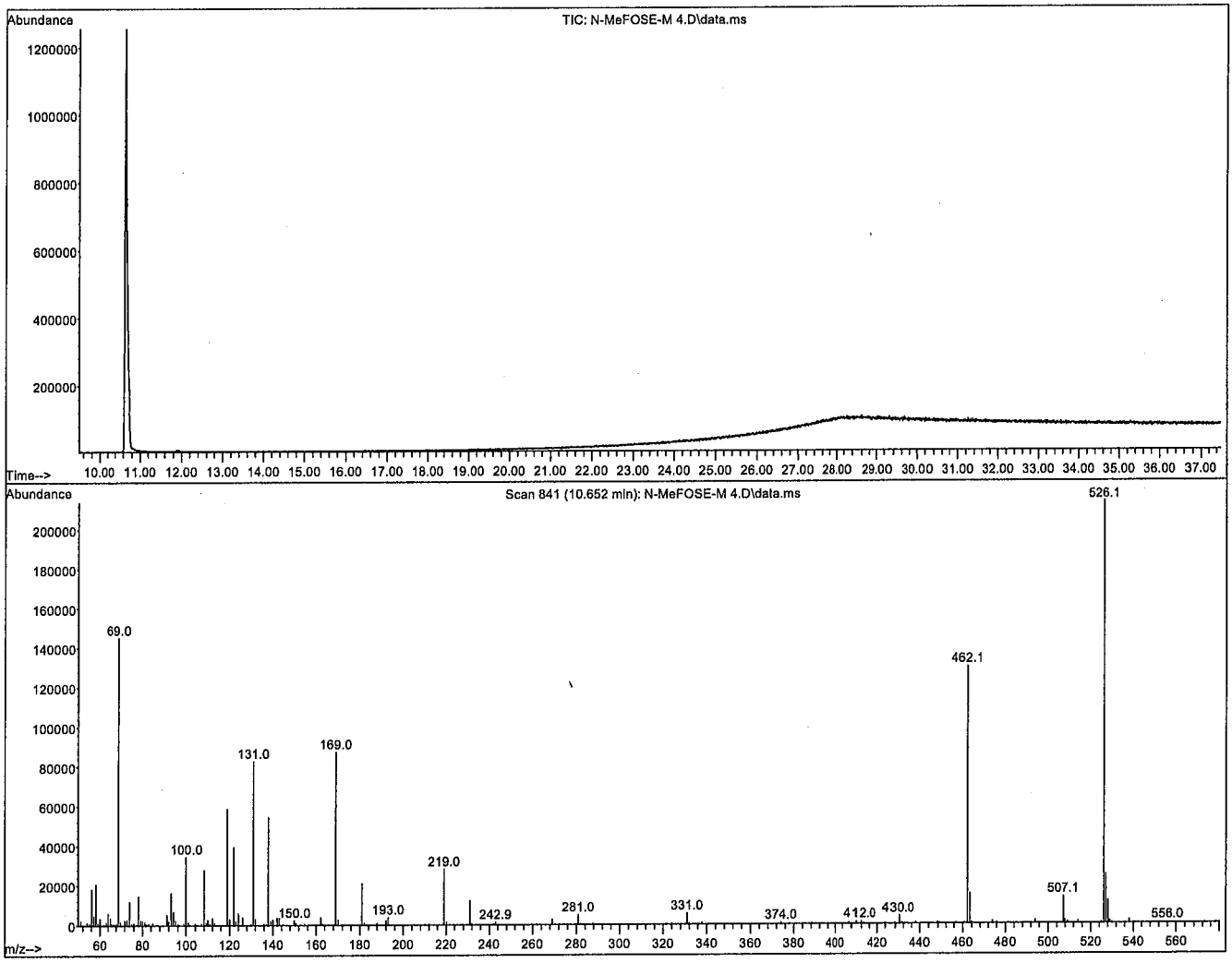
CALA Testing Accreditation No. A1226

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)**



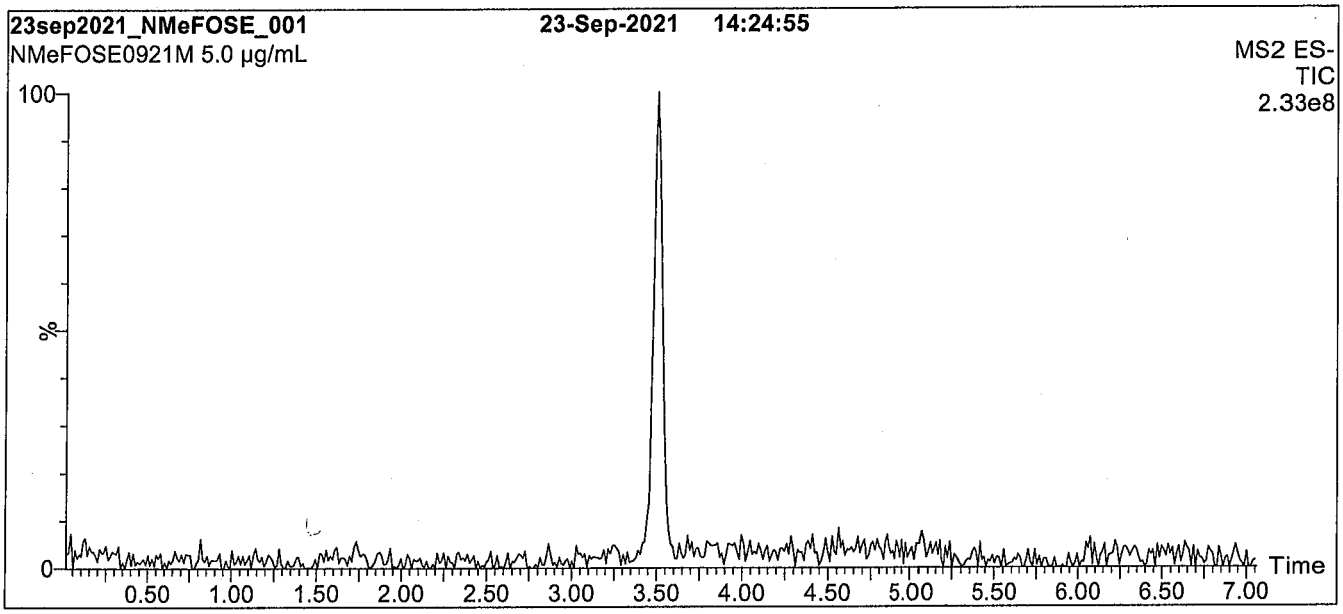
Conditions for Figure 1:

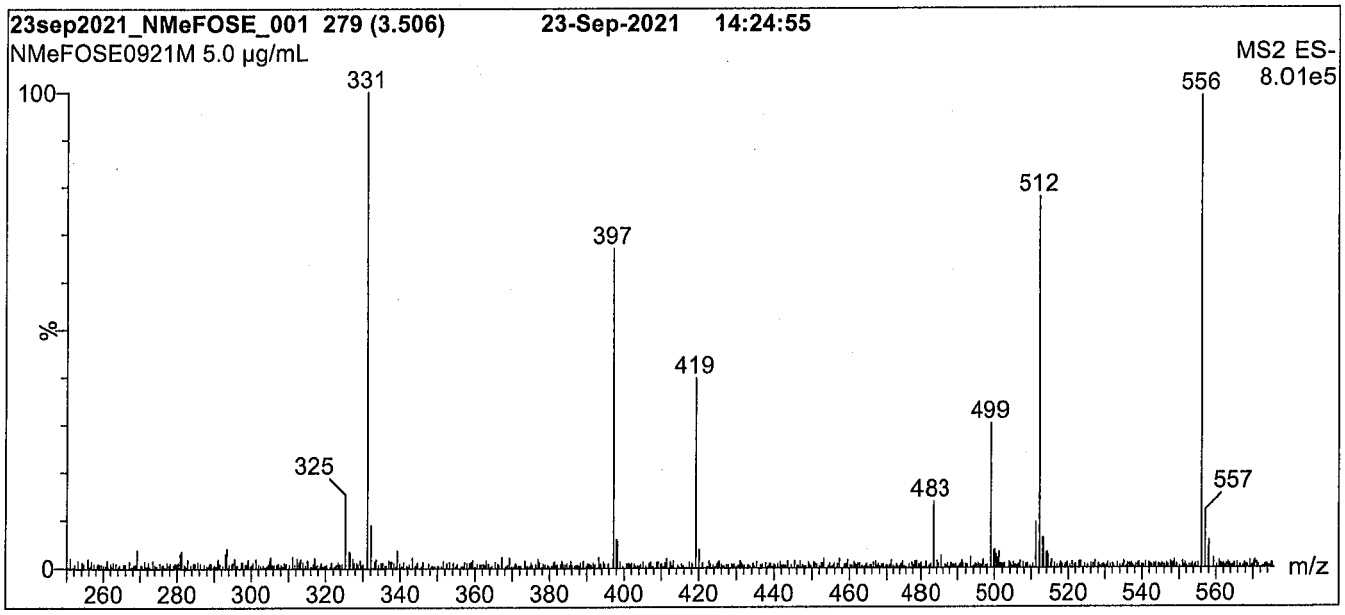
Agilent 7890A HRGC
Agilent 5975C MSD

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

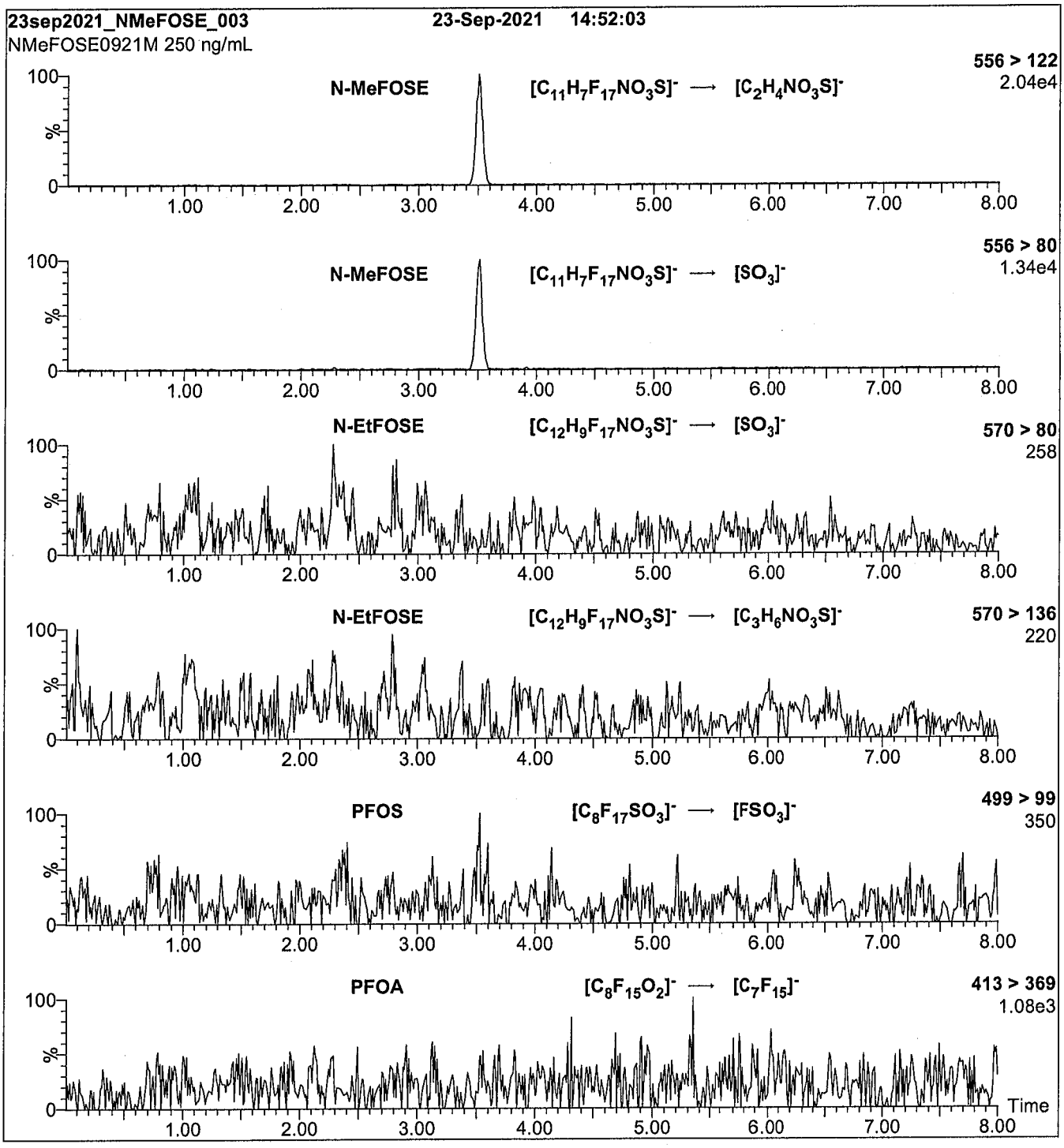
Flow: 300 µL/min

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

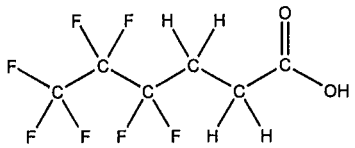
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPrPA0122
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

