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:

January 11, 2023

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

RE: Red Hill AFFF Assessment Sampling
23A0033

Enclosed are the results of analyses for samples received by our laboratory on 1/6/2023. If you have any questions concerning this report, please feel free to contact me.

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

Sincerely,

Greg Salata For Gregory Salata
Project Manager

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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: 01/11/2023 17:18

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 standard 23A0174's PFOS concentration was analytically derived through repeated analysis. All other analytes did not diverge from the expected spiked values in the original standard 22L0442. The BCA0105-BS1 and MRL1 spike value has been adjusted accordingly for PFOS.

The extracted internal standard 13C2-PFDoA recovered above the upper control limit in the BCA0105-BS1.

The analyte NEtFOSE recovered above the upper control limit in the BCA0105-MRL1.

The analyte PFDOS recovered above the upper control limit in the SC00089-LCV1, SC00089-CCV1, SC00089-CCV3, and SC00089-CCV4. The analyte 11Cl-PF3OuDS recovered above the upper control limit in the SC00089-CCV4. The analyte PFOS recovered above the upper control limit in the SC00089-LCV1.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23A0033-01	AF-RHMW03-WGN01LF-2301W1	Water	01/05/2023 13:55	01/06/2023
23A0033-02	AF-RHMW02-WGN01LF-2301W1	Water	01/05/2023 12:25	01/06/2023
23A0033-03	AF-RHMW225401-WGN01B-2301W1	Water	01/05/2023 08:55	01/06/2023

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: 01/11/2023 17:18

Containers Received

Lab ID	Container Type	Count	Preservation Check
23A0033-01			
	500mL P	2	
23A0033-02			
	500mL P	2	
23A0033-03			
	500mL P	2	

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: 01/11/2023 17:18

Sample Results

Sample: AF-RHMW03-WGN01LF-2301W1
23A0033-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.6		1.4	0.72	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPEA	2.5		0.72	0.36	0.059	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXA	1.4		0.36	0.18	0.050	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPA	0.82		0.36	0.18	0.037	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOA	0.27	J	0.36	0.18	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNA	0.11	J	0.36	0.18	0.074	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDA	0.18	U	0.36	0.18	0.092	ng/L	01/10/23	1	EPA 1633	BCA0105
PFUnA	0.18	U	0.36	0.18	0.15	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	01/10/23	1	EPA 1633	BCA0105
PFBS	0.18	U	0.36	0.18	0.033	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPES	0.18	U	0.36	0.18	0.057	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXS	0.18	U	0.36	0.18	0.029	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPS	0.18	U	0.36	0.18	0.046	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOS	0.37		0.36	0.18	0.058	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNS	0.18	U	0.36	0.18	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDS	0.18	U	0.36	0.18	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
4:2FTS	0.72	U	1.4	0.72	0.26	ng/L	01/10/23	1	EPA 1633	BCA0105
6:2FTS	3.7		1.4	0.72	0.28	ng/L	01/10/23	1	EPA 1633	BCA0105
8:2FTS	0.72	U	1.4	0.72	0.074	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOSA	0.18	U	0.36	0.18	0.094	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSA	0.72	U	1.4	0.72	0.43	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSA	0.72	U	1.4	0.72	0.37	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSAA	0.18	U	0.36	0.18	0.096	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSE	1.1	U	1.4	1.1	0.92	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSE	1.1	U	1.4	1.1	0.95	ng/L	01/10/23	1	EPA 1633	BCA0105
HFPO-DA	0.36	U	0.72	0.36	0.16	ng/L	01/10/23	1	EPA 1633	BCA0105
ADONA	0.36	U	0.72	0.36	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
PFEESA	0.36	U	0.72	0.36	0.099	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMPA	0.36	U	0.72	0.36	0.049	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMBA	0.36	U	0.72	0.36	0.082	ng/L	01/10/23	1	EPA 1633	BCA0105
NFDHA	0.36	U	0.72	0.36	0.27	ng/L	01/10/23	1	EPA 1633	BCA0105
9CL-PF3ONS	0.36	U	0.72	0.36	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
11CL-PF3OUDS	0.36	U	0.72	0.36	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
3:3FTCA	0.72	U	1.4	0.72	0.52	ng/L	01/10/23	1	EPA 1633	BCA0105
5:3FTCA	0.72	U	1.4	0.72	0.40	ng/L	01/10/23	1	EPA 1633	BCA0105
7:3FTCA	0.72	U	1.4	0.72	0.50	ng/L	01/10/23	1	EPA 1633	BCA0105
Surrogate: 13C4-PFBA	*81.0%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFPEA	*88.7%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFHXA	*98.1%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C4-PFHPA	*104%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOA	*100%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*

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Sample Results

(Continued)

Sample: AF-RHMW03-WGN01LF-2301W1 (Continued)

23A0033-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*105%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C6-PFDA	*103%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C7-PFUnA	*124%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFDOA	*117%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFTEDA	*84.8%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFBS	*113%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFHXS	*98.6%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOS	*104%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-4:2FTS	*109%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-6:2FTS	*86.7%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-8:2FTS	*102%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOSA	*47.8%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSA	*42.7%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSA	*38.8%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSAA	*120%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSAA	*117%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D7-NMEFOSE	*56.9%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D9-NETFOSE	*66.9%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-HFPO-DA	*93.2%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 01/11/2023 17:18

Sample Results

(Continued)

Sample: AF-RHMW02-WGN01LF-2301W1
23A0033-02 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72	U	1.4	0.72	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPEA	0.72		0.72	0.36	0.058	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXA	0.50		0.36	0.18	0.049	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPA	0.24	J	0.36	0.18	0.037	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOA	0.18	U	0.36	0.18	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNA	0.18	U	0.36	0.18	0.074	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDA	0.18	U	0.36	0.18	0.091	ng/L	01/10/23	1	EPA 1633	BCA0105
PFUnA	0.18	U	0.36	0.18	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	01/10/23	1	EPA 1633	BCA0105
PFBS	0.18	U	0.36	0.18	0.033	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPES	0.18	U	0.36	0.18	0.056	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXS	0.18	U	0.36	0.18	0.028	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPS	0.18	U	0.36	0.18	0.046	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOS	0.21	J	0.36	0.18	0.057	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNS	0.18	U	0.36	0.18	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDS	0.18	U	0.36	0.18	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
4:2FTS	0.72	U	1.4	0.72	0.26	ng/L	01/10/23	1	EPA 1633	BCA0105
6:2FTS	8.0		1.4	0.72	0.28	ng/L	01/10/23	1	EPA 1633	BCA0105
8:2FTS	0.72	U	1.4	0.72	0.074	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOSA	0.18	U	0.36	0.18	0.094	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSA	0.72	U	1.4	0.72	0.43	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSA	0.72	U	1.4	0.72	0.37	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSAA	0.18	U	0.36	0.18	0.095	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSE	1.1	U	1.4	1.1	0.91	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSE	1.1	U	1.4	1.1	0.94	ng/L	01/10/23	1	EPA 1633	BCA0105
HFPO-DA	0.36	U	0.72	0.36	0.16	ng/L	01/10/23	1	EPA 1633	BCA0105
ADONA	0.36	U	0.72	0.36	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
PFEESA	0.36	U	0.72	0.36	0.098	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMPA	0.36	U	0.72	0.36	0.048	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMBA	0.36	U	0.72	0.36	0.082	ng/L	01/10/23	1	EPA 1633	BCA0105
NFDHA	0.36	U	0.72	0.36	0.27	ng/L	01/10/23	1	EPA 1633	BCA0105
9CL-PF3ONS	0.36	U	0.72	0.36	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
11CL-PF3OUDS	0.36	U	0.72	0.36	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
3:3FTCA	0.72	U	1.4	0.72	0.52	ng/L	01/10/23	1	EPA 1633	BCA0105
5:3FTCA	0.72	U	1.4	0.72	0.40	ng/L	01/10/23	1	EPA 1633	BCA0105
7:3FTCA	0.72	U	1.4	0.72	0.50	ng/L	01/10/23	1	EPA 1633	BCA0105
Surrogate: 13C4-PFBA	*65.9%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFPEA	*75.7%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFHXA	*111%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C4-PFHPA	*121%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOA	*105%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
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Sample Results
(Continued)

Sample: AF-RHMW02-WGN01LF-2301W1 (Continued)
23A0033-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*104%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C6-PFDA	*113%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C7-PFUnA	*120%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFDOA	*131%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFTEDA	*54.5%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFBS	*109%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFHXS	*100%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOS	*110%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-4:2FTS	*86.6%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-6:2FTS	*101%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-8:2FTS	*111%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOSA	*51.1%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSA	*21.7%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSA	*26.1%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSAA	*111%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSAA	*118%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D7-NMEFOSE	*44.5%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D9-NETFOSE	*51.9%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-HFPO-DA	*97.2%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 01/11/2023 17:18

Sample Results

(Continued)

Sample: AF-RHMW225401-WGN01B-2301W1
23A0033-03 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.60	J	1.5	0.76	0.20	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPEA	1.2		0.76	0.38	0.061	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXA	0.96		0.38	0.19	0.052	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPA	0.75		0.38	0.19	0.039	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOA	0.84		0.38	0.19	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNA	0.16	J	0.38	0.19	0.077	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDA	0.19	U	0.38	0.19	0.096	ng/L	01/10/23	1	EPA 1633	BCA0105
PFUnA	0.19	U	0.38	0.19	0.15	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOA	0.19	U	0.38	0.19	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTRDA	0.28	U	0.38	0.28	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
PFTEDA	0.19	U	0.38	0.19	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
PFBS	0.66		0.38	0.19	0.035	ng/L	01/10/23	1	EPA 1633	BCA0105
PFPES	0.12	J	0.38	0.19	0.059	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHXS	1.1		0.38	0.19	0.030	ng/L	01/10/23	1	EPA 1633	BCA0105
PFHPS	0.19	U	0.38	0.19	0.048	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOS	0.48		0.38	0.19	0.060	ng/L	01/10/23	1	EPA 1633	BCA0105
PFNS	0.19	U	0.38	0.19	0.12	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDS	0.19	U	0.38	0.19	0.14	ng/L	01/10/23	1	EPA 1633	BCA0105
PFDOS	0.19	U	0.38	0.19	0.12	ng/L	01/10/23	1	EPA 1633	BCA0105
4:2FTS	0.76	U	1.5	0.76	0.27	ng/L	01/10/23	1	EPA 1633	BCA0105
6:2FTS	0.76	U	1.5	0.76	0.30	ng/L	01/10/23	1	EPA 1633	BCA0105
8:2FTS	0.76	U	1.5	0.76	0.078	ng/L	01/10/23	1	EPA 1633	BCA0105
PFOSA	0.19	U	0.38	0.19	0.098	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSA	0.76	U	1.5	0.76	0.45	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSA	0.76	U	1.5	0.76	0.39	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSAA	0.19	U	0.38	0.19	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSAA	0.19	U	0.38	0.19	0.11	ng/L	01/10/23	1	EPA 1633	BCA0105
NMeFOSE	1.1	U	1.5	1.1	0.95	ng/L	01/10/23	1	EPA 1633	BCA0105
NEtFOSE	1.1	U	1.5	1.1	0.99	ng/L	01/10/23	1	EPA 1633	BCA0105
HFPO-DA	0.38	U	0.76	0.38	0.16	ng/L	01/10/23	1	EPA 1633	BCA0105
ADONA	0.38	U	0.76	0.38	0.12	ng/L	01/10/23	1	EPA 1633	BCA0105
PFEESA	0.38	U	0.76	0.38	0.10	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMPA	0.38	U	0.76	0.38	0.051	ng/L	01/10/23	1	EPA 1633	BCA0105
PFMBA	0.38	U	0.76	0.38	0.086	ng/L	01/10/23	1	EPA 1633	BCA0105
NFDHA	0.38	U	0.76	0.38	0.28	ng/L	01/10/23	1	EPA 1633	BCA0105
9CL-PF3ONS	0.38	U	0.76	0.38	0.20	ng/L	01/10/23	1	EPA 1633	BCA0105
11CL-PF3OUDS	0.38	U	0.76	0.38	0.19	ng/L	01/10/23	1	EPA 1633	BCA0105
3:3FTCA	0.76	U	1.5	0.76	0.54	ng/L	01/10/23	1	EPA 1633	BCA0105
5:3FTCA	0.76	U	1.5	0.76	0.42	ng/L	01/10/23	1	EPA 1633	BCA0105
7:3FTCA	0.76	U	1.5	0.76	0.52	ng/L	01/10/23	1	EPA 1633	BCA0105
Surrogate: 13C4-PFBA	*101%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFPEA	*93.6%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C5-PFHXA	*103%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C4-PFHPA	*93.8%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOA	*112%*		*20-150*				*01/10/23*	1	*EPA 1633*	*BCA0105*