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HOMOGENEITY:

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UNCERTAINTY:

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

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ 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.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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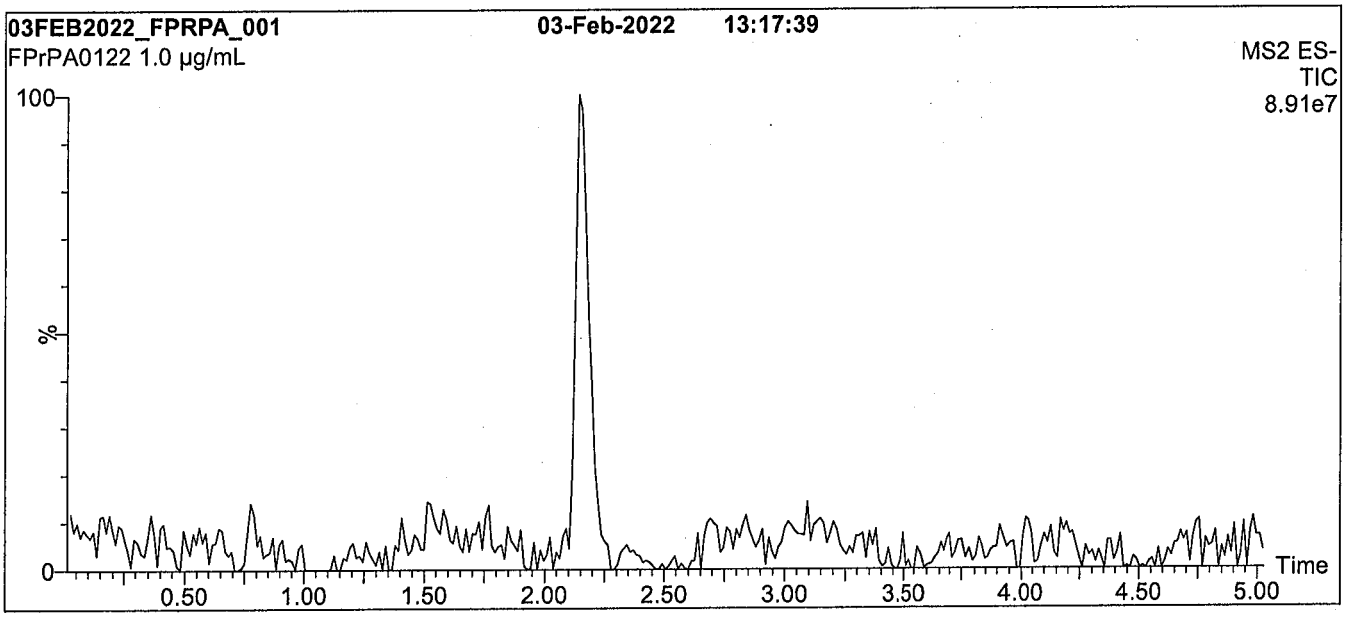
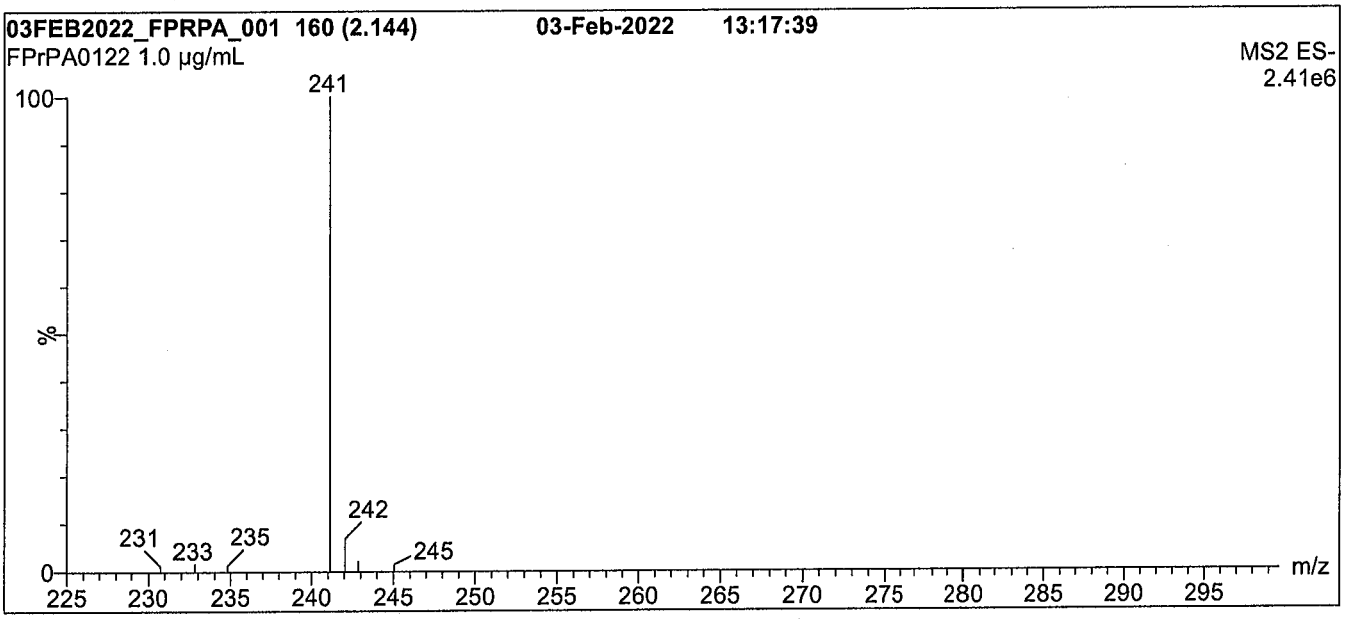
CALA Testing Accreditation No. A1226

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

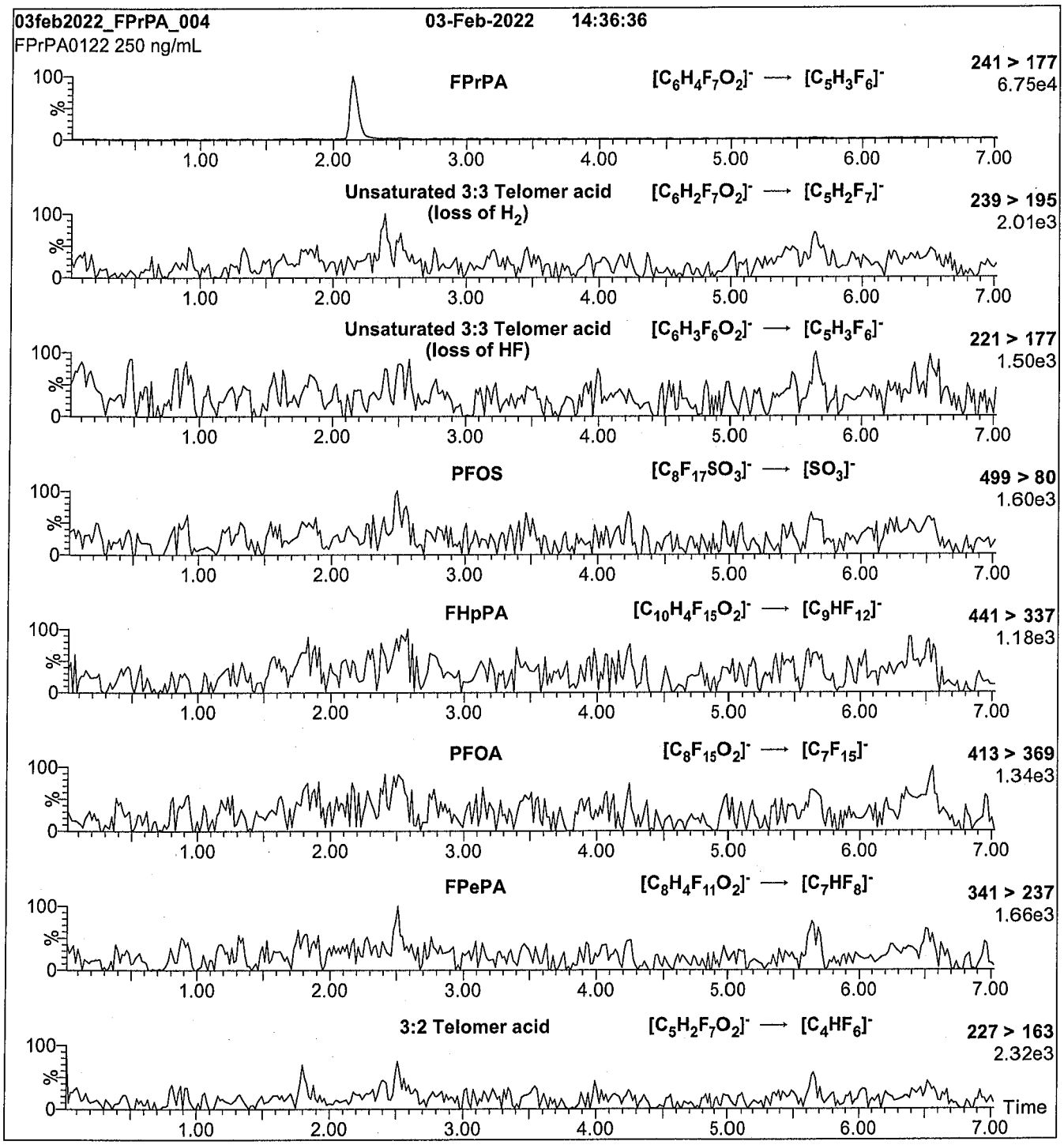
Flow: 300 µL/min

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

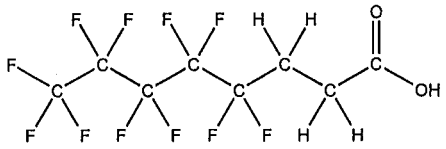
Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FPePA	**LOT NUMBER:**	FPePA1221
COMPOUND:	3-Perfluoropentyl propanoic acid		22C0309
STRUCTURE:		**CAS #:**	914637-49-3



MOLECULAR FORMULA:	$C_8H_5F_{11}O_2$	**MOLECULAR WEIGHT:**	342.11
CONCENTRATION:	50.0 ± 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

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CALA Testing Accreditation No. A1226

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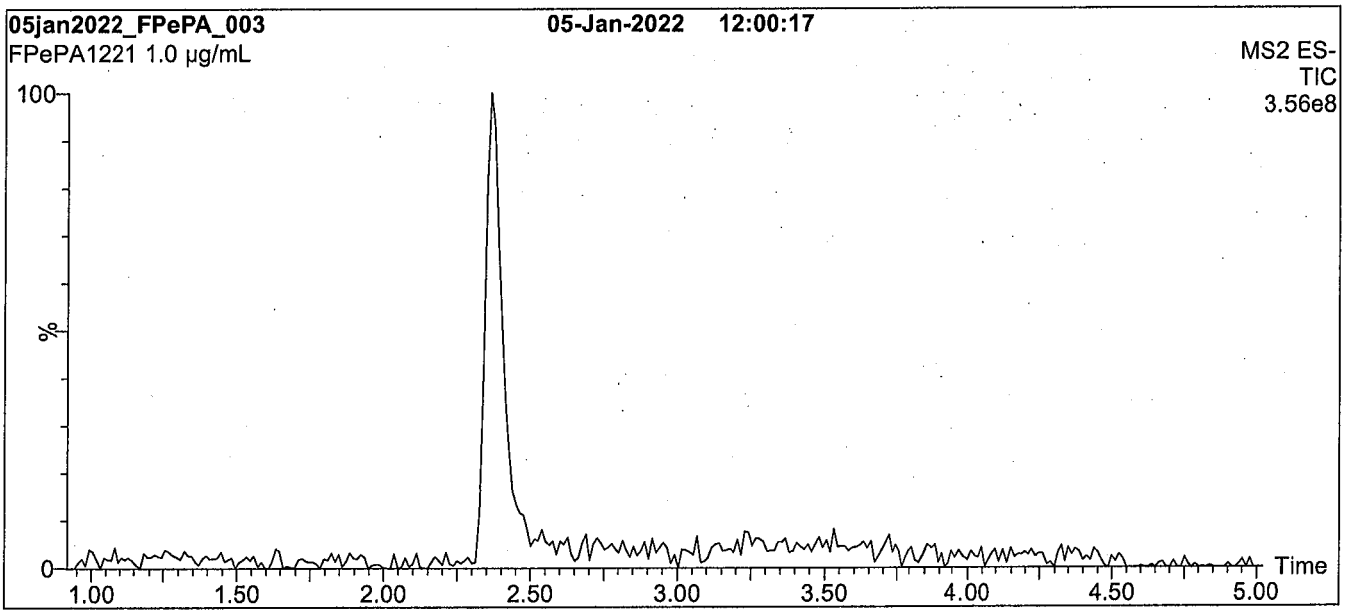
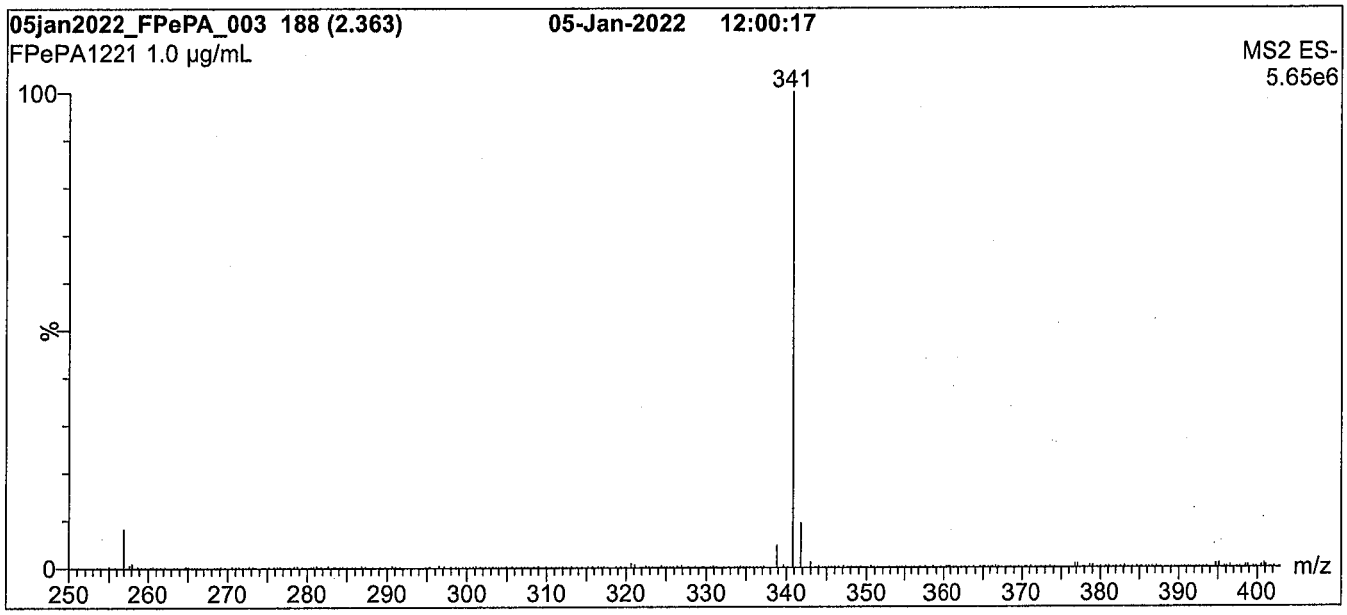
Figure 1: **FPePA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield 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

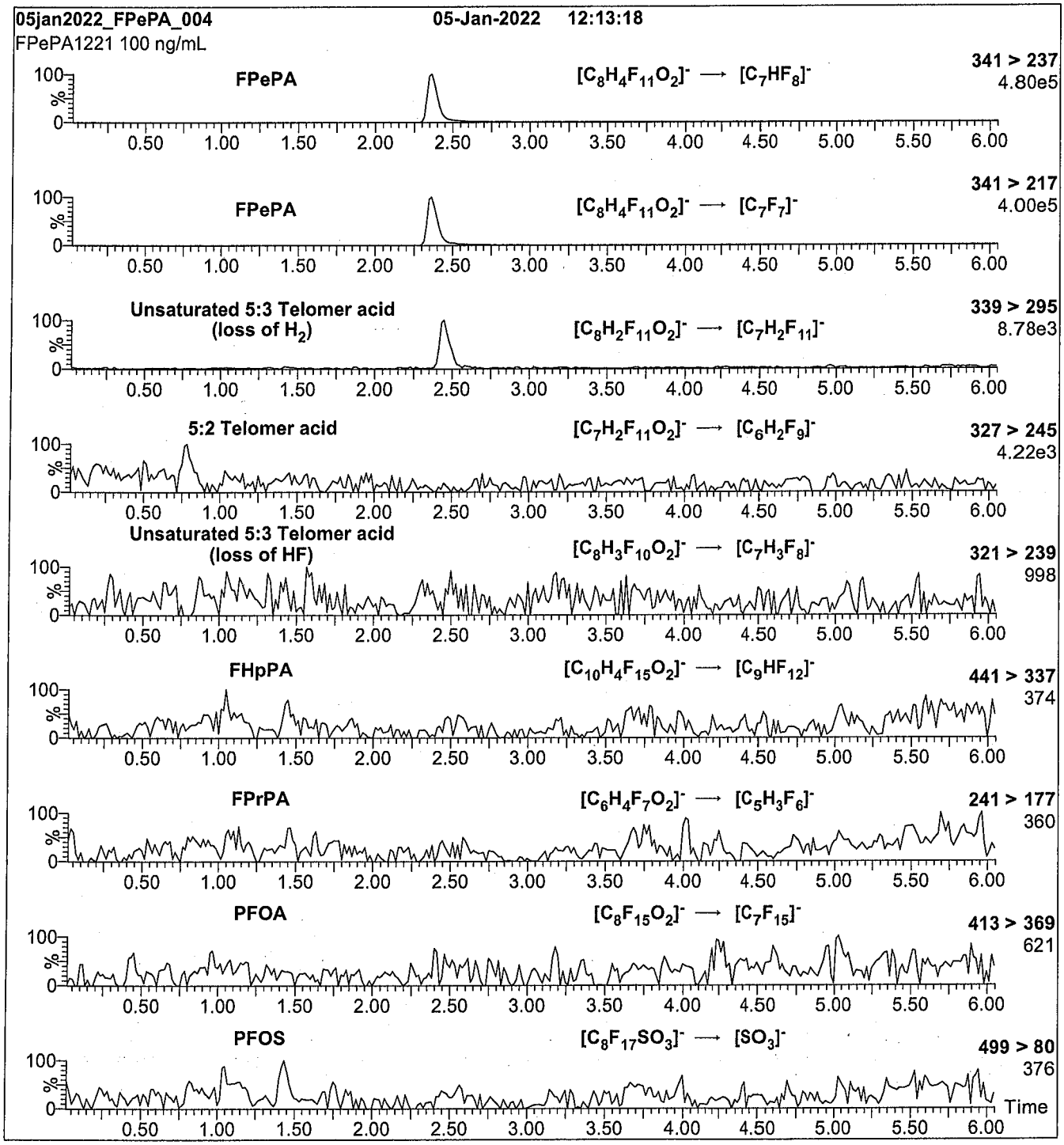
Flow: 300 µL/min

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

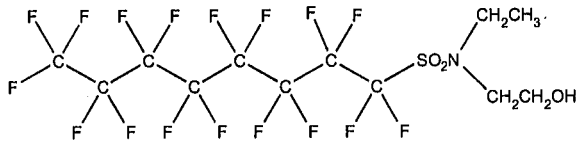
Date

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

INTENDED USE:

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CALA Testing Accreditation No. A1226

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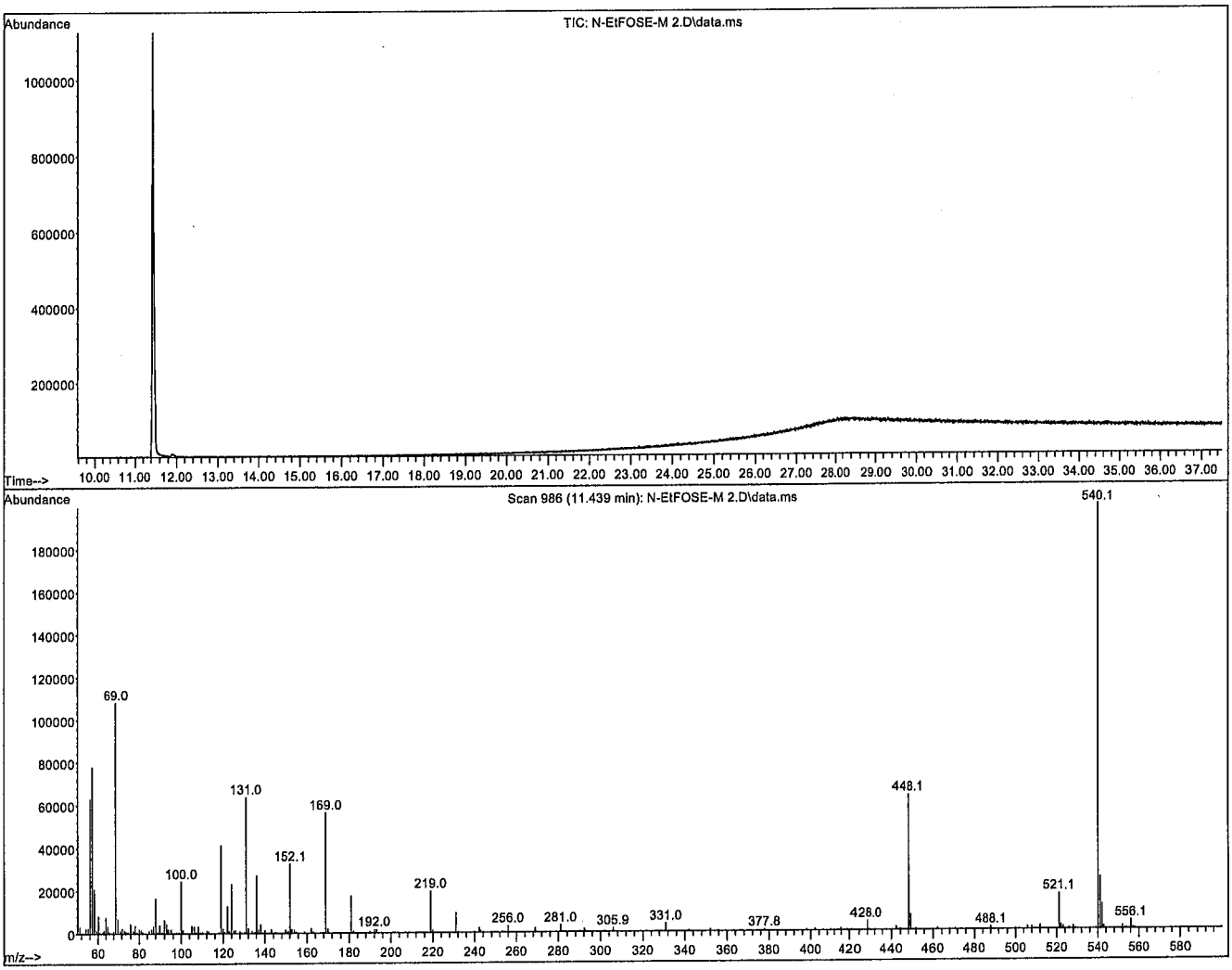
Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



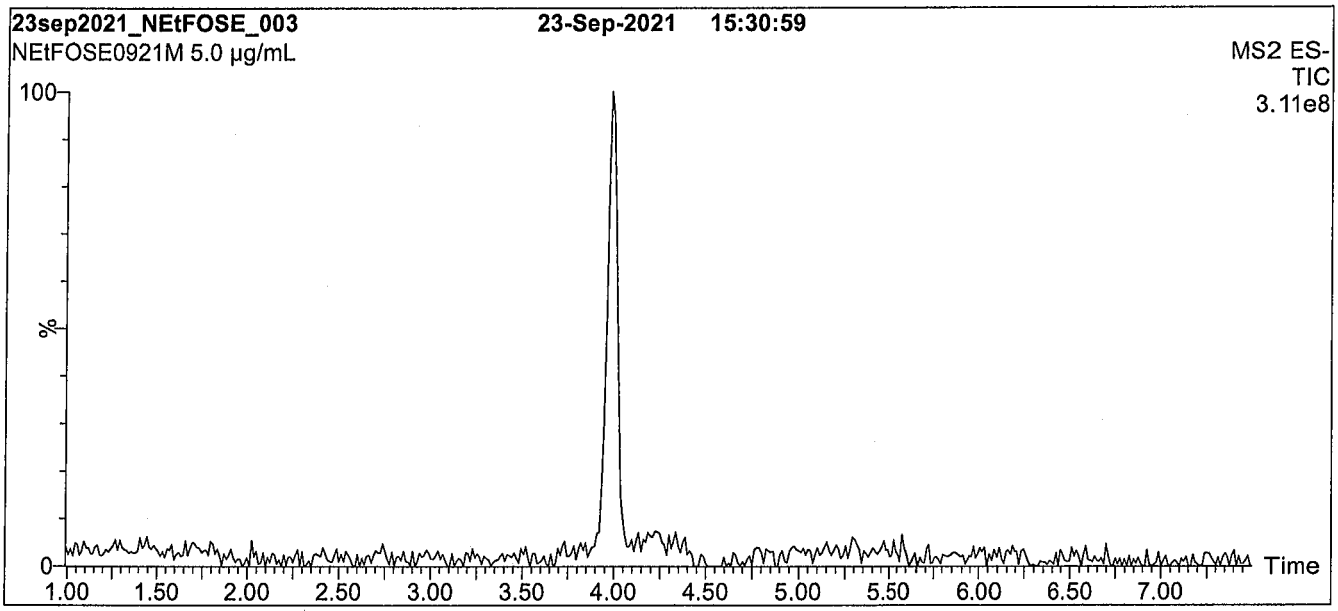
Conditions for Figure 1:

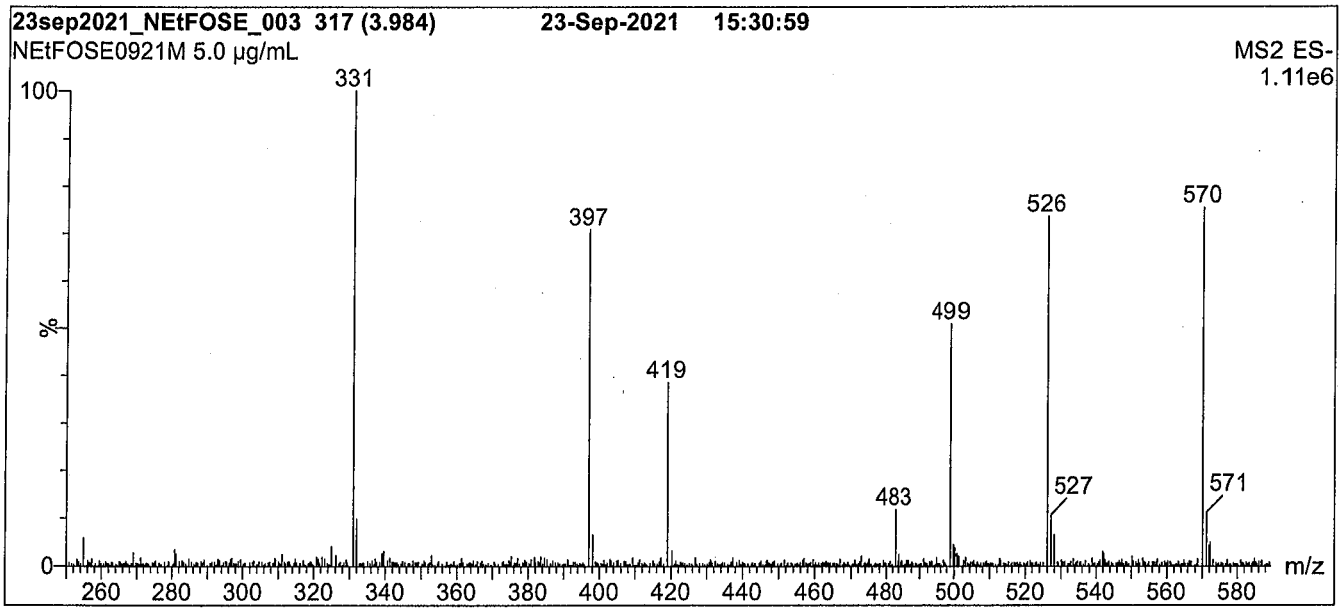
Agilent 7890A HRGC
Agilent 5975C MSD

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

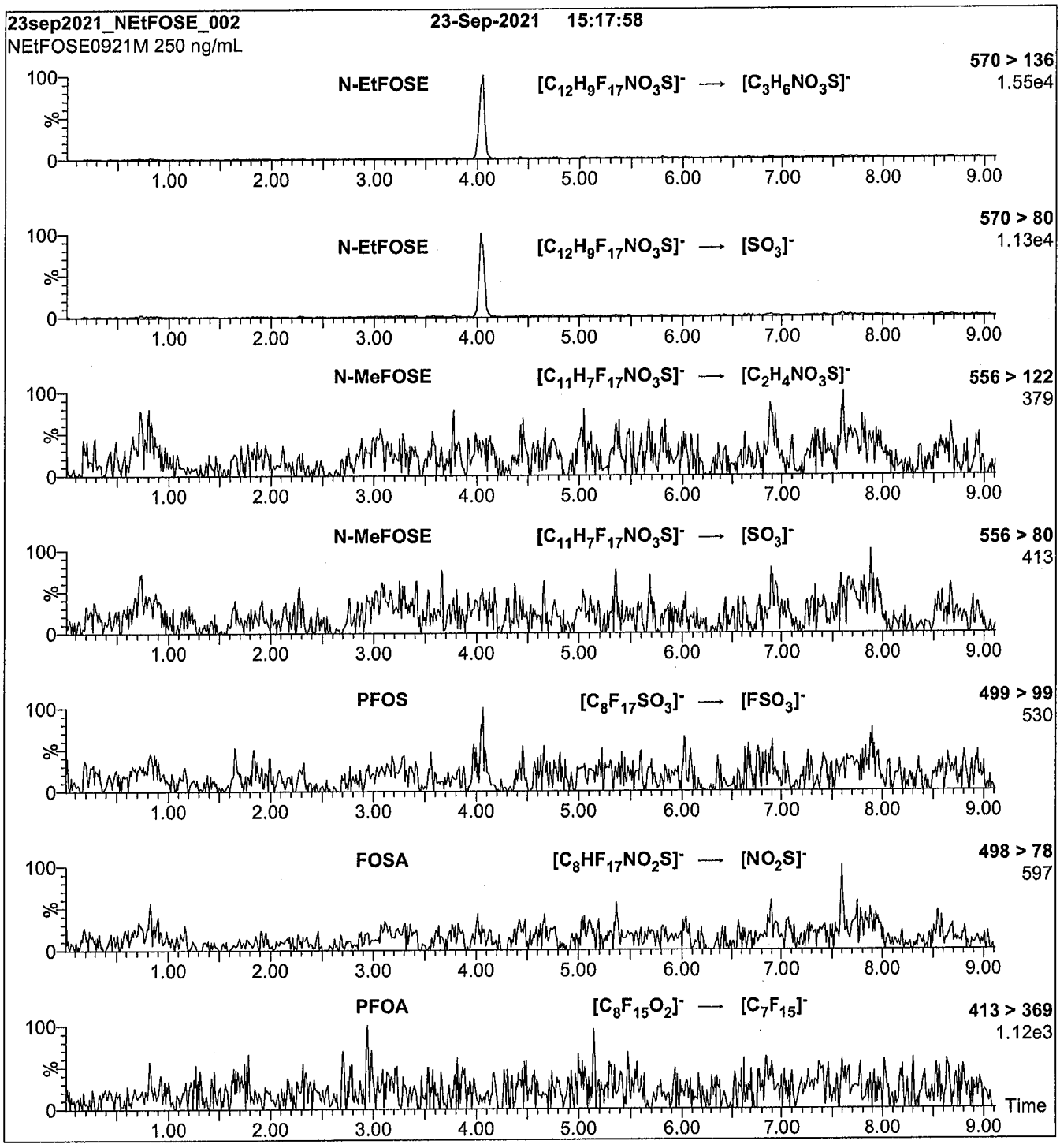
Flow: 300 µL/min

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

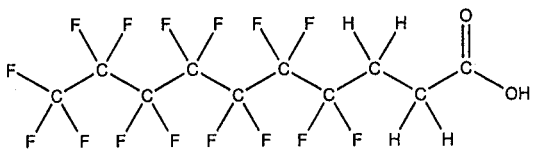
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FHpPA
COMPOUND: 3-Perfluoroheptyl propanoic acid

LOT NUMBER: FHpPA1020
22C0311

STRUCTURE:

CAS #: 812-70-4



MOLECULAR FORMULA: $C_{10}H_5F_{15}O_2$
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/12/2020
EXPIRY DATE: (mm/dd/yyyy) 11/12/2025
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 442.12
SOLVENT(S): Methanol

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.

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

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

UNCERTAINTY:

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

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ 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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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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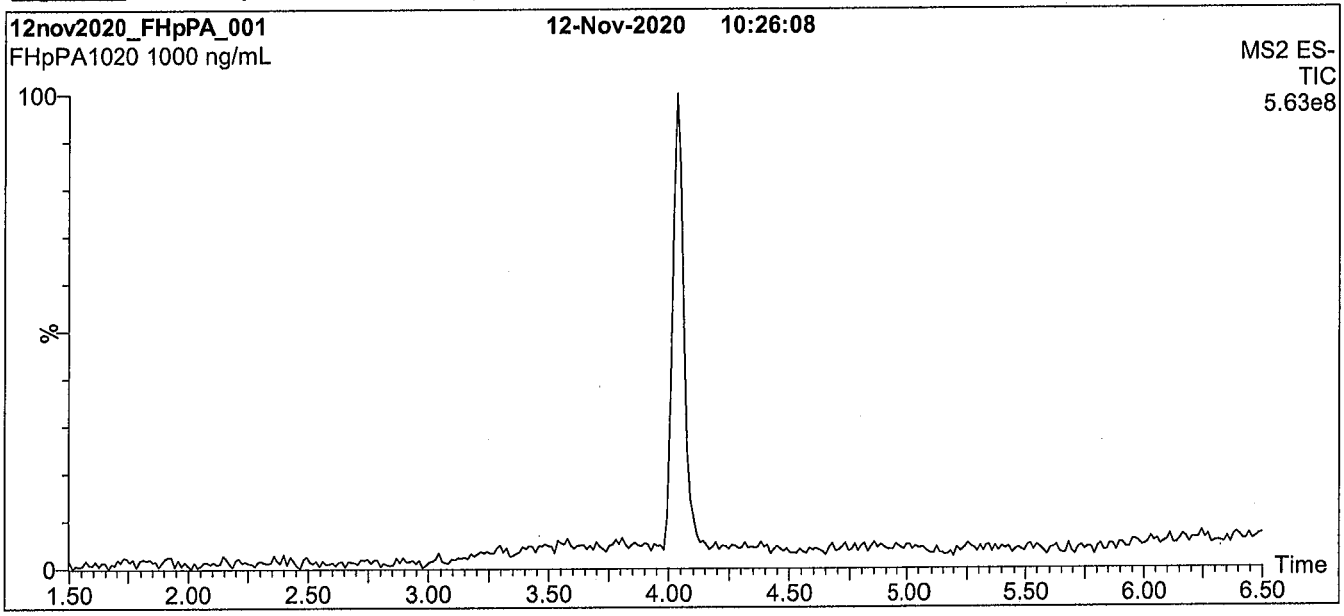
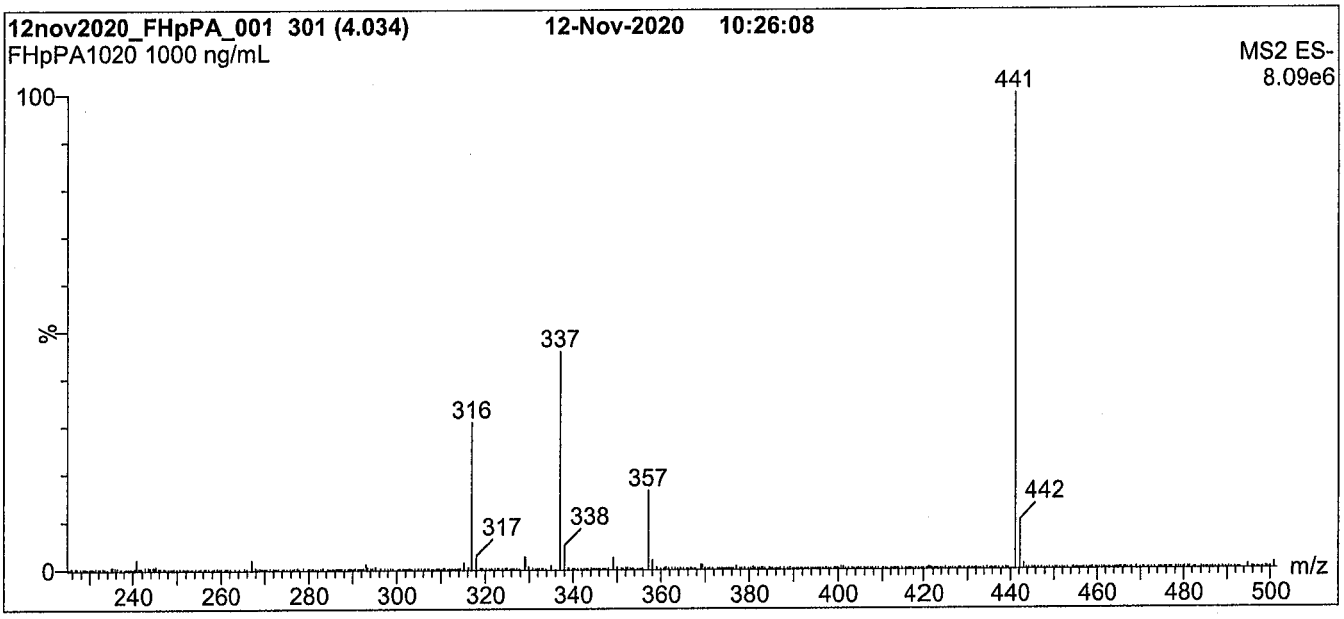
CALA Testing Accreditation No. A1226