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: 01/11/2023 17:18

Sample Results
(Continued)

Sample: AF-RHMW225401-WGN01B-2301W1 (Continued)
23A0033-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*105%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C6-PFDA	*107%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C7-PFUnA	*106%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFDOA	*119%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-PFTEDA	*110%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFBS	*112%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-PFHXS	*101%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOS	*103%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-4:2FTS	*124%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-6:2FTS	*101%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C2-8:2FTS	*90.0%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C8-PFOSA	*54.5%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSA	*34.5%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSA	*34.7%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D3-NMEFOSAA	*108%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D5-NETFOSAA	*104%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D7-NMEFOSE	*42.1%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: D9-NETFOSE	*50.6%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*
Surrogate: 13C3-HFPO-DA	*103%*			*20-150*			*01/10/23*	1	*EPA 1633*	*BCA0105*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 01/11/2023 17:18

Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCA0105 - EPA 1633										
Blank (BCA0105-BLK1)							Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:30			
	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	0.132 J	0.40	0.20	0.064						
PFNS	0.20 U	0.40	0.20	0.12						
PFDS	0.20 U	0.40	0.20	0.15						
PFDOS	0.20 U	0.40	0.20	0.12						
4:2FTS	0.80 U	1.6	0.80	0.29						
6:2FTS	0.80 U	1.6	0.80	0.31						
8:2FTS	0.80 U	1.6	0.80	0.082						
PFOSA	0.20 U	0.40	0.20	0.10						
NMeFOSA	0.80 U	1.6	0.80	0.47						
NEtFOSA	0.80 U	1.6	0.80	0.41						
NMeFOSAA	0.20 U	0.40	0.20	0.11						
NEtFOSAA	0.20 U	0.40	0.20	0.11						
NMeFOSE	1.2 U	1.6	1.2	1.0						
NEtFOSE	1.2 U	1.6	1.2	1.0						
HFPO-DA	0.40 U	0.80	0.40	0.17						
ADONA	0.40 U	0.80	0.40	0.12						
PFEESA	0.40 U	0.80	0.40	0.11						
PFMPA	0.40 U	0.80	0.40	0.054						
PFMBA	0.40 U	0.80	0.40	0.091						
NFDHA	0.40 U	0.80	0.40	0.30						
9CL-PF3ONS	0.40 U	0.80	0.40	0.21						
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21						
3:3FTCA	0.80 U	1.6	0.80	0.57						
5:3FTCA	0.80 U	1.6	0.80	0.44						
7:3FTCA	0.80 U	1.6	0.80	0.55						
Surrogates										
13C4-PFBA	*34.2*				*32.0*		*107*	*20-150*		
13C5-PFPEA	*16.6*				*16.0*		*104*	*20-150*		
13C5-PFHXA	*8.48*				*8.00*		*106*	*20-150*		
13C4-PFHPA	*8.64*				*8.00*		*108*	*20-150*		
13C8-PFOA	*9.37*				*8.00*		*117*	*20-150*		

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 01/11/2023 17:18

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCA0105 - EPA 1633 (Continued)										
Blank (BCA0105-BLK1)							Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:30			
	ng/L									
Surrogates										
13C9-PFNA	*4.52*				*4.00*		*113*	*20-150*		
13C6-PFDA	*4.23*				*4.00*		*106*	*20-150*		
13C7-PFUnA	*4.54*				*4.00*		*113*	*20-150*		
13C2-PFDOA	*4.86*				*4.00*		*122*	*20-150*		
13C2-PFTEDA	*4.02*				*4.00*		*101*	*20-150*		
13C3-PFBS	*9.39*				*8.00*		*117*	*20-150*		
13C3-PFHXS	*8.20*				*8.00*		*102*	*20-150*		
13C8-PFOS	*8.75*				*8.00*		*109*	*20-150*		
13C2-4:2FTS	*21.0*				*16.0*		*132*	*20-150*		
13C2-6:2FTS	*16.5*				*16.0*		*103*	*20-150*		
13C2-8:2FTS	*15.8*				*16.0*		*98.6*	*20-150*		
13C8-PFOSA	*4.34*				*8.00*		*54.3*	*20-150*		
D5-NETFOSA	*2.73*				*8.00*		*34.1*	*20-150*		
D3-NMEFOSA	*2.80*				*8.00*		*35.0*	*20-150*		
D3-NMEFOSAA	*18.1*				*16.0*		*113*	*20-150*		
D5-NETFOSAA	*19.7*				*16.0*		*123*	*20-150*		
D7-NMEFOSE	*37.2*				*80.0*		*46.5*	*20-150*		
D9-NETFOSE	*43.4*				*80.0*		*54.3*	*20-150*		
13C3-HFPO-DA	*35.7*				*32.0*		*111*	*20-150*		
LCS (BCA0105-BS1)							Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:43			
	ng/L									
PFBA	17.2				16.0		107	40-150		
PFPEA	8.30				8.00		104	40-150		
PFHXA	4.02				4.00		100	40-150		
PFHPA	4.62				4.00		115	40-150		
PFOA	4.58				4.00		114	40-150		
PFNA	4.27				4.00		107	40-150		
PFDA	4.76				4.00		119	40-150		
PFUnA	4.32				4.00		108	40-150		
PFDOA	4.04				4.00		101	40-150		
PFTRDA	3.44				4.00		86.0	40-150		
PFTEDA	4.62				4.00		116	40-150		
PFBS	3.87				3.54		109	40-150		
PFPES	4.56				3.76		121	40-150		
PFHXS	4.88				3.66		133	40-150		
PFHPS	5.20				3.82		136	40-150		
PFOS	64.3				67.6		95.1	40-150		
PFNS	3.96				3.84		103	40-150		
PFDS	4.24				3.86		110	40-150		
PFDOS	4.57				3.88		118	40-150		
4:2FTS	17.1				15.0		114	40-150		
6:2FTS	17.6				15.2		116	40-150		
8:2FTS	18.1				15.4		118	40-150		
PFOSA	4.86				4.00		122	40-150		

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 01/11/2023 17:18

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCA0105 - EPA 1633 (Continued)										
LCS (BCA0105-BS1)						Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:43				
	ng/L									
NMeFOSA	16.2				16.0		101	40-150		
NEtFOSA	17.2				16.0		108	40-150		
NMeFOSAA	3.52				4.00		88.0	40-150		
NEtFOSAA	4.67				4.00		117	40-150		
NMeFOSE	16.4				16.0		102	40-150		
NEtFOSE	18.2				16.0		114	40-150		
HFPO-DA	8.96				8.00		112	40-150		
ADONA	8.13				7.56		108	40-150		
PFEESA	7.54				7.12		106	40-150		
PFMPA	7.82				8.00		97.8	40-150		
PFMBA	8.79				8.00		110	40-150		
NFDHA	9.43				8.00		118	40-150		
9CL-PF3ONS	6.82				7.48		91.2	40-150		
11CL-PF3OUDS	9.04				7.56		120	40-150		
3:3FTCA	13.9				16.0		86.7	40-150		
5:3FTCA	15.8				16.0		99.0	40-150		
7:3FTCA	13.8				16.0		86.3	40-150		
Surrogates										
13C4-PFBA	*33.9*				*32.0*		*106*	*20-150*		
13C5-PFPEA	*17.3*				*16.0*		*108*	*20-150*		
13C5-PFHXA	*8.51*				*8.00*		*106*	*20-150*		
13C4-PFHPA	*8.23*				*8.00*		*103*	*20-150*		
13C8-PFOA	*8.44*				*8.00*		*106*	*20-150*		
13C9-PFNA	*4.69*				*4.00*		*117*	*20-150*		
13C6-PFDA	*4.57*				*4.00*		*114*	*20-150*		
13C7-PFUnA	*5.18*				*4.00*		*129*	*20-150*		
13C2-PFDOA	*6.35* S2				*4.00*		*159*	*20-150*		
13C2-PFTEDA	*4.67*				*4.00*		*117*	*20-150*		
13C3-PFBS	*8.76*				*8.00*		*109*	*20-150*		
13C3-PFHXS	*8.47*				*8.00*		*106*	*20-150*		
13C8-PFOS	*8.67*				*8.00*		*108*	*20-150*		
13C2-4:2FTS	*20.7*				*16.0*		*129*	*20-150*		
13C2-6:2FTS	*15.5*				*16.0*		*96.7*	*20-150*		
13C2-8:2FTS	*15.0*				*16.0*		*93.6*	*20-150*		
13C8-PFOSA	*3.76*				*8.00*		*47.0*	*20-150*		
D5-NETFOSA	*2.23*				*8.00*		*27.9*	*20-150*		
D3-NMEFOSA	*2.40*				*8.00*		*29.9*	*20-150*		
D3-NMEFOSAA	*17.1*				*16.0*		*107*	*20-150*		
D5-NETFOSAA	*16.8*				*16.0*		*105*	*20-150*		
D7-NMEFOSE	*32.4*				*80.0*		*40.5*	*20-150*		
D9-NETFOSE	*36.7*				*80.0*		*45.8*	*20-150*		
13C3-HFPO-DA	*35.4*				*32.0*		*111*	*20-150*		

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Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCA0105 - EPA 1633 (Continued)										
MRL Check (BCA0105-MRL1)						Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:56				
	ng/L									
PFBA	1.71				1.60		107	40-150		
PFPEA	0.916				0.800		114	40-150		
PFHXA	0.491				0.400		123	40-150		
PFHPA	0.514				0.400		128	40-150		
PFOA	0.470				0.400		118	40-150		
PFNA	0.413				0.400		103	40-150		
PFDA	0.545				0.400		136	40-150		
PFUnA	0.440				0.400		110	40-150		
PFDOA	0.407				0.400		102	40-150		
PFTRDA	0.428				0.400		107	40-150		
PFTEDA	0.428				0.400		107	40-150		
PFBS	0.382 J				0.354		108	40-150		
PFPES	0.468				0.376		124	40-150		
PFHXS	0.505				0.366		138	40-150		
PFHPS	0.565				0.382		148	40-150		
PFOS	7.18				6.76		106	40-150		
PFNS	0.418				0.384		109	40-150		
PFDS	0.479				0.386		124	40-150		
PFDOS	0.502				0.388		129	40-150		
4:2FTS	1.47 J				1.50		97.8	40-150		
6:2FTS	1.71				1.52		112	40-150		
8:2FTS	1.84				1.54		120	40-150		
PFOSA	0.528				0.400		132	40-150		
NMeFOSA	1.85				1.60		116	40-150		
NEtFOSA	1.45 J				1.60		90.5	40-150		
NMeFOSAA	0.287 J				0.400		71.7	40-150		
NEtFOSAA	0.350 J				0.400		87.4	40-150		
NMeFOSE	1.48 J				1.60		92.6	40-150		
NEtFOSE	2.42 BS2				1.60		152	40-150		
HFPO-DA	0.929				0.800		116	40-150		
ADONA	0.782 J				0.756		103	40-150		
PFEESA	0.680 J				0.712		95.5	40-150		
PFMPA	0.811				0.800		101	40-150		
PFMBA	0.890				0.800		111	40-150		
NFDHA	0.956				0.800		119	40-150		
9CL-PF3ONS	0.745 J				0.748		99.6	40-150		
11CL-PF3OUDS	0.927				0.756		123	40-150		
3:3FTCA	1.42 J				1.60		88.9	40-150		
5:3FTCA	1.55 J				1.60		96.9	40-150		
7:3FTCA	1.28 J				1.60		80.1	40-150		
Surrogates										
13C4-PFBA	*33.7*				*32.0*		*105*	*20-150*		
13C5-PFPEA	*16.5*				*16.0*		*103*	*20-150*		
13C5-PFHXA	*8.95*				*8.00*		*112*	*20-150*		
13C4-PFHPA	*8.31*				*8.00*		*104*	*20-150*		
13C8-PFOA	*9.01*				*8.00*		*113*	*20-150*		

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: 01/11/2023 17:18

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCA0105 - EPA 1633 (Continued)										
MRL Check (BCA0105-MRL1)										
Prepared: 01/09/23 09:35 Analyzed: 01/10/23 16:56										
	ng/L									
Surrogates										
13C9-PFNA	*4.25*				*4.00*		*106*	*20-150*		
13C6-PFDA	*4.52*				*4.00*		*113*	*20-150*		
13C7-PFUnA	*4.62*				*4.00*		*116*	*20-150*		
13C2-PFDOA	*5.58*				*4.00*		*139*	*20-150*		
13C2-PFTEDA	*4.94*				*4.00*		*124*	*20-150*		
13C3-PFBS	*9.08*				*8.00*		*114*	*20-150*		
13C3-PFHXS	*7.84*				*8.00*		*98.0*	*20-150*		
13C8-PFOS	*8.58*				*8.00*		*107*	*20-150*		
13C2-4:2FTS	*22.2*				*16.0*		*139*	*20-150*		
13C2-6:2FTS	*14.5*				*16.0*		*90.5*	*20-150*		
13C2-8:2FTS	*15.8*				*16.0*		*98.7*	*20-150*		
13C8-PFOSA	*4.05*				*8.00*		*50.6*	*20-150*		
D5-NETFOSA	*2.66*				*8.00*		*33.2*	*20-150*		
D3-NMEFOSA	*2.52*				*8.00*		*31.5*	*20-150*		
D3-NMEFOSAA	*16.2*				*16.0*		*102*	*20-150*		
D5-NETFOSAA	*17.7*				*16.0*		*111*	*20-150*		
D7-NMEFOSE	*40.0*				*80.0*		*50.0*	*20-150*		
D9-NETFOSE	*41.5*				*80.0*		*51.9*	*20-150*		
13C3-HFPO-DA	*35.9*				*32.0*		*112*	*20-150*		

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: 01/11/2023 17:18

Notes and Definitions

Item	Definition
BS2	Blank spike recovered above the upper control limit
CV2	Calibration verification recovered above the upper control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
S2	Surrogate recovered above the upper control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
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.

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

WORK ORDER

23A0033

Printed: 01/11/2023 5:18 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: 01/06/2023 04:10 PM
Date Due: 01/13/2023 (5.00 day TAT)

Logged In By: Megan Salata
Received By: Megan Horne

Analysis		Comments
23A0033-01 AF-RHMW03-WGN01LF-2301W1 [Water] Sampled 1/5/2023 1:55:00PM		
1633	NONE	"Report relevant surrogates"
23A0033-02 AF-RHMW02-WGN01LF-2301W1 [Water] Sampled 1/5/2023 12:25:00PM		
1633	NONE	"Report relevant surrogates"
23A0033-03 AF-RHMW225401-WGN01B-2301W1 [Water] Sampled 1/5/2023 8:55:00AM		
1633	NONE	"Report relevant surrogates"

23A0033 **Sample Receipt Log**

Default Cooler

Samples Received at: **0.5°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

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

23A0033

C.O.C. 2301W1APL-02

Report to: PLEASE PRINT

Company Name: AECOM
Phone: 808-954-4512 / 770-331-0794
Address: 1001 Bishop St ste1600
Honolulu, HI 96813
Fax:
Attn: Watson Tanji / Mark Kromis
Email: watson.tanji@aecom.com/mark.kromis@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): TianzhenNe
Sampler (Signature):

Date Shipped: 1/5/23
Carrier: United
Waybill No.: 012 8097 4180
Comments:

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-RHMW03-WGN01LF-2301W1	RHMW03	1/5/23	1355	HST	2	✓			✓

Shuttle Temperature: IRB 3.5/0.5°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:
TianzhenNe	1/5/23	1530	1530 1/5/23		1/5/23	1650	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/6/23	1610	

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. 2301W1APL-01

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name:	AECOM	Company Name:	AECOM
Phone:	808-954-4512 / 770-331-0794	Phone:	
Address:	1001 Bishop St ste1600 Honolulu, HI 96813	Address:	
Fax:		Fax:	
Attn:	Watson Tanji / Mark Kromis	Attn:	Sheree Smith
Email:	watson.tanji@aecom.com/mark.kromis@aecom.com	Email:	USAPimaging@aecom.com

Project Name/Number	Sampler (Print)	Purchase Order Number	Sampler (Signature)
CTO N6274223F0104 / 60697810	Tianzhen Nie		

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	Analysis Requested/Method Number: PFAS EPA Draft 1633												
AF-RHMW02-WGN01LF-2301W1	RHMW02	1/5/23	1225	HST	2	✓				✓												

Date Shipped: 1/5/23
Carrier: United
Waybill No. 016-8097 4180
Comments: 016 8097 4180

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:
Tianzhen Nie	1/5/23	1530			1/5/23	1600	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					1/6/23	1610	

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

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

ELECTRONIC CHAIN OF CUSTODY RECORD

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

C.O.C. 2301W1APL-03

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-954-4512 / 770-331-0794	Company Name: AECOM	Phone:
Address: 1001 Bishop St ste1600 Honolulu, HI 96813	Fax:	Address:	Fax:
Attn: Watson Tanji / Mark Kromis		Attn: Sheree Smith	
Email: watson.tanji@aecom.com/mark.kromis@aecom.com		Email: USAPimaging@aecom.com	

Project Name/Number	Sampler (Print)
CTO N6274223F0104 / 60697810	Tyler Nishikawa
Purchase Order Number	Sampler (Signature)

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-RHMW225401-WGN01B-2301W1	2254-01	1/5/23	0855	HST	2	✓			✓

Date Shipped: 1/5/23
Carrier: United
Waybill No: 168097418 0
Comments:

TN 1/5/23

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:
Tyler Nishikawa	1/5/23	1545	1/5/23		1/5/23	1630	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 1/6/23	Time 1610	Received at lab by: Megan Lane

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 HJ Date 1/5/22

PFAS

SAMPLE DATA

FORM I
ANALYSIS DATA SHEET

AF-RHMW03-WGN01LF-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-01	File ID:	S2023-01-10A (11)
Sampled:	01/05/23 13:55	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 17:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	552.056 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	1.6	1.4	0.72	0.19	
PFPEA	2.5	0.72	0.36	0.059	
PFHXA	1.4	0.36	0.18	0.050	
PFHPA	0.82	0.36	0.18	0.037	
PFOA	0.27 J	0.36	0.18	0.14	
PFNA	0.11 J	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.092	
PFUnA	0.18 U	0.36	0.18	0.15	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPES	0.18 U	0.36	0.18	0.057	
PFHXS	0.18 U	0.36	0.18	0.029	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.37	0.36	0.18	0.058	
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.72 U	1.4	0.72	0.26	
6:2FTS	3.7	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	0.096	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.92	
NEtFOSE	1.1 U	1.4	1.1	0.95	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW03-WGN01LF-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-01	File ID:	S2023-01-10A (11)
Sampled:	01/05/23 13:55	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 17:09
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	552.056 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

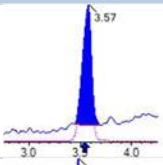
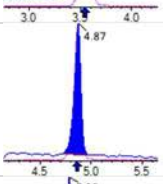
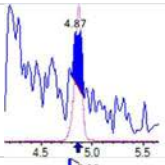
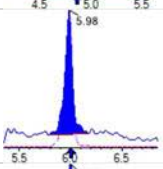
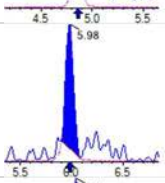
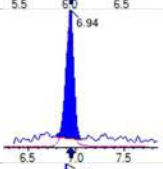
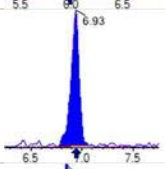
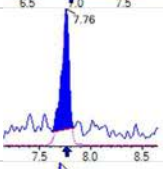
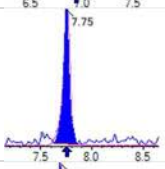
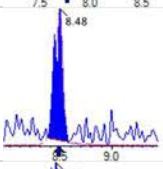
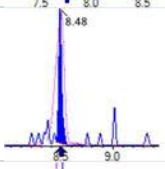
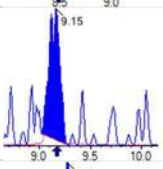
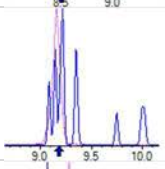
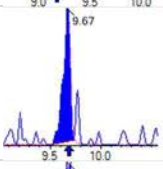
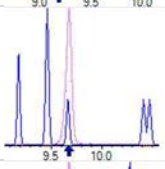
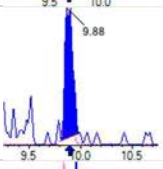
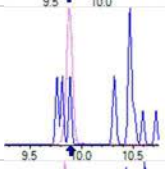
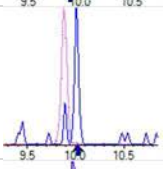
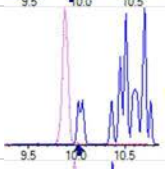
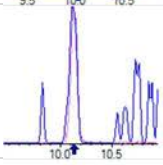
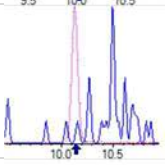
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.099	
PFMPA	0.36 U	0.72	0.36	0.049	
PFMBA	0.36 U	0.72	0.36	0.082	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	
5:3FTCA	0.72 U	1.4	0.72	0.40	
7:3FTCA	0.72 U	1.4	0.72	0.50	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