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: **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

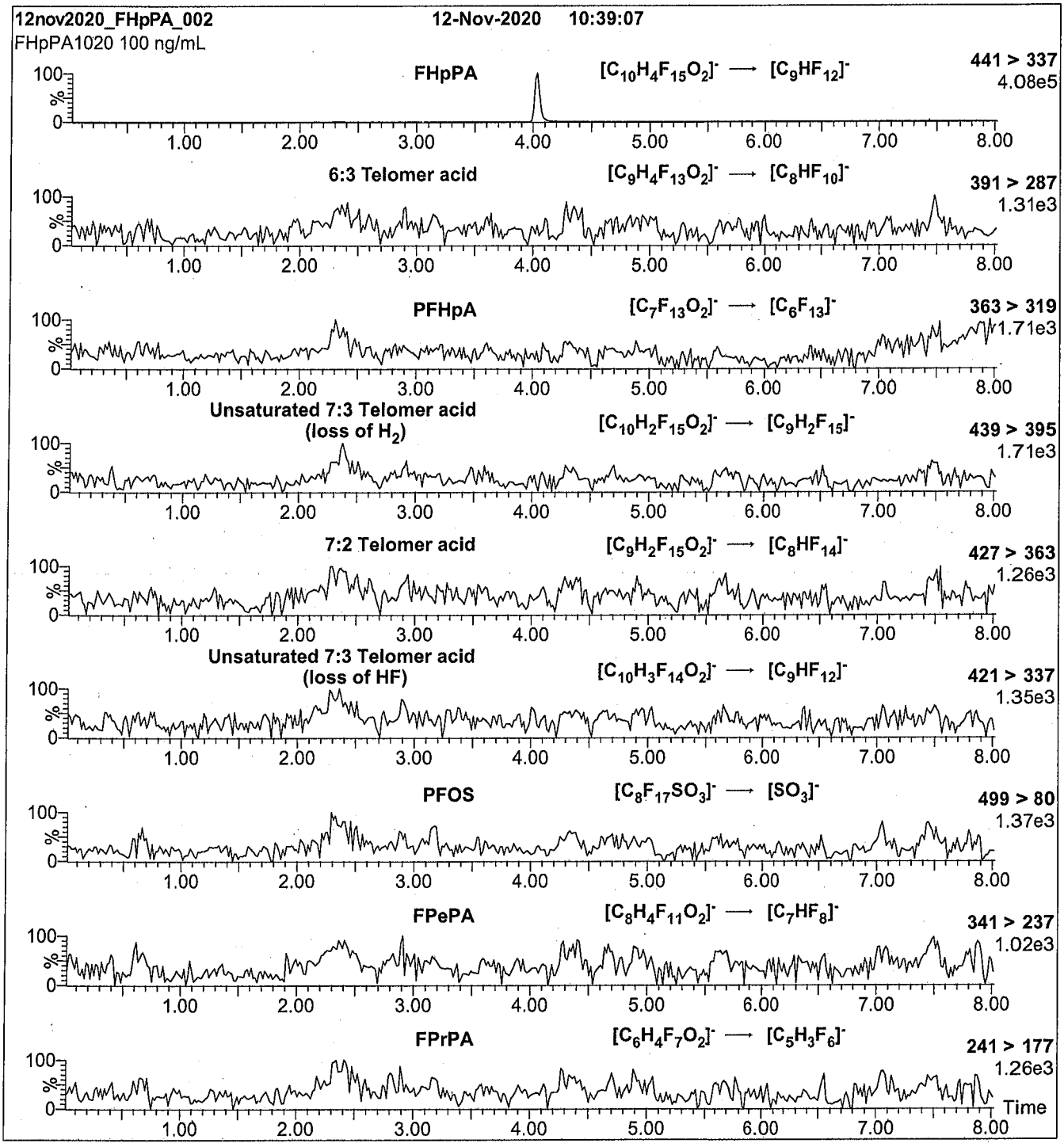
Flow: 300 µL/min

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

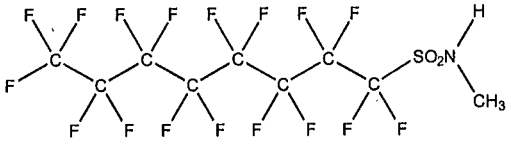
Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSA-M
COMPOUND: N-methylperfluoro-1-octanesulfonamide
LOT NUMBER: NMeFOSA0721M
22C0312
CAS #: 31506-32-8

STRUCTURE:



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

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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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 17034 REFERENCE MATERIAL PRODUCER

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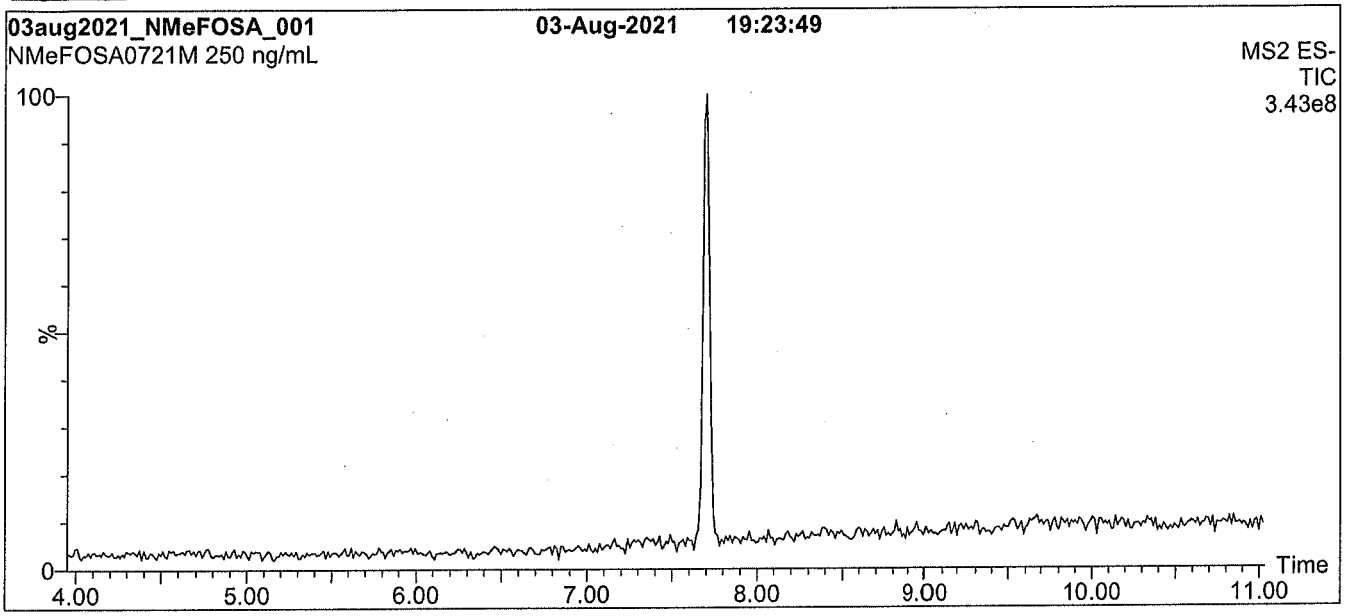
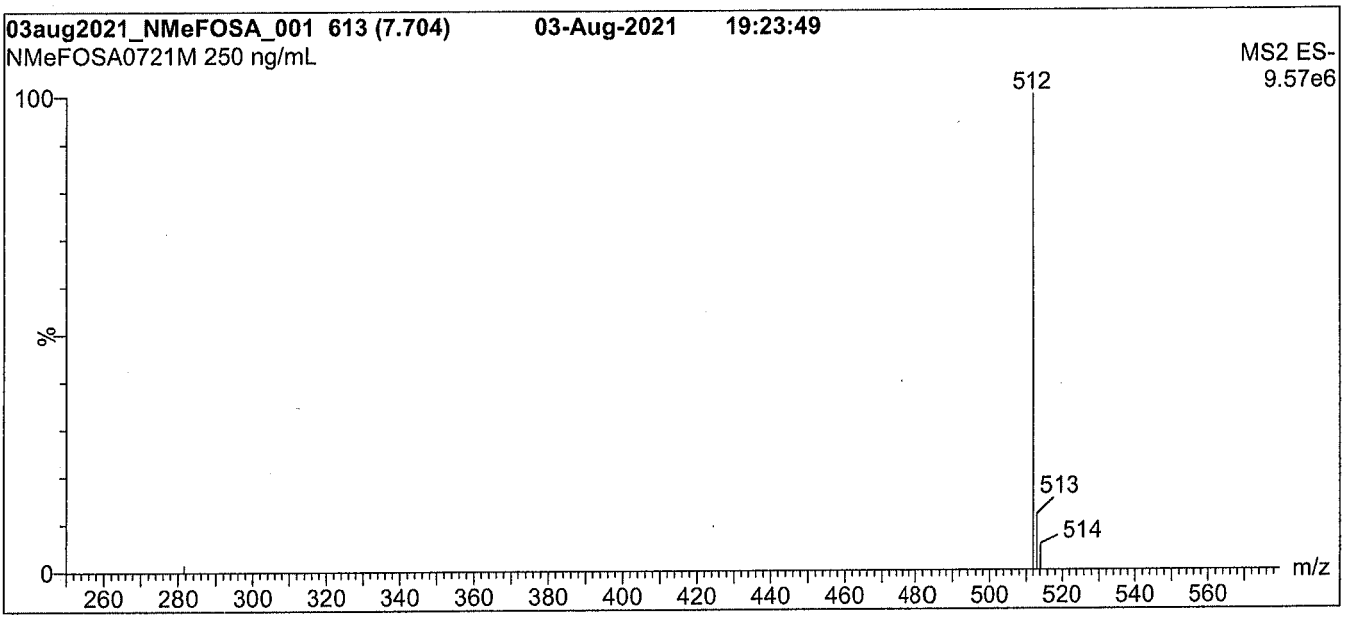
Figure 1: **N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{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

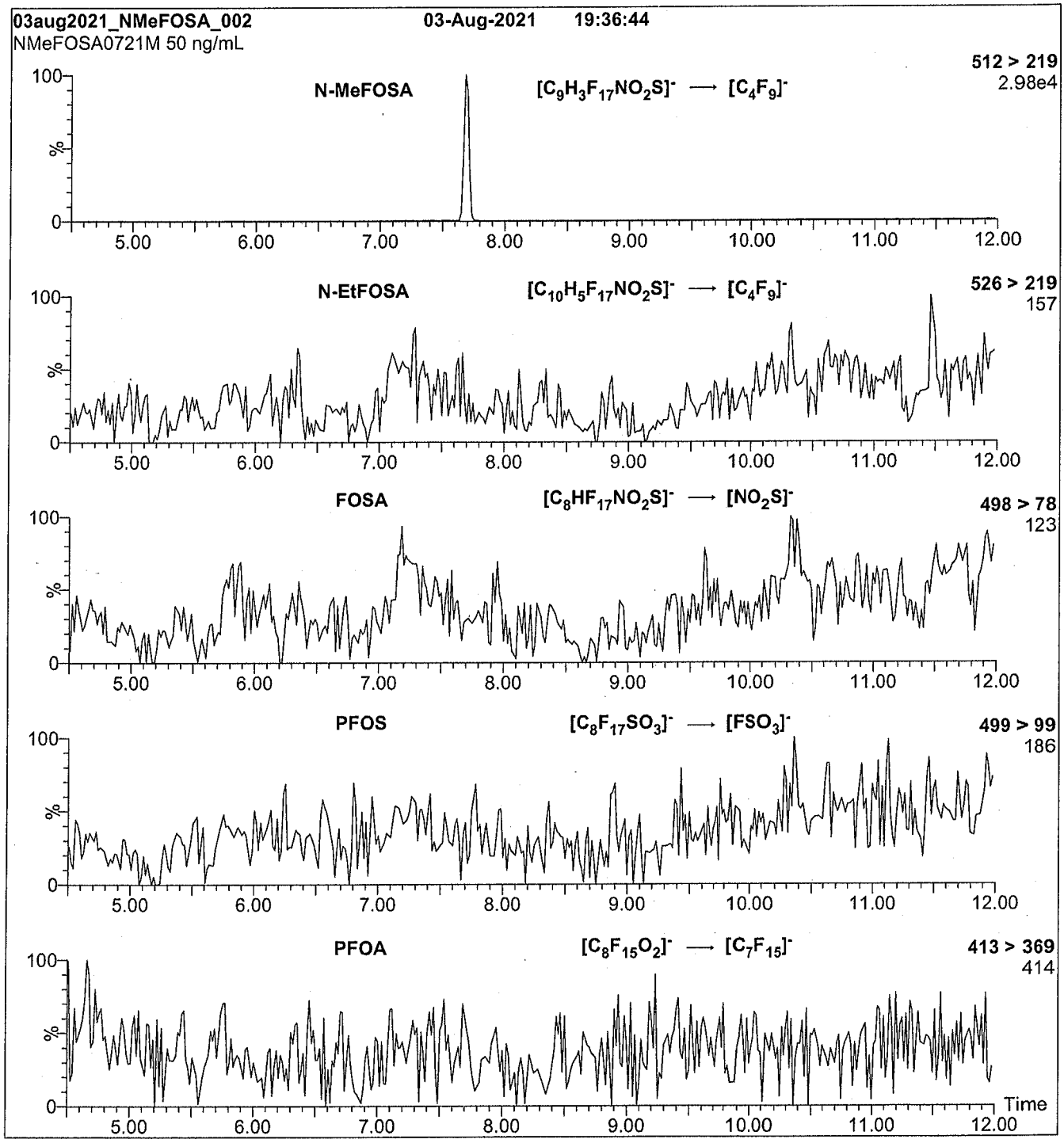
Flow: 300 µL/min

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

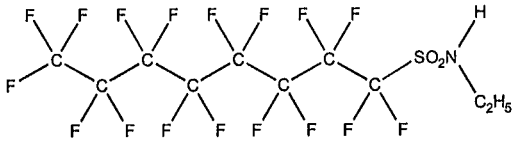
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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:

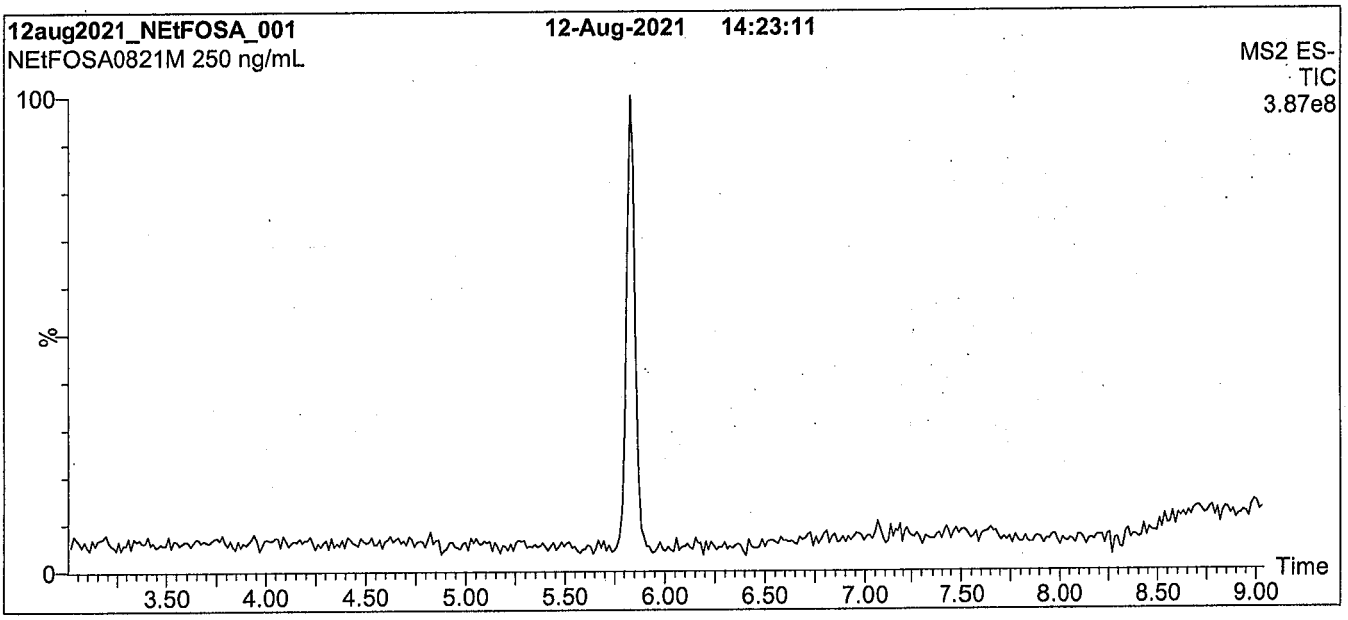
- See page 2 for further details.

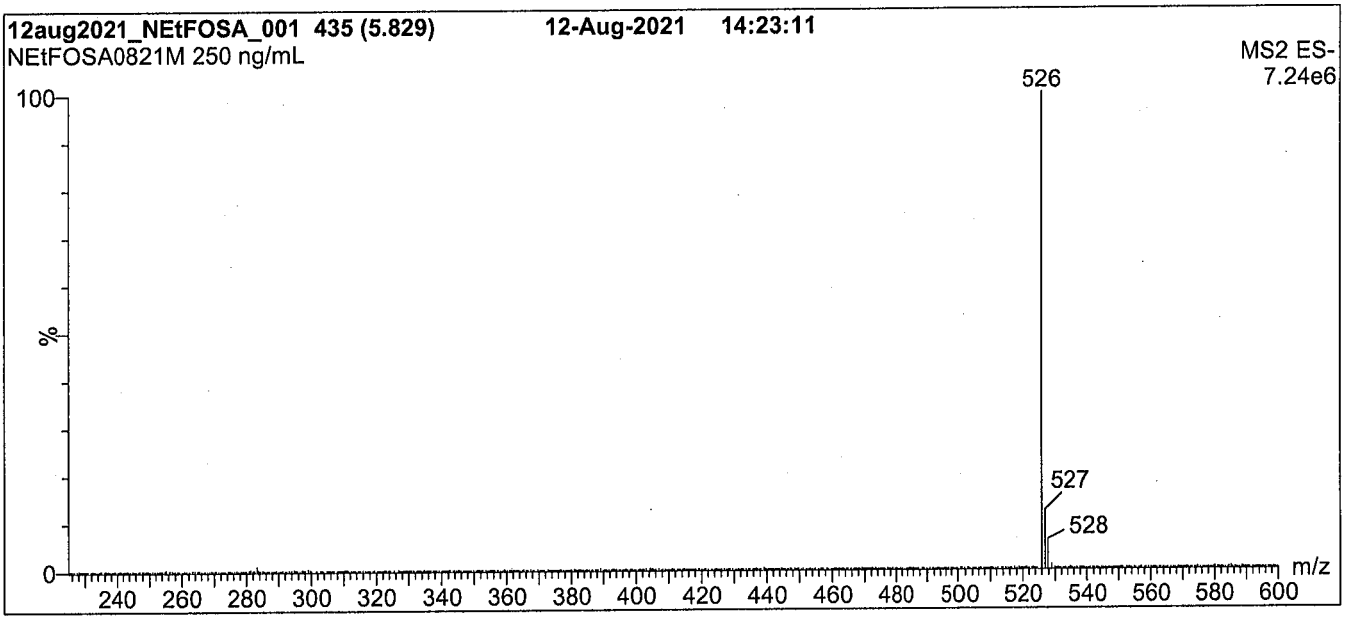
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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HANDLING:

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

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LIMITED WARRANTY:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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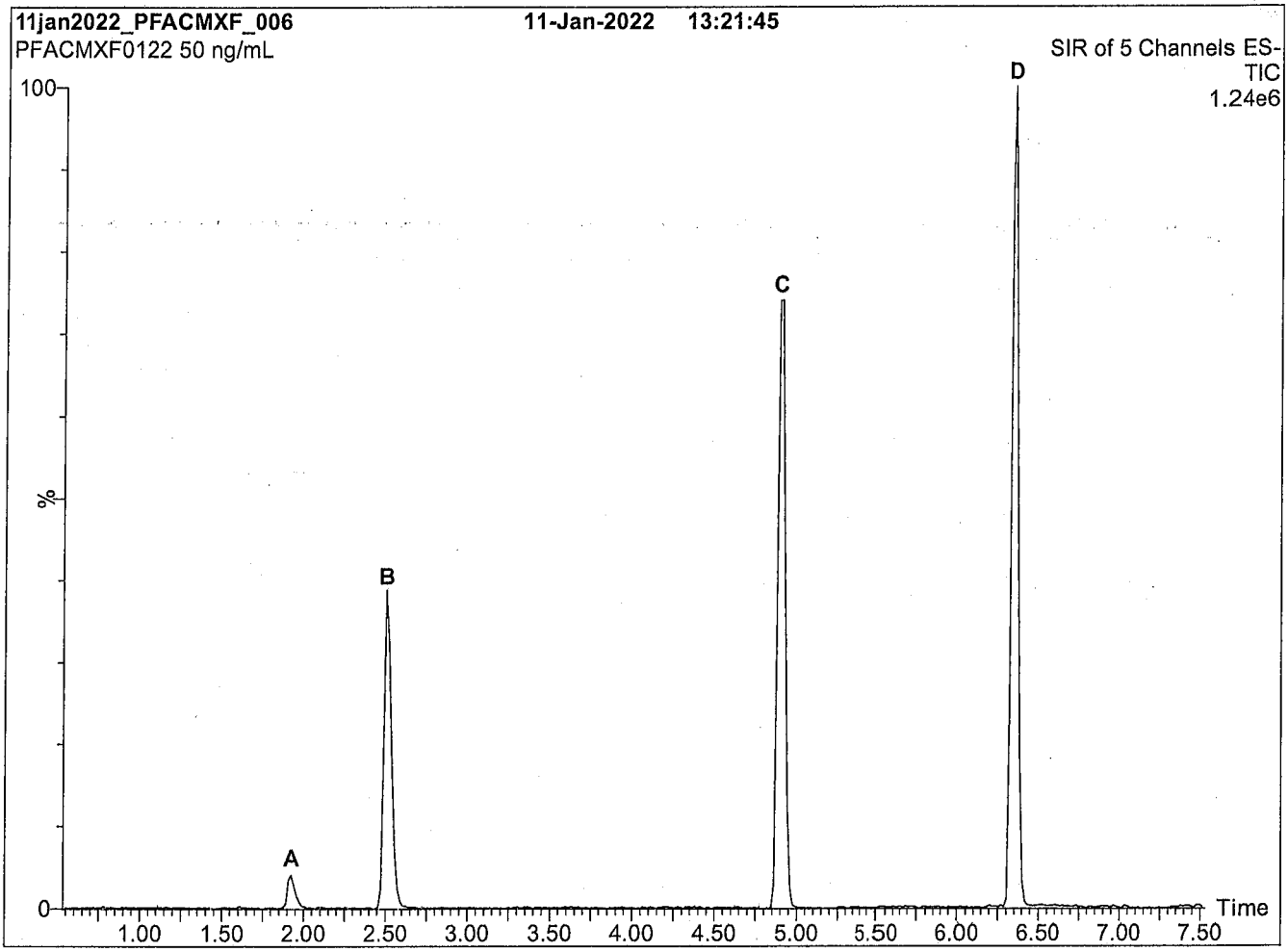
Table A: **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
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

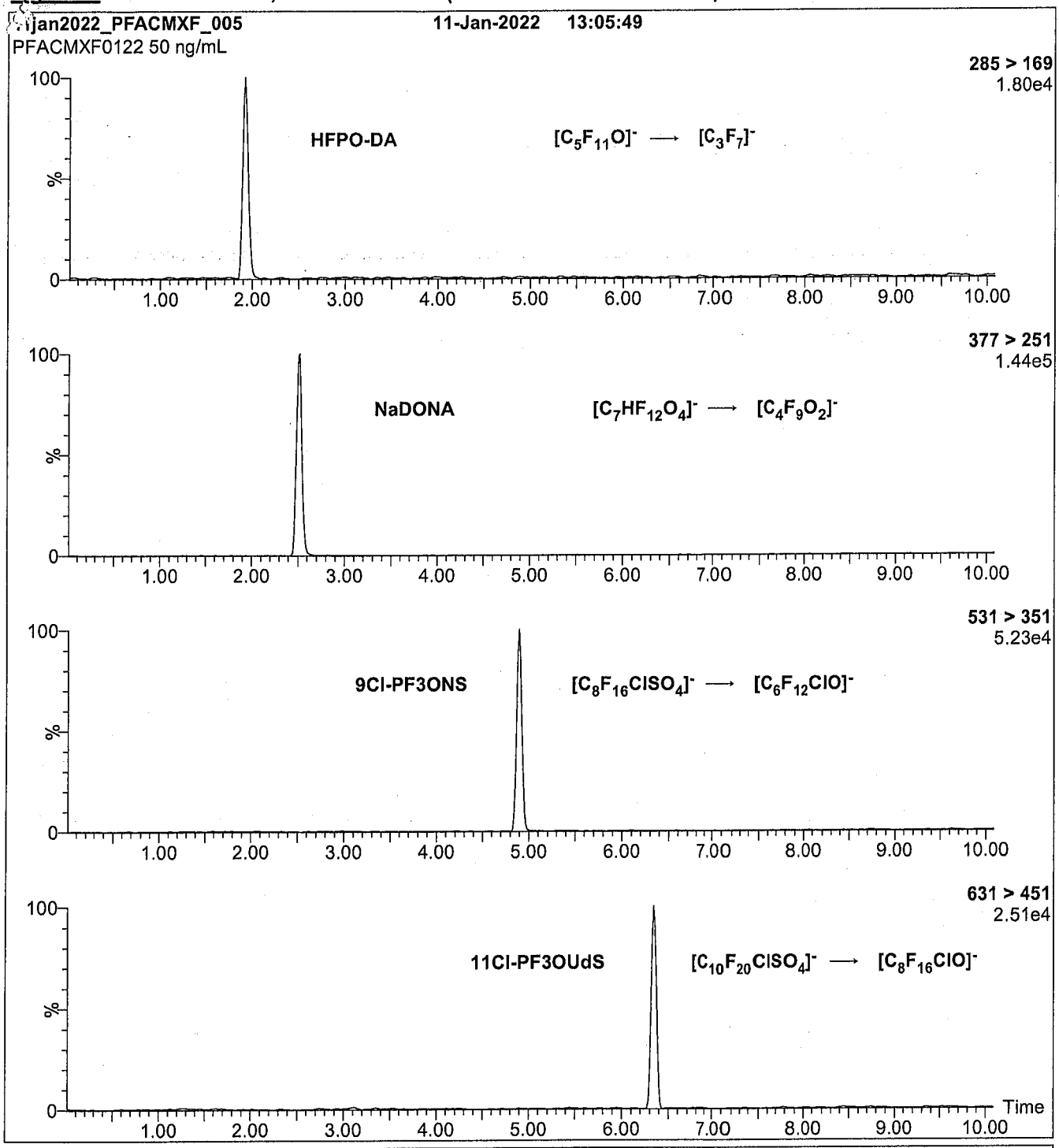
Flow: 300 µL/min

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.