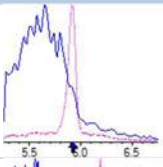
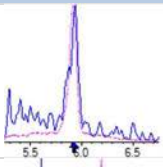
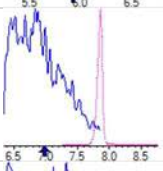
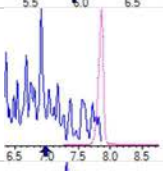
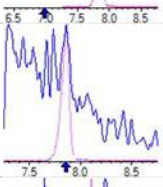
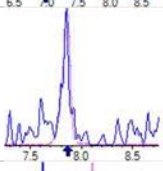
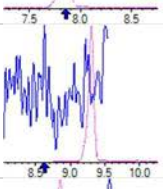
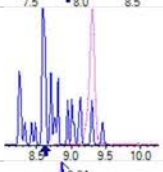
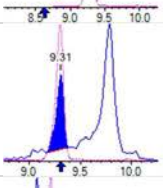
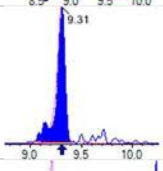
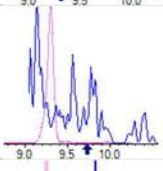
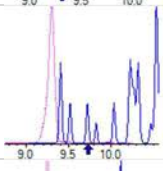
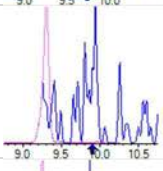
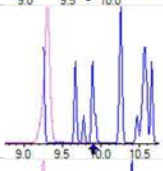
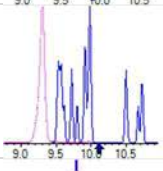
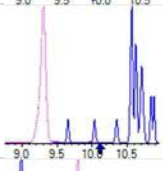
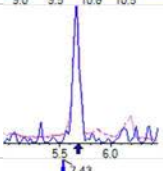
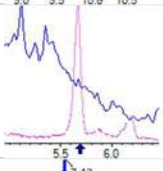
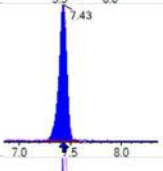
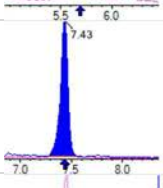
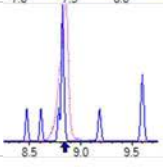
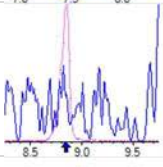
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 43548	(3.57 , 1.00) (0.00 , N/A , 0.0)	96.8	N/A 0.0 0.0	0.4393	N/A			
PFPeA	(263.0 / 219.0) 161456 (263.0 / 69.0) 1149	(4.87 , 1.00) (0.00 , N/A , 0.2)	172.6 6.5	0.0071 65.5 67.4	0.6811	N/A			
PFHxA	(313.0 / 269.0) 132372 (313.0 / 119.0) 10194	(5.98 , 1.00) (0.00 , N/A , 0.3)	96.8 21.4	0.0770 78.5 84.1	0.3986	N/A			
PFHpA	(363.0 / 319.0) 77276 (363.0 / 169.0) 25004	(6.94 , 1.00) (0.00 , N/A , 0.2)	80.9 112.3	0.3236 113.7 115.7	0.2257	N/A			
PFOA	(413.0 / 369.0) 29382 (413.0 / 169.0) 9877	(7.76 , 1.00) (0.00 , N/A , 0.5)	40.4 65.3	0.3361 105.3 116.0	0.0743	N/A			
PFNA	(463.0 / 419.0) 9165 (463.0 / 169.0) 1024	(8.48 , 1.00) (-0.01 , N/A , -0.6)	22.2 38.1	0.1117 49.8 56.2	0.0304	N/A			IR1,
PFDA	(513.0 / 469.0) 10545 (513.0 / 169.0) N/A	(9.15 , 1.00) (-0.01 , N/A , #Value!)	12.2 N/A	N/A 0.0 0.0	0.0234	N/A			IR1,
PFUnA	(563.0 / 519.0) 12656 (563.0 / 169.0) N/A	(9.67 , 1.00) (0.00 , N/A , #Value!)	27.2 N/A	N/A 0.0 0.0	0.0212	N/A			IR1,
PFDoA	(613.0 / 569.0) 7632 (613.0 / 169.0) N/A	(9.88 , 1.00) (0.00 , N/A , #Value!)	21.7 N/A	N/A 0.0 0.0	0.0137	N/A			IR1,
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.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

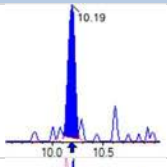
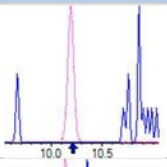
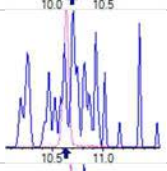
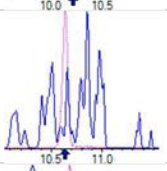
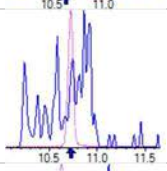
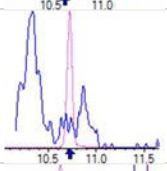
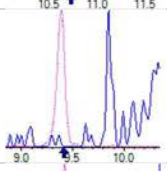
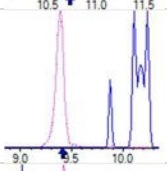
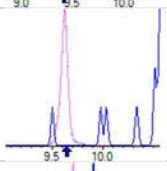
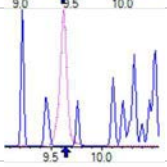
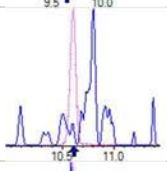
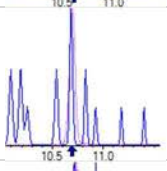
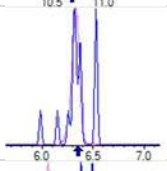
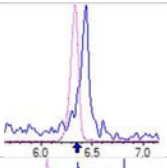
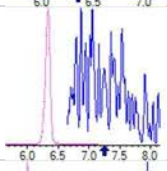
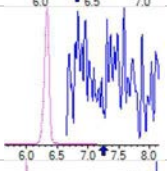
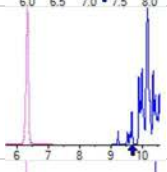
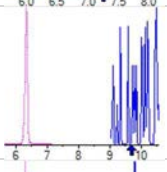
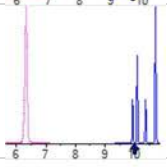
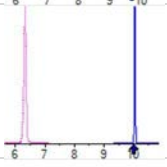
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 155382 (499.0 / 99.0) 55745	(9.31 , 1.00) (0.00 , N/A , -0.2)	27.8 59.2	0.3588 157.9 170.2	0.1032	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) 310336 (427.0 / 81.0) 240140	(7.43 , 1.00) (-0.01 , N/A , -0.2)	549.6 217.2	0.7738 101.0 113.7	1.0233	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.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

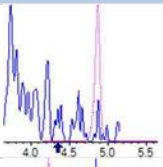
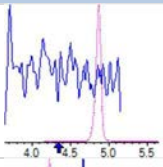
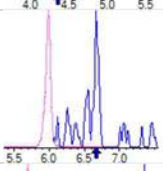
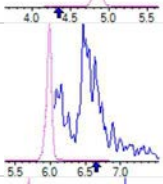
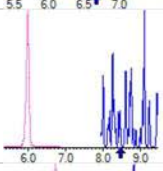
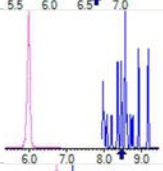
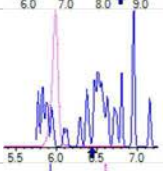
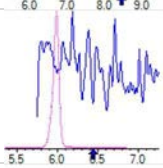
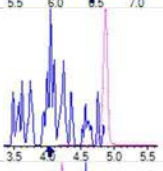
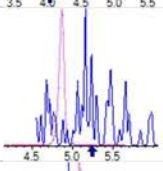
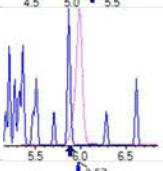
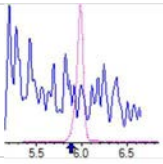
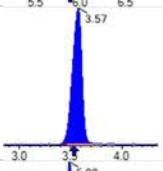
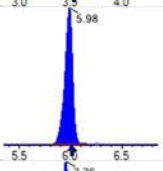
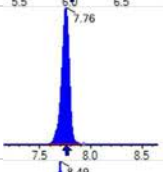
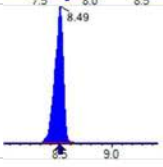
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 8522 (498.0 / 478.0) N/A	(10.19 , 1.00) (0.00 , N/A , #Value!)	37.5 N/A	N/A 0.0 0.0	0.0158	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: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

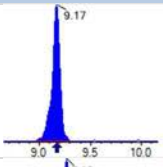
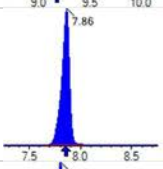
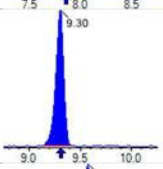
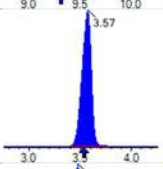
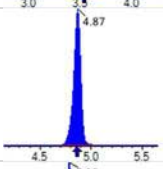
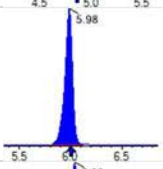
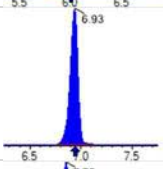
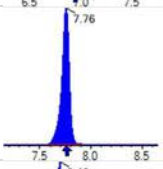
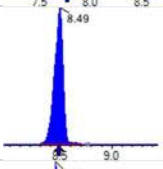
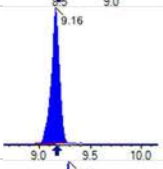
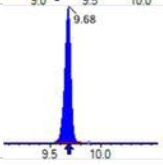
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 136107	(3.57 , N/A) (N/A , 0.04 , N/A)	377.7	N/A	0.5374 [1.0000]	53.7% { 67.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 336092	(5.98 , N/A) (N/A , 0.00 , N/A)	421.7	N/A	0.9092 [1.0000]	90.9% { 100.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 370940	(7.76 , N/A) (N/A , -0.01 , N/A)	613.5	N/A	0.8444 [1.0000]	84.4% { 96.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 301414	(8.49 , N/A) (N/A , 0.00 , N/A)	536.4	N/A	0.7432 [1.0000]	74.3% { 101.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

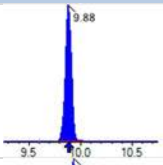
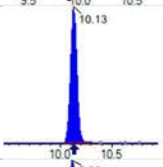
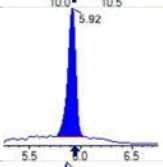
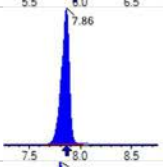
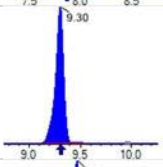
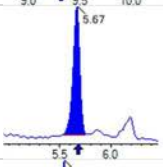
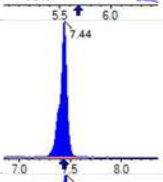
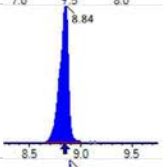
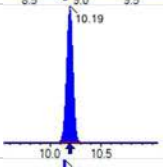
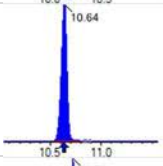
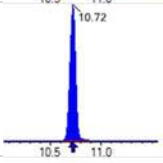
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 379365	(9.17 , N/A) (N/A , 0.00 , N/A)	323.0	N/A	0.8783 [1.0000]	87.8% { 106.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 598323	(7.86 , N/A) (N/A , -0.01 , N/A)	553.9	N/A	0.8100 [1.0000]	81.0% { 95.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 672316	(9.30 , N/A) (N/A , 0.00 , N/A)	305.0	N/A	0.8720 [1.0000]	87.2% { 98.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 866937	(3.57 , N/A) (N/A , 0.04 , N/A)	601.7	N/A	6.4833 [8.0000]	81.0% { 55.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 976003	(4.87 , N/A) (N/A , 0.01 , N/A)	575.9	N/A	3.5482 [4.0000]	88.7% { 95.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 673942	(5.98 , N/A) (N/A , 0.00 , N/A)	519.3	N/A	1.9624 [2.0000]	98.1% { 102.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 678026	(6.93 , N/A) (N/A , -0.01 , N/A)	427.7	N/A	2.0770 [2.0000]	103.8% { 107.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 759196	(7.76 , N/A) (N/A , -0.01 , N/A)	513.5	N/A	2.0088 [2.0000]	100.4% { 102.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 313904	(8.49 , N/A) (N/A , 0.00 , N/A)	368.9	N/A	1.0493 [1.0000]	104.9% { 99.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 438989	(9.16 , N/A) (N/A , -0.01 , N/A)	353.7	N/A	1.0270 [1.0000]	102.7% { 108.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 656853	(9.68 , N/A) (N/A , 0.01 , N/A)	306.8	N/A	1.2428 [1.0000]	124.3% { 121.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

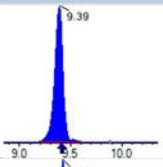
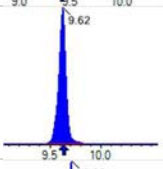
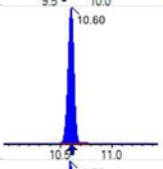
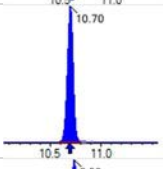
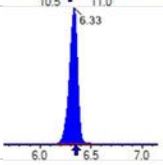
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 594994	(9.88 , N/A) (N/A , 0.00 , N/A)	491.1	N/A	1.1725 [1.0000]	117.2% { 117.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 344665	(10.13 , N/A) (N/A , 0.00 , N/A)	557.9	N/A	0.8485 [1.0000]	84.8% { 84.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1789965	(5.92 , N/A) (N/A , 0.00 , N/A)	170.2	N/A	2.2503 [2.0000]	112.5% { 110.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 982864	(7.86 , N/A) (N/A , -0.01 , N/A)	572.8	N/A	1.9717 [2.0000]	98.6% { 100.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1653941	(9.30 , N/A) (N/A , 0.00 , N/A)	433.1	N/A	2.0724 [2.0000]	103.6% { 108.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 676238	(5.67 , N/A) (N/A , 0.01 , N/A)	109.4	N/A	4.3555 [4.0000]	108.9% { 110.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 793979	(7.44 , N/A) (N/A , 0.00 , N/A)	550.5	N/A	3.4669 [4.0000]	86.7% { 88.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 874075	(8.84 , N/A) (N/A , 0.00 , N/A)	312.5	N/A	4.0733 [4.0000]	101.8% { 108.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1010515	(10.19 , N/A) (N/A , 0.00 , N/A)	4860.0	N/A	0.9563 [2.0000]	47.8% { 50.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 147239	(10.64 , N/A) (N/A , 0.00 , N/A)	528.0	N/A	0.7760 [2.0000]	38.8% { 37.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 152919	(10.72 , N/A) (N/A , 0.00 , N/A)	567.7	N/A	0.8549 [2.0000]	42.7% { 41.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (11)
Acquired: 2023/01/10 - 17:09

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1198413	(9.39 , N/A) (N/A , -0.01 , N/A)	261.8	N/A	4.7912 [4.0000]	119.8% { 140.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 920049	(9.62 , N/A) (N/A , 0.00 , N/A)	74.0	N/A	4.6783 [4.0000]	117.0% { 115.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 331184	(10.60 , N/A) (N/A , 0.00 , N/A)	526.0	N/A	11.3752 [20.0000]	56.9% { 41.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 179513	(10.70 , N/A) (N/A , 0.00 , N/A)	551.2	N/A	13.3785 [20.0000]	66.9% { 43.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1343891	(6.33 , N/A) (N/A , -0.01 , N/A)	540.9	N/A	7.4569 [8.0000]	93.2% { 88.5% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW02-WGN01LF-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-02	File ID:	S2023-01-10A (13)
Sampled:	01/05/23 12:25	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 17:34
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	555.78 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.72	0.72	0.36	0.058	
PFHXA	0.50	0.36	0.18	0.049	
PFHPA	0.24 J	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.074	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPES	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.21 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	8.0	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-RHMW02-WGN01LF-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-02	File ID:	S2023-01-10A (13)
Sampled:	01/05/23 12:25	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 17:34
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	555.78 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

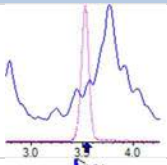
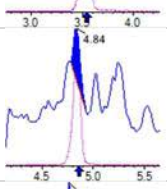
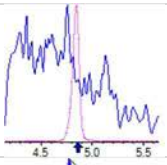
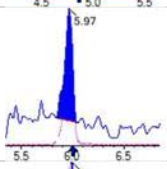
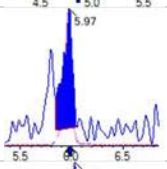
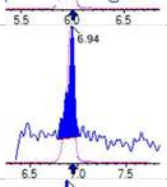
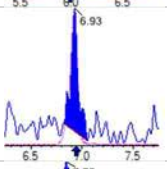
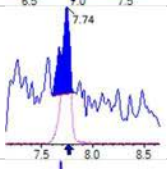
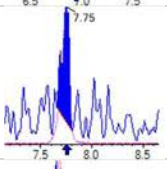
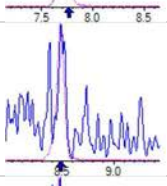
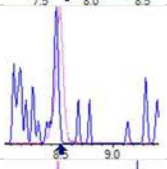
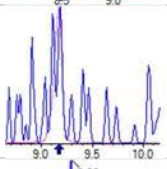
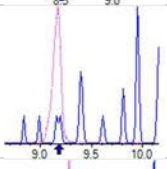
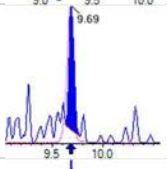
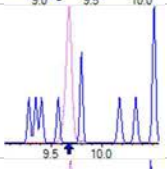
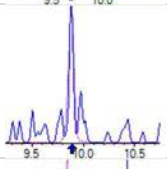
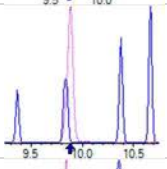
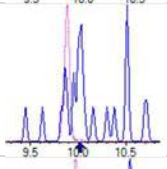
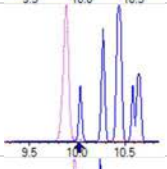
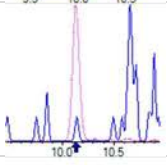
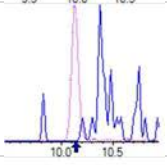
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.048	
PFMBA	0.36 U	0.72	0.36	0.082	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	
5:3FTCA	0.72 U	1.4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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

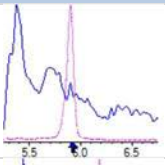
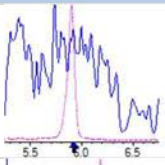
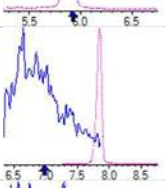
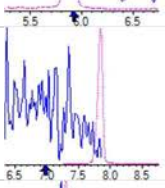
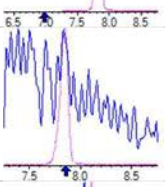
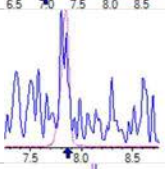
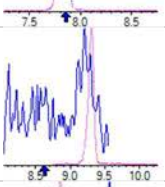
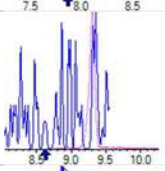
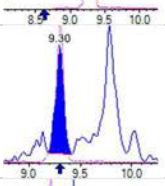
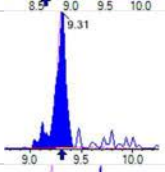
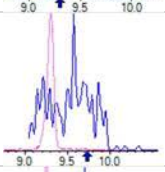
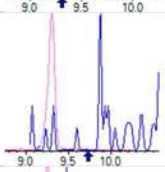
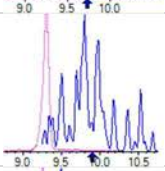
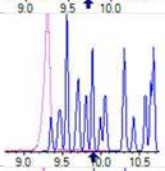
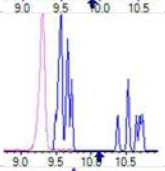
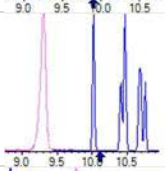
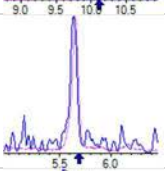
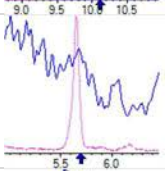
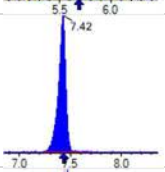
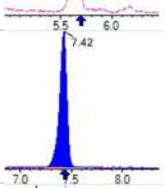
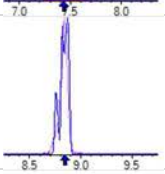
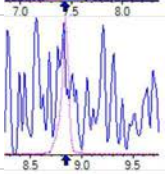
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) 30528 (263.0 / 69.0) N/A	(4.84 , 1.00) (0.00 , N/A , #Value!)	11.9 N/A	N/A 0.0 0.0	0.2005	N/A			
PFHxA	(313.0 / 269.0) 39315 (313.0 / 119.0) 8577	(5.97 , 1.00) (0.00 , N/A , -0.2)	38.0 16.3	0.2182 222.3 238.3	0.1387	N/A			IR2,
PFHpA	(363.0 / 319.0) 20409 (363.0 / 169.0) 6335	(6.94 , 1.00) (0.02 , N/A , 0.7)	32.4 19.5	0.3104 109.1 111.0	0.0677	N/A			
PFOA	(413.0 / 369.0) 10930 (413.0 / 169.0) 2846	(7.74 , 1.00) (0.00 , N/A , -0.7)	15.4 11.6	0.2604 81.6 89.9	0.0322	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) 7225 (563.0 / 169.0) N/A	(9.69 , 1.00) (0.01 , N/A , #Value!)	14.2 N/A	N/A 0.0 0.0	0.0137	N/A			IR1,
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.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

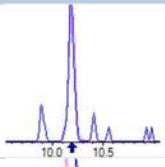
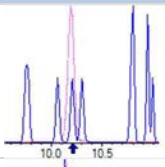
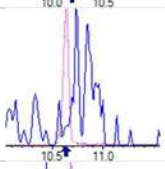
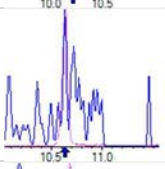
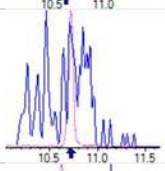
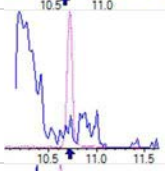
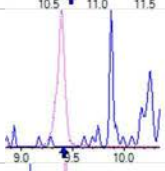
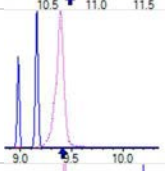
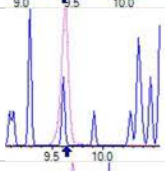
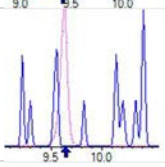
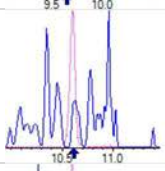
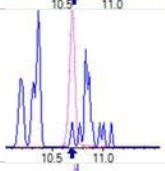
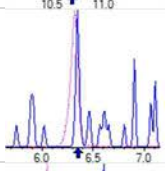
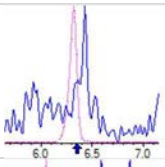
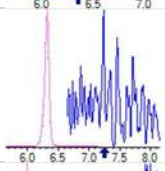
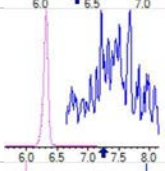
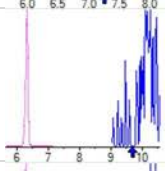
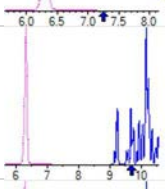
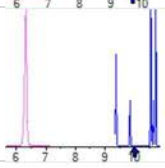
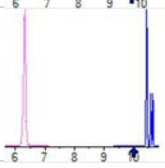
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 111493 (499.0 / 99.0) 34169	(9.30 , 1.00) (0.00 , N/A , -0.6)	40.2 118.3	0.3065 134.9 145.4	0.0588	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) 754282 (427.0 / 81.0) 613481	(7.42 , 1.00) (0.00 , N/A , 0.1)	773.1 396.0	0.8133 106.2 119.5	2.2241	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.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

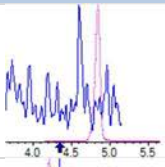
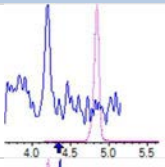
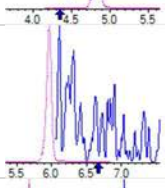
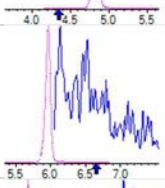
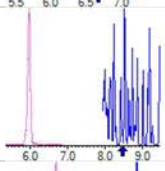
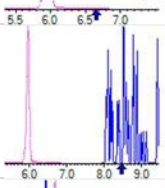
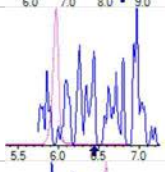
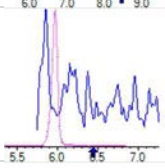
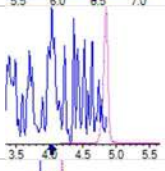
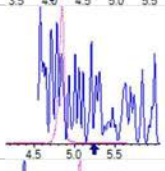
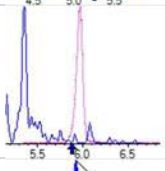
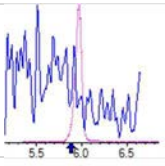
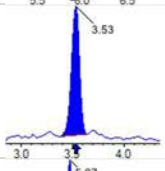
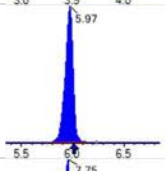
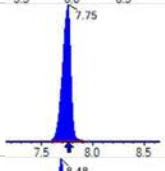
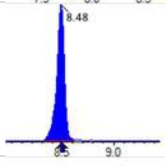
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