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-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	$CF_3\underset{\displaystyle CF_3}{\underset{\vert}{C}}CF_2CF_2SO_3^-K^+$	0.2	
7	Other Unidentified Isomers		0.5	

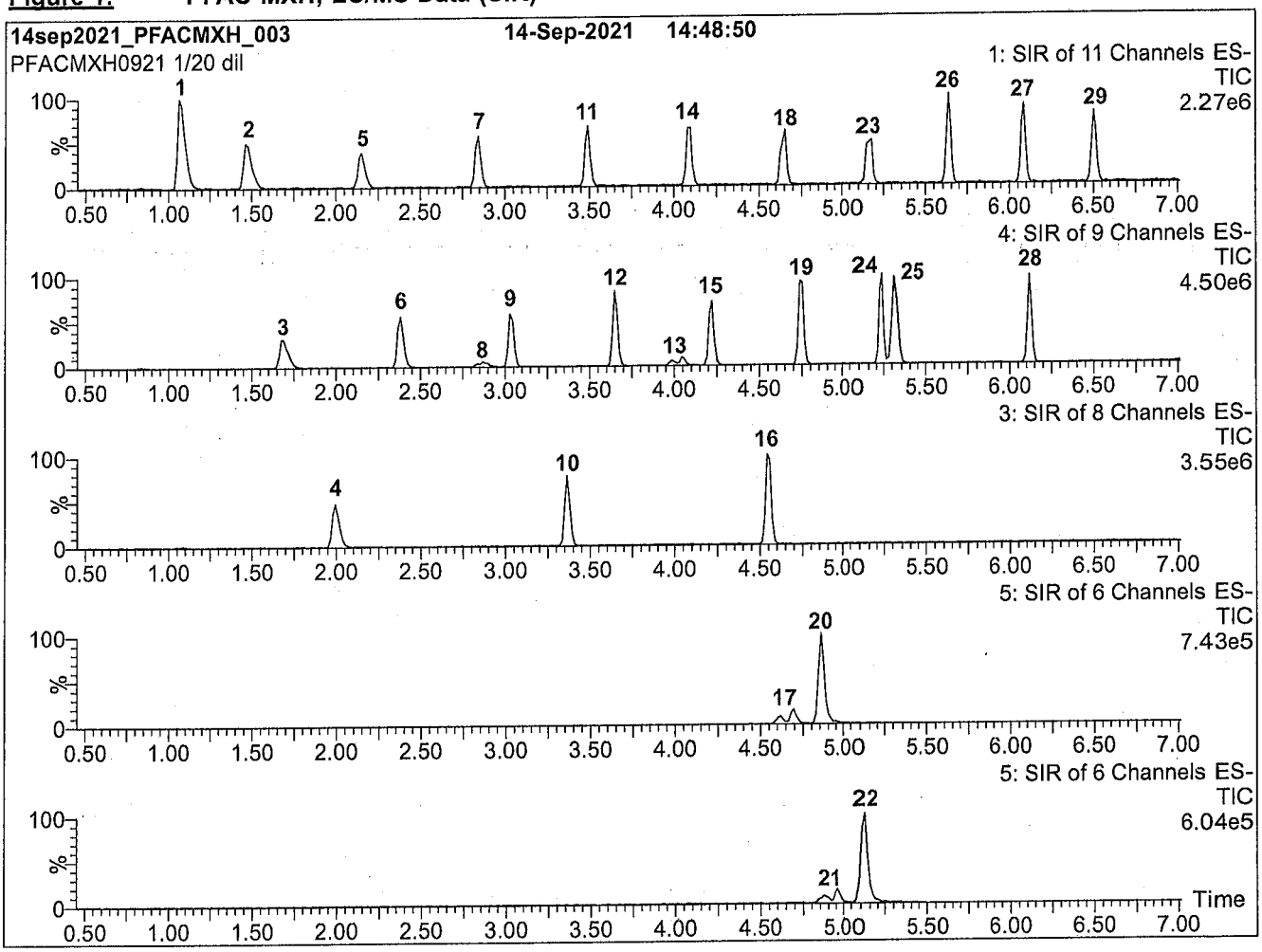
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

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)**

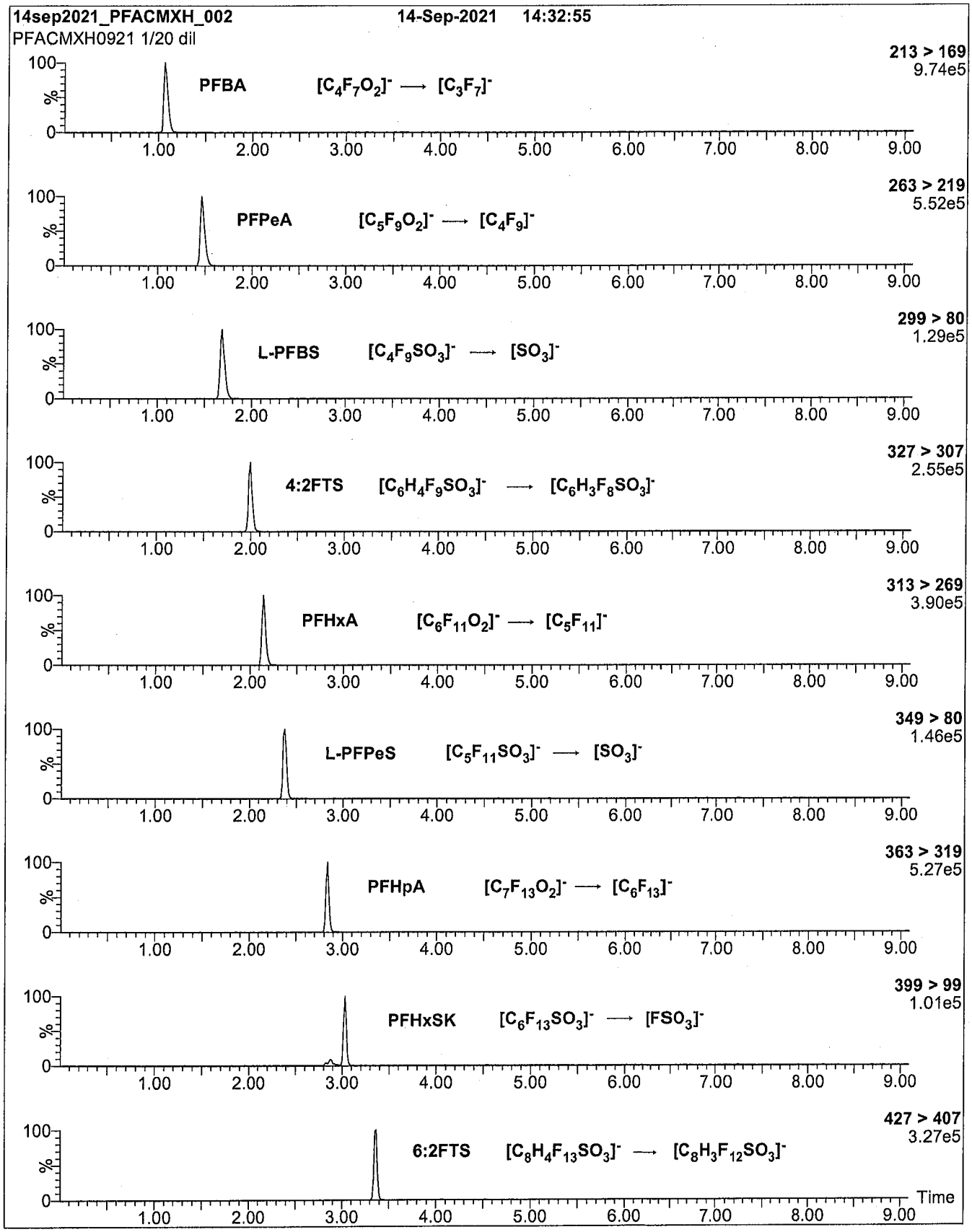


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

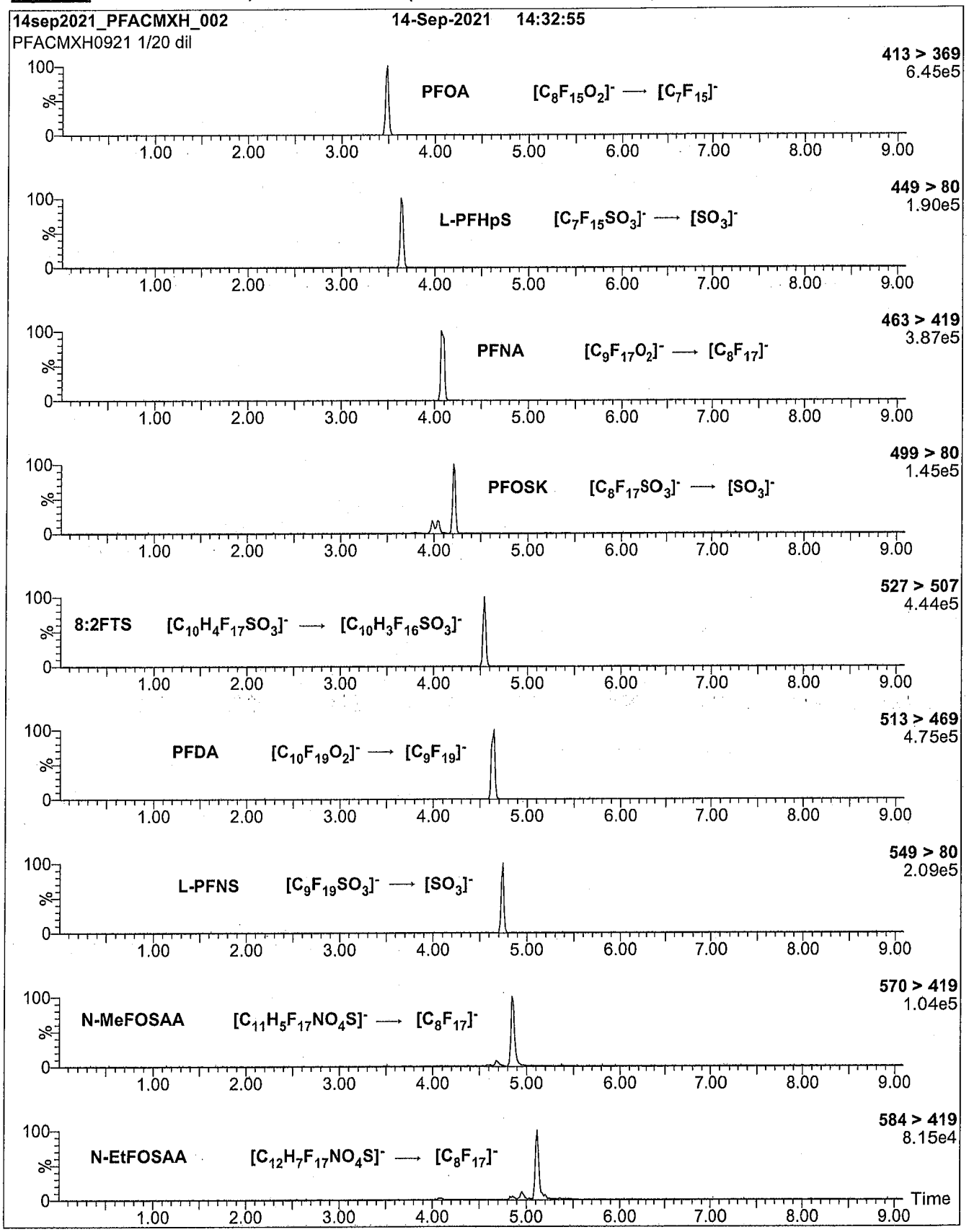
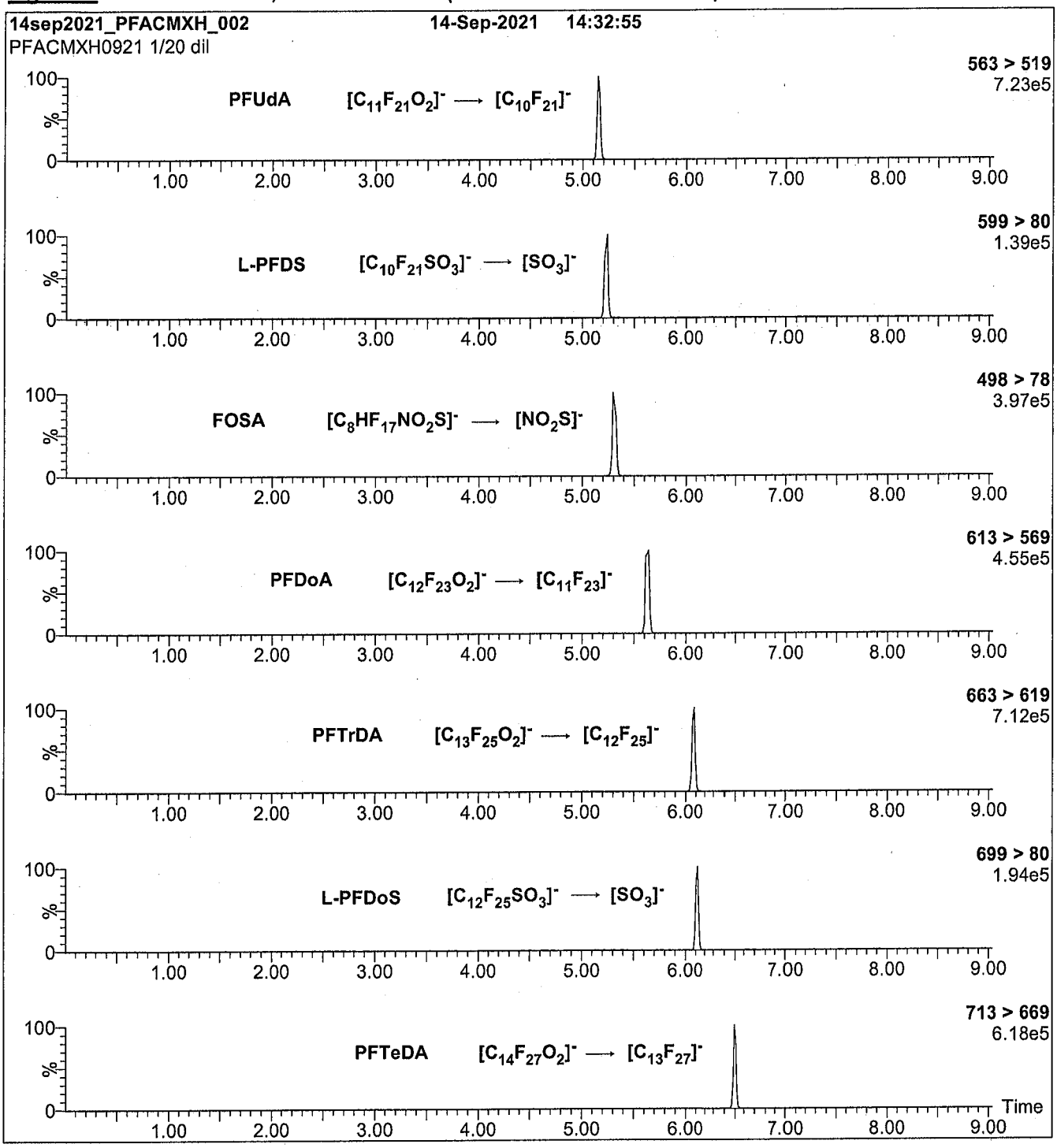