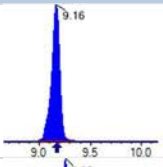
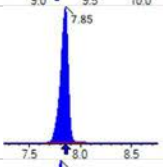
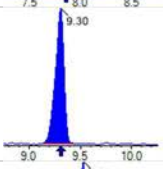
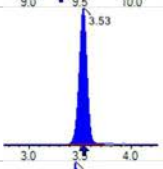
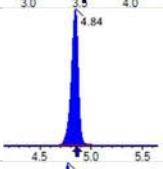
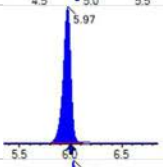
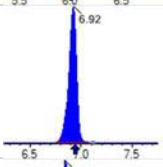
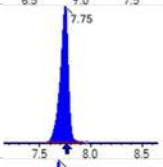
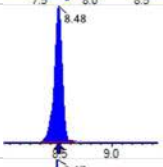
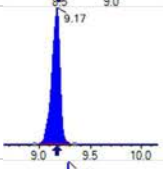
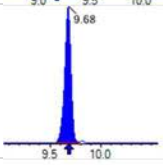
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 85228	(3.53 , N/A) (N/A , 0.01 , N/A)	157.3	N/A	0.3365 [1.0000]	33.6% { 42.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 253069	(5.97 , N/A) (N/A , -0.02 , N/A)	469.1	N/A	0.6846 [1.0000]	68.5% { 75.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 303784	(7.75 , N/A) (N/A , -0.01 , N/A)	504.4	N/A	0.6916 [1.0000]	69.2% { 79.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 311743	(8.48 , N/A) (N/A , -0.01 , N/A)	390.3	N/A	0.7687 [1.0000]	76.9% { 104.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

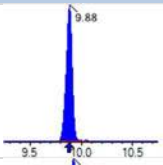
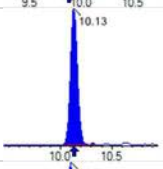
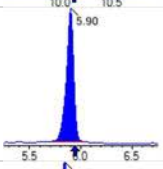
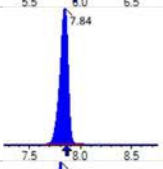
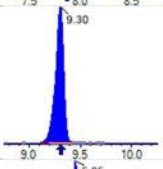
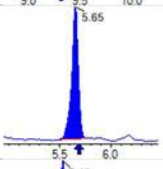
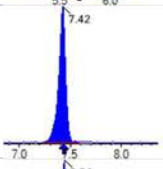
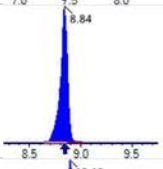
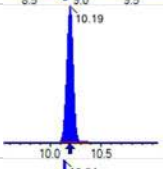
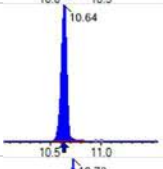
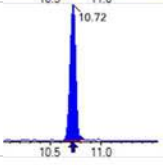
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 345203	(9.16 , N/A) (N/A , 0.00 , N/A)	322.8	N/A	0.7992 [1.0000]	79.9% { 96.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 575523	(7.85 , N/A) (N/A , -0.02 , N/A)	464.7	N/A	0.7791 [1.0000]	77.9% { 91.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 639118	(9.30 , N/A) (N/A , 0.00 , N/A)	246.7	N/A	0.8289 [1.0000]	82.9% { 93.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 441597	(3.53 , N/A) (N/A , 0.01 , N/A)	579.1	N/A	5.2739 [8.0000]	65.9% { 28.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 626795	(4.84 , N/A) (N/A , -0.01 , N/A)	468.8	N/A	3.0262 [4.0000]	75.7% { 61.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 575186	(5.97 , N/A) (N/A , -0.02 , N/A)	437.8	N/A	2.2243 [2.0000]	111.2% { 87.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 596700	(6.92 , N/A) (N/A , -0.03 , N/A)	411.5	N/A	2.4275 [2.0000]	121.4% { 94.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 650636	(7.75 , N/A) (N/A , -0.02 , N/A)	639.6	N/A	2.1021 [2.0000]	105.1% { 87.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 320786	(8.48 , N/A) (N/A , -0.01 , N/A)	424.5	N/A	1.0368 [1.0000]	103.7% { 101.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 439704	(9.17 , N/A) (N/A , -0.01 , N/A)	317.5	N/A	1.1304 [1.0000]	113.0% { 108.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 578855	(9.68 , N/A) (N/A , 0.01 , N/A)	361.4	N/A	1.2036 [1.0000]	120.4% { 107.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

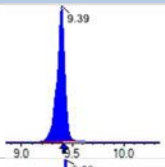
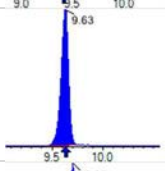
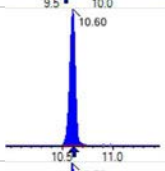
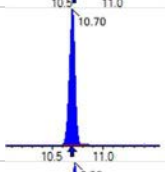
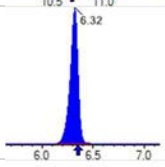
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 606894	(9.88 , N/A) (N/A , 0.00 , N/A)	393.9	N/A	1.3143 [1.0000]	131.4% { 119.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 201532	(10.13 , N/A) (N/A , 0.00 , N/A)	415.7	N/A	0.5452 [1.0000]	54.5% { 49.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1661157	(5.90 , N/A) (N/A , -0.02 , N/A)	236.0	N/A	2.1711 [2.0000]	108.6% { 102.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 963711	(7.84 , N/A) (N/A , -0.02 , N/A)	457.1	N/A	2.0099 [2.0000]	100.5% { 98.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1665423	(9.30 , N/A) (N/A , 0.00 , N/A)	368.6	N/A	2.1951 [2.0000]	109.8% { 109.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 517294	(5.65 , N/A) (N/A , -0.01 , N/A)	165.4	N/A	3.4637 [4.0000]	86.6% { 84.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 887918	(7.42 , N/A) (N/A , -0.01 , N/A)	436.4	N/A	4.0307 [4.0000]	100.8% { 98.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 919734	(8.84 , N/A) (N/A , -0.01 , N/A)	411.9	N/A	4.4559 [4.0000]	111.4% { 114.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1027183	(10.19 , N/A) (N/A , 0.00 , N/A)	778.1	N/A	1.0225 [2.0000]	51.1% { 50.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 94056	(10.64 , N/A) (N/A , 0.00 , N/A)	444.6	N/A	0.5215 [2.0000]	26.1% { 24.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 73713	(10.72 , N/A) (N/A , 0.00 , N/A)	339.8	N/A	0.4335 [2.0000]	21.7% { 20.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (13)
Acquired: 2023/01/10 - 17:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1054826	(9.39 , N/A) (N/A , 0.00 , N/A)	383.1	N/A	4.4362 [4.0000]	110.9% { 123.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 881392	(9.63 , N/A) (N/A , 0.00 , N/A)	101.8	N/A	4.7146 [4.0000]	117.9% { 110.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 246563	(10.60 , N/A) (N/A , 0.00 , N/A)	661.5	N/A	8.9086 [20.0000]	44.5% { 30.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 132529	(10.70 , N/A) (N/A , 0.00 , N/A)	584.2	N/A	10.3899 [20.0000]	51.9% { 31.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1054937	(6.32 , N/A) (N/A , -0.02 , N/A)	562.7	N/A	7.7739 [8.0000]	97.2% { 69.5% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-03	File ID:	S2023-01-10A (15)
Sampled:	01/05/23 08:55	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 18:00
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	529.76 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.60 J	1.5	0.76	0.20	
PFPEA	1.2	0.76	0.38	0.061	
PFHXA	0.96	0.38	0.19	0.052	
PFHPA	0.75	0.38	0.19	0.039	
PFOA	0.84	0.38	0.19	0.14	
PFNA	0.16 J	0.38	0.19	0.077	
PFDA	0.19 U	0.38	0.19	0.096	
PFUnA	0.19 U	0.38	0.19	0.15	
PFDOA	0.19 U	0.38	0.19	0.11	
PFTRDA	0.28 U	0.38	0.28	0.19	
PFTEDA	0.19 U	0.38	0.19	0.19	
PFBS	0.66	0.38	0.19	0.035	
PFPES	0.12 J	0.38	0.19	0.059	
PFHXS	1.1	0.38	0.19	0.030	
PFHPS	0.19 U	0.38	0.19	0.048	
PFOS	0.48	0.38	0.19	0.060	
PFNS	0.19 U	0.38	0.19	0.12	
PFDS	0.19 U	0.38	0.19	0.14	
PFDOS	0.19 U	0.38	0.19	0.12	
4:2FTS	0.76 U	1.5	0.76	0.27	
6:2FTS	0.76 U	1.5	0.76	0.30	
8:2FTS	0.76 U	1.5	0.76	0.078	
PFOSA	0.19 U	0.38	0.19	0.098	
NMeFOSA	0.76 U	1.5	0.76	0.45	
NEtFOSA	0.76 U	1.5	0.76	0.39	
NMeFOSAA	0.19 U	0.38	0.19	0.10	
NEtFOSAA	0.19 U	0.38	0.19	0.11	
NMeFOSE	1.1 U	1.5	1.1	0.95	
NEtFOSE	1.1 U	1.5	1.1	0.99	
HFPO-DA	0.38 U	0.76	0.38	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2301W1

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23A0033-03	File ID:	S2023-01-10A (15)
Sampled:	01/05/23 08:55	Prepared:	01/09/23 09:35	Analyzed:	01/10/23 18:00
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	529.76 mL / 2 mL			Instrument:	Saphira
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005

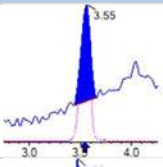
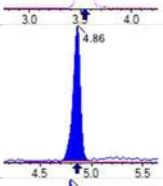
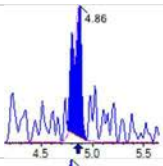
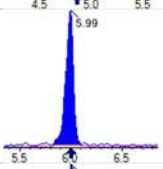
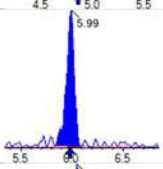
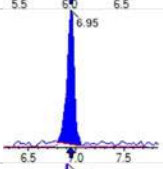
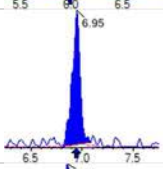
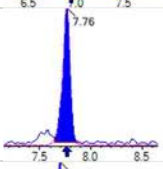
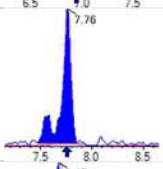
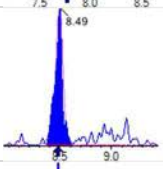
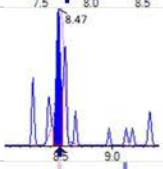
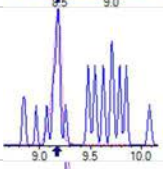
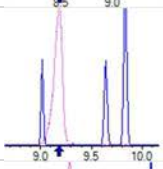
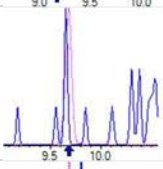
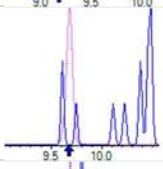
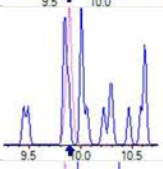
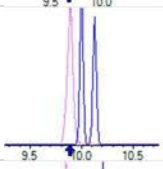
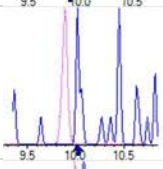
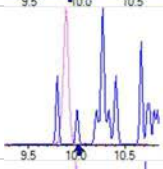
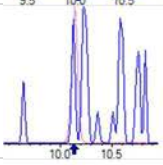
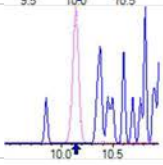
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.38 U	0.76	0.38	0.12	
PFEESA	0.38 U	0.76	0.38	0.10	
PFMPA	0.38 U	0.76	0.38	0.051	
PFMBA	0.38 U	0.76	0.38	0.086	
NFDHA	0.38 U	0.76	0.38	0.28	
9CL-PF3ONS	0.38 U	0.76	0.38	0.20	
11CL-PF3OUDS	0.38 U	0.76	0.38	0.19	
3:3FTCA	0.76 U	1.5	0.76	0.54	
5:3FTCA	0.76 U	1.5	0.76	0.42	
7:3FTCA	0.76 U	1.5	0.76	0.52	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