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFAC-MXH)

Mobile phase: Same as Figure 1

Flow: 300 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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

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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.

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

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

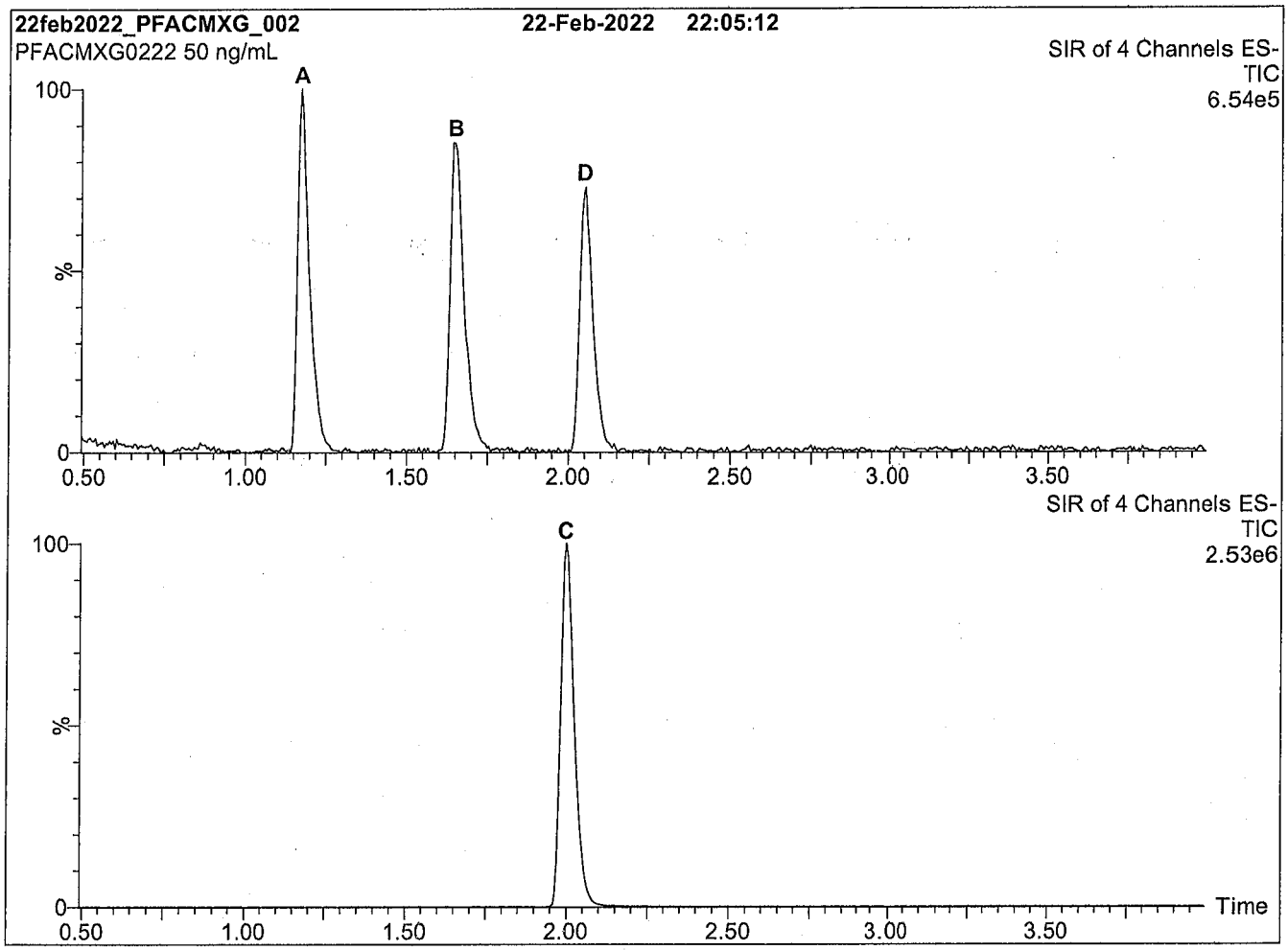
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the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

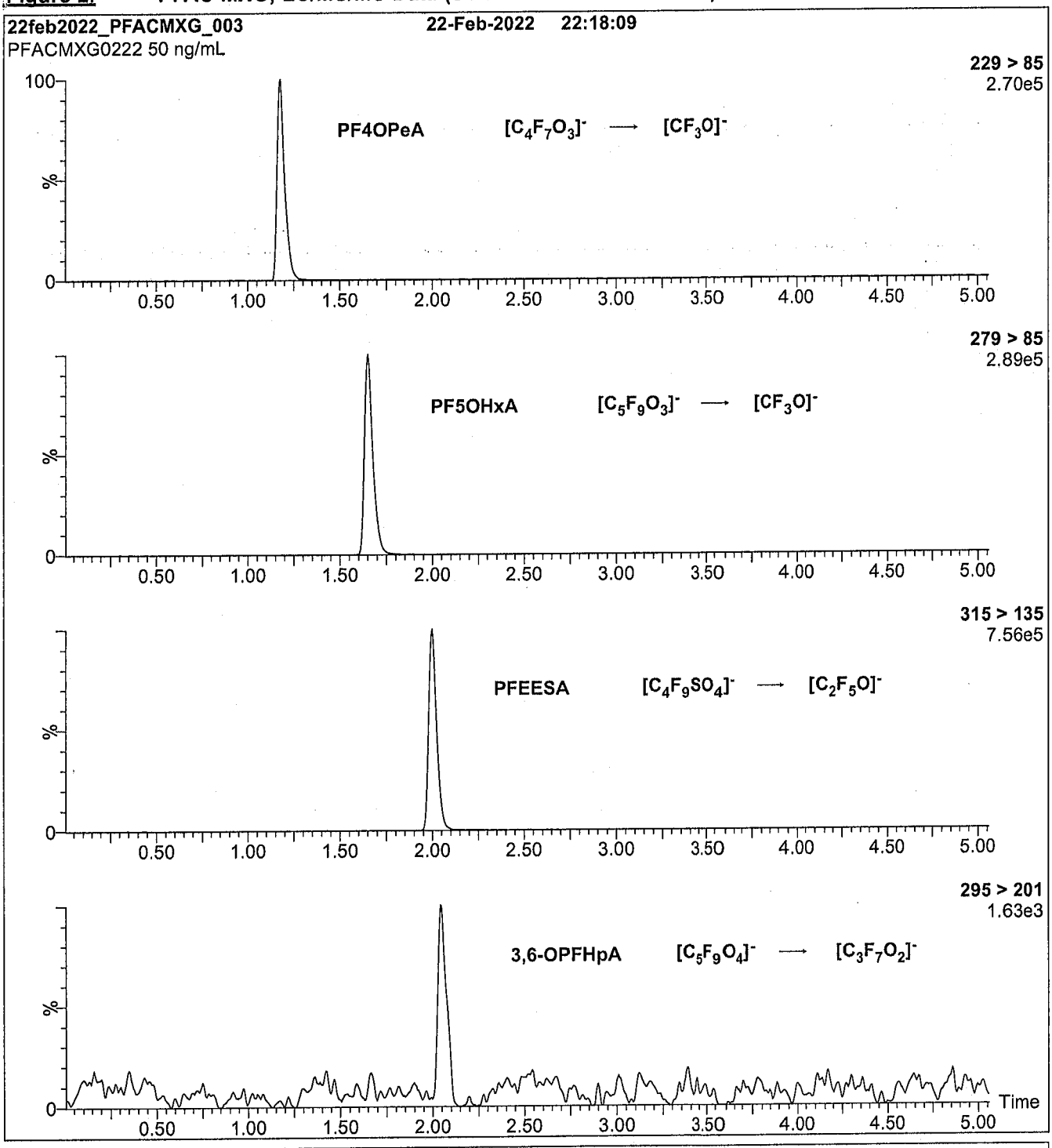
Flow: 300 µL/min

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

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

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

WELLINGTON LABORATORIES

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	$CF_3(CF_2)_7SO_2NH$ CH_2CH_3	73.8
2	N-Ethylperfluoro-1-methyl-1-heptanesulfonamide**	$CF_3(CF_2)_5CFSO_2NH$ CF_3 CH_2CH_3	0.1
3	N-Ethylperfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_2)_2SO_2NH$ CF_3 CH_2CH_3	2.3
4	N-Ethylperfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_2)_3SO_2NH$ CF_3 CH_2CH_3	2.6
5	N-Ethylperfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_2)_4SO_2NH$ CF_3 CH_2CH_3	6.2
6	N-Ethylperfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_2)_5SO_2NH$ CF_3 CH_2CH_3	14.8
7	N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamide	CF_3 $CF_3C(CF_2)_4SO_2NH$ CF_3 CH_2CH_3	0.2

* Percent of total N-ethylperfluorooctanesulfonamide isomers only.
** Systematic Name: N-Ethylperfluoro-2-octanesulfonamide.

Certified By: ______________ B.G. Chittim, General Manager

Date: 11/15/2022 (mm/dd/yyyy)

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

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

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

23A0180

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:	01/11/2023 14:40 by PAF
Lot Number:	MPFACHIFES1022		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
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

23A0180

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:	01/11/2023 14:40 by PAF
Lot Number:	MPFACHIFES1022		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSE		D9-NETFOSE	5	ug/mL

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

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) 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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
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