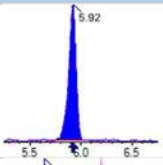
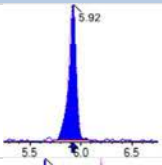
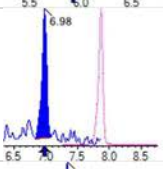
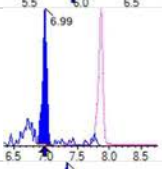
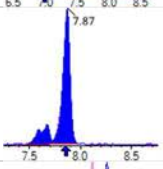
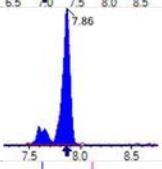
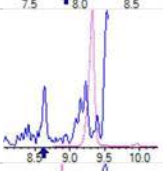
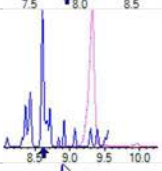
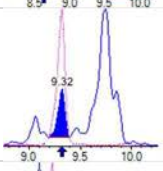
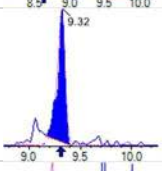
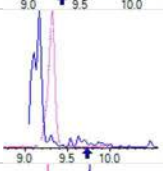
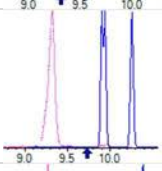
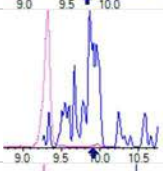
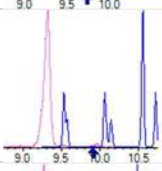
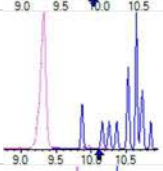
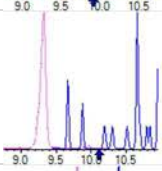
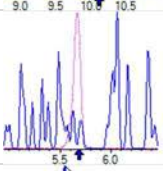
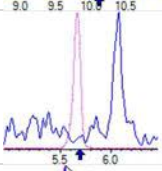
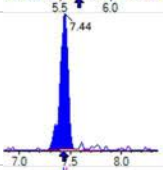
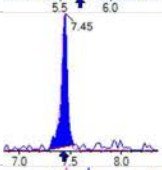
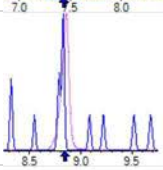
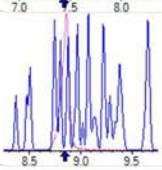
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 27138	(3.55 , 1.00) (0.00 , N/A , 0.0)	39.4	N/A 0.0 0.0	0.1588	N/A			
PFPeA	(263.0 / 219.0) 79867 (263.0 / 69.0) 761	(4.86 , 1.00) (0.00 , N/A , 0.3)	192.9 12.6	0.0095 87.8 90.3	0.3203	N/A			
PFHxA	(313.0 / 269.0) 87958 (313.0 / 119.0) 8425	(5.99 , 1.00) (0.00 , N/A , 0.2)	177.7 53.8	0.0958 97.6 104.6	0.2540	N/A			
PFHpA	(363.0 / 319.0) 61397 (363.0 / 169.0) 16285	(6.95 , 1.00) (0.00 , N/A , 0.0)	114.1 53.7	0.2652 93.2 94.8	0.1994	N/A			
PFOA	(413.0 / 369.0) 88380 (413.0 / 169.0) 35056	(7.76 , 1.00) (0.00 , N/A , 0.2)	103.2 63.5	0.3967 124.2 136.9	0.2218	N/A			
PFNA	(463.0 / 419.0) 13243 (463.0 / 169.0) 1136	(8.49 , 1.00) (0.00 , N/A , 1.1)	42.5 18.8	0.0858 38.2 43.2	0.0416	N/A			IR1,
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.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

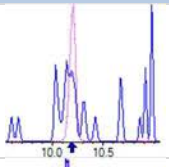
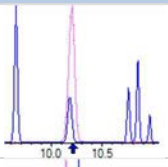
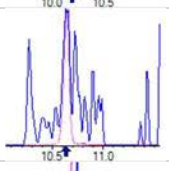
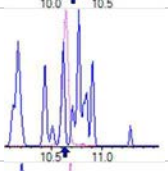
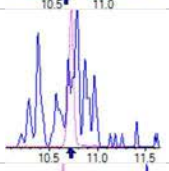
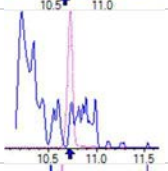
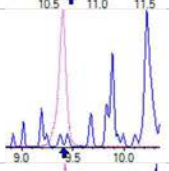
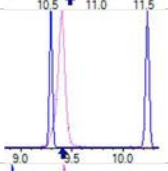
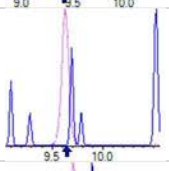
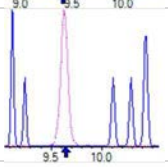
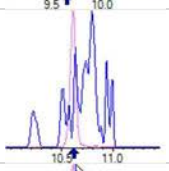
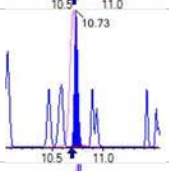
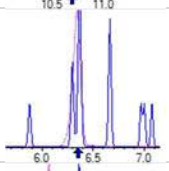
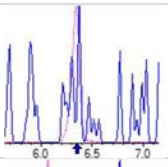
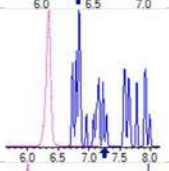
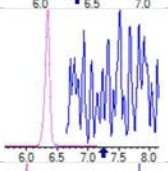
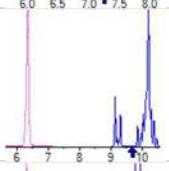
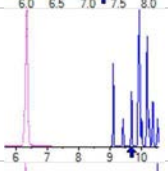
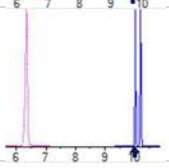
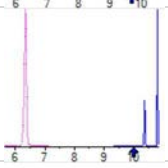
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 100838 (299.0 / 99.0) 62539	(5.92 , 1.00) (0.00 , N/A , -0.2)	253.3 193.8	0.6202 95.1 106.7	0.1757	N/A			
PFPeS	(349.0 / 80.0) 26223 (349.0 / 99.0) 7620	(6.98 , 0.89) (N/A , -0.01 , -0.3)	40.2 38.7	0.2906 78.6 85.8	0.0310	N/A			
PFHxS	(399.0 / 80.0) 232276 (399.0 / 99.0) 81068	(7.87 , 1.00) (0.00 , N/A , 0.1)	345.9 390.1	0.3490 105.8 106.9	0.2812	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) 171151 (499.0 / 99.0) 52547	(9.32 , 1.00) (0.00 , N/A , -0.1)	14.3 36.9	0.3070 135.1 145.6	0.1273	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) 16513 (427.0 / 81.0) 10732	(7.44 , 1.00) (0.00 , N/A , -0.3)	130.1 67.4	0.6499 84.8 95.5	0.0474	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.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

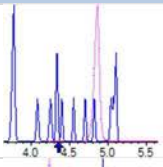
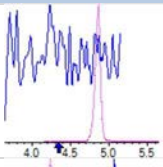
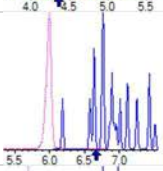
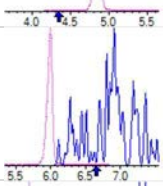
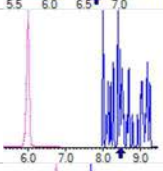
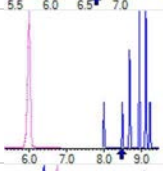
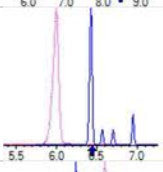
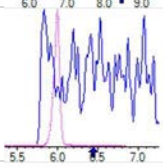
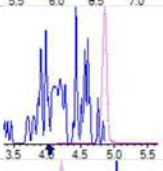
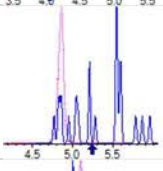
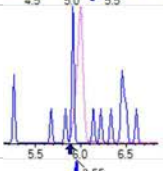
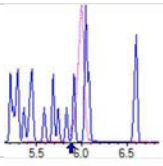
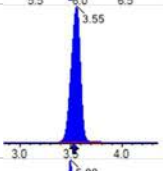
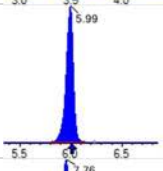
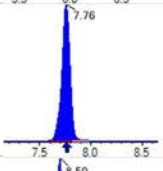
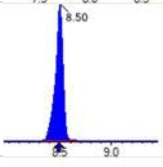
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 404	(10.73 , 1.00) (0.03 , N/A , 0.0)	15.5	N/A 0.0 0.0	0.1105	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.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

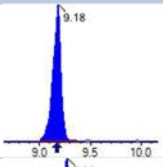
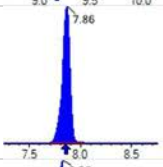
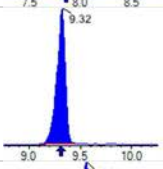
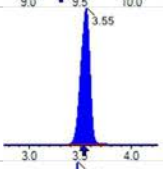
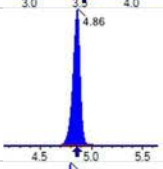
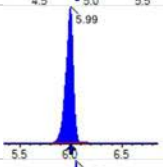
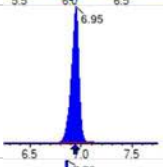
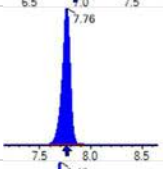
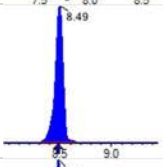
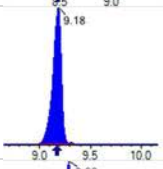
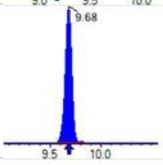
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 189068	(3.55 , N/A) (N/A , 0.03 , N/A)	506.7	N/A	0.7464 [1.0000]	74.6% { 93.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 334874	(5.99 , N/A) (N/A , 0.01 , N/A)	430.9	N/A	0.9059 [1.0000]	90.6% { 99.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 334277	(7.76 , N/A) (N/A , 0.00 , N/A)	476.6	N/A	0.7610 [1.0000]	76.1% { 87.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 318254	(8.50 , N/A) (N/A , 0.01 , N/A)	488.3	N/A	0.7848 [1.0000]	78.5% { 106.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

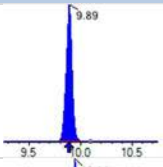
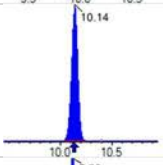
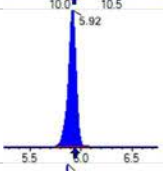
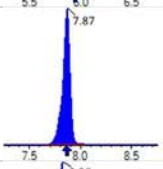
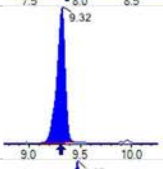
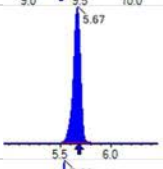
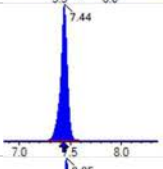
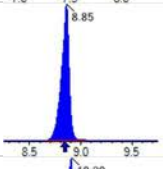
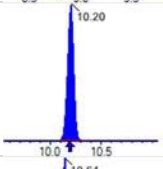
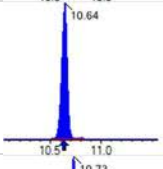
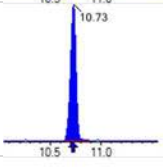
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 357489	(9.18 , N/A) (N/A , 0.01 , N/A)	332.7	N/A	0.8276 [1.0000]	82.8% { 100.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 589580	(7.86 , N/A) (N/A , -0.01 , N/A)	504.6	N/A	0.7981 [1.0000]	79.8% { 93.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 645206	(9.32 , N/A) (N/A , 0.02 , N/A)	346.0	N/A	0.8368 [1.0000]	83.7% { 94.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1494655	(3.55 , N/A) (N/A , 0.03 , N/A)	642.8	N/A	8.0466 [8.0000]	100.6% { 94.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1026655	(4.86 , N/A) (N/A , 0.01 , N/A)	517.1	N/A	3.7459 [4.0000]	93.6% { 100.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 702670	(5.99 , N/A) (N/A , 0.01 , N/A)	445.3	N/A	2.0535 [2.0000]	102.7% { 106.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 609993	(6.95 , N/A) (N/A , 0.00 , N/A)	525.7	N/A	1.8753 [2.0000]	93.8% { 96.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 764906	(7.76 , N/A) (N/A , 0.00 , N/A)	470.6	N/A	2.2458 [2.0000]	112.3% { 103.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 331452	(8.49 , N/A) (N/A , 0.00 , N/A)	329.5	N/A	1.0493 [1.0000]	104.9% { 105.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 432605	(9.18 , N/A) (N/A , 0.01 , N/A)	404.9	N/A	1.0740 [1.0000]	107.4% { 106.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 528714	(9.68 , N/A) (N/A , 0.01 , N/A)	419.8	N/A	1.0616 [1.0000]	106.2% { 98.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

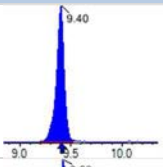
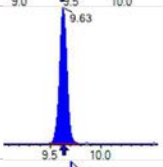
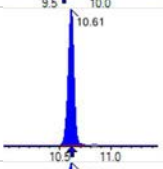
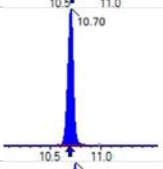
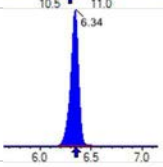
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 568820	(9.89 , N/A) (N/A , 0.01 , N/A)	522.2	N/A	1.1895 [1.0000]	118.9% { 111.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 420720	(10.14 , N/A) (N/A , 0.01 , N/A)	910.9	N/A	1.0991 [1.0000]	109.9% { 103.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1759873	(5.92 , N/A) (N/A , 0.01 , N/A)	555.4	N/A	2.2453 [2.0000]	112.3% { 108.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 988409	(7.87 , N/A) (N/A , 0.00 , N/A)	636.4	N/A	2.0122 [2.0000]	100.6% { 100.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1575957	(9.32 , N/A) (N/A , 0.01 , N/A)	246.4	N/A	2.0576 [2.0000]	102.9% { 103.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 757230	(5.67 , N/A) (N/A , 0.01 , N/A)	753.8	N/A	4.9494 [4.0000]	123.7% { 123.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 911735	(7.44 , N/A) (N/A , 0.00 , N/A)	726.5	N/A	4.0401 [4.0000]	101.0% { 101.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 761605	(8.85 , N/A) (N/A , 0.01 , N/A)	396.2	N/A	3.6018 [4.0000]	90.0% { 94.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1104913	(10.20 , N/A) (N/A , 0.01 , N/A)	766.5	N/A	1.0895 [2.0000]	54.5% { 54.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 126412	(10.64 , N/A) (N/A , 0.00 , N/A)	718.0	N/A	0.6942 [2.0000]	34.7% { 32.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 118506	(10.73 , N/A) (N/A , 0.01 , N/A)	530.2	N/A	0.6904 [2.0000]	34.5% { 32.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23A0033-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (15)
Acquired: 2023/01/10 - 18:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1040284	(9.40 , N/A) (N/A , 0.01 , N/A)	378.8	N/A	4.3338 [4.0000]	108.3% { 121.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 782549	(9.63 , N/A) (N/A , 0.00 , N/A)	80.8	N/A	4.1464 [4.0000]	103.7% { 98.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 235246	(10.61 , N/A) (N/A , 0.01 , N/A)	451.0	N/A	8.4195 [20.0000]	42.1% { 29.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 130408	(10.70 , N/A) (N/A , 0.00 , N/A)	613.8	N/A	10.1272 [20.0000]	50.6% { 31.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1474738	(6.34 , N/A) (N/A , 0.00 , N/A)	559.0	N/A	8.2127 [8.0000]	102.7% { 97.1% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW03-WGN01LF-2301W1 (23A0033-01) ng/L	Lab File ID: S2023-01-10A (11)			Analyzed: 01/10/23 17:09
13C4-PFBA	29.0	81.0	20 - 150	
13C5-PFPEA	14.5	88.7	20 - 150	
13C5-PFHXA	7.25	98.1	20 - 150	
13C4-PFHPA	7.25	104	20 - 150	
13C8-PFOA	7.25	100	20 - 150	
13C9-PFNA	3.62	105	20 - 150	
13C6-PFDA	3.62	103	20 - 150	
13C7-PFUnA	3.62	124	20 - 150	
13C2-PFDOA	3.62	117	20 - 150	
13C2-PFTEDA	3.62	84.8	20 - 150	
13C3-PFBS	7.25	113	20 - 150	
13C3-PFHXS	7.25	98.6	20 - 150	
13C8-PFOS	7.25	104	20 - 150	
13C2-4:2FTS	14.5	109	20 - 150	
13C2-6:2FTS	14.5	86.7	20 - 150	
13C2-8:2FTS	14.5	102	20 - 150	
13C8-PFOSA	7.25	47.8	20 - 150	
D5-NETFOSA	7.25	42.7	20 - 150	
D3-NMEFOSA	7.25	38.8	20 - 150	
D3-NMEFOSAA	14.5	120	20 - 150	
D5-NETFOSAA	14.5	117	20 - 150	
D7-NMEFOSE	72.5	56.9	20 - 150	
D9-NETFOSE	72.5	66.9	20 - 150	
13C3-HFPO-DA	29.0	93.2	20 - 150	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW02-WGN01LF-2301W1 (23A0033-02) ng/L	Lab File ID: S2023-01-10A (13)			Analyzed: 01/10/23 17:34
13C4-PFBA	28.8	65.9	20 - 150	
13C5-PFPEA	14.4	75.7	20 - 150	
13C5-PFHXA	7.20	111	20 - 150	
13C4-PFHPA	7.20	121	20 - 150	
13C8-PFOA	7.20	105	20 - 150	
13C9-PFNA	3.60	104	20 - 150	
13C6-PFDA	3.60	113	20 - 150	
13C7-PFUnA	3.60	120	20 - 150	
13C2-PFDOA	3.60	131	20 - 150	
13C2-PFTEDA	3.60	54.5	20 - 150	
13C3-PFBS	7.20	109	20 - 150	
13C3-PFHXS	7.20	100	20 - 150	
13C8-PFOS	7.20	110	20 - 150	
13C2-4:2FTS	14.4	86.6	20 - 150	
13C2-6:2FTS	14.4	101	20 - 150	
13C2-8:2FTS	14.4	111	20 - 150	
13C8-PFOSA	7.20	51.1	20 - 150	
D5-NETFOSA	7.20	21.7	20 - 150	
D3-NMEFOSA	7.20	26.1	20 - 150	
D3-NMEFOSAA	14.4	111	20 - 150	
D5-NETFOSAA	14.4	118	20 - 150	
D7-NMEFOSE	72.0	44.5	20 - 150	
D9-NETFOSE	72.0	51.9	20 - 150	
13C3-HFPO-DA	28.8	97.2	20 - 150	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW225401-WGN01B-2301W1 (23A0033-03) ng/L	Lab File ID: S2023-01-10A (15)			Analyzed: 01/10/23 18:00
13C4-PFBA	30.2	101	20 - 150	
13C5-PFPEA	15.1	93.6	20 - 150	
13C5-PFHXA	7.55	103	20 - 150	
13C4-PFHPA	7.55	93.8	20 - 150	
13C8-PFOA	7.55	112	20 - 150	
13C9-PFNA	3.78	105	20 - 150	
13C6-PFDA	3.78	107	20 - 150	
13C7-PFUnA	3.78	106	20 - 150	
13C2-PFDOA	3.78	119	20 - 150	
13C2-PFTEDA	3.78	110	20 - 150	
13C3-PFBS	7.55	112	20 - 150	
13C3-PFHXS	7.55	101	20 - 150	
13C8-PFOS	7.55	103	20 - 150	
13C2-4:2FTS	15.1	124	20 - 150	
13C2-6:2FTS	15.1	101	20 - 150	
13C2-8:2FTS	15.1	90.0	20 - 150	
13C8-PFOSA	7.55	54.5	20 - 150	
D5-NETFOSA	7.55	34.5	20 - 150	
D3-NMEFOSA	7.55	34.7	20 - 150	
D3-NMEFOSAA	15.1	108	20 - 150	
D5-NETFOSAA	15.1	104	20 - 150	
D7-NMEFOSE	75.5	42.1	20 - 150	
D9-NETFOSE	75.5	50.6	20 - 150	
13C3-HFPO-DA	30.2	103	20 - 150	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCA0105-BLK1) ng/L	Lab File ID: S2023-01-10A (8)			Analyzed: 01/10/23 16:30
13C4-PFBA	32.0	107	20 - 150	
13C5-PFPEA	16.0	104	20 - 150	
13C5-PFHXA	8.00	106	20 - 150	
13C4-PFHPA	8.00	108	20 - 150	
13C8-PFOA	8.00	117	20 - 150	
13C9-PFNA	4.00	113	20 - 150	
13C6-PFDA	4.00	106	20 - 150	
13C7-PFUnA	4.00	113	20 - 150	
13C2-PFDOA	4.00	122	20 - 150	
13C2-PFTEDA	4.00	101	20 - 150	
13C3-PFBS	8.00	117	20 - 150	
13C3-PFHXS	8.00	102	20 - 150	
13C8-PFOS	8.00	109	20 - 150	
13C2-4:2FTS	16.0	132	20 - 150	
13C2-6:2FTS	16.0	103	20 - 150	
13C2-8:2FTS	16.0	98.6	20 - 150	
13C8-PFOSA	8.00	54.3	20 - 150	
D5-NETFOSA	8.00	34.1	20 - 150	
D3-NMEFOSA	8.00	35.0	20 - 150	
D3-NMEFOSAA	16.0	113	20 - 150	
D5-NETFOSAA	16.0	123	20 - 150	
D7-NMEFOSE	80.0	46.5	20 - 150	
D9-NETFOSE	80.0	54.3	20 - 150	
13C3-HFPO-DA	32.0	111	20 - 150	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCA0105-BS1) ng/L	Lab File ID: S2023-01-10A (9)			Analyzed: 01/10/23 16:43
13C4-PFBA	32.0	106	20 - 150	
13C5-PFPEA	16.0	108	20 - 150	
13C5-PFHXA	8.00	106	20 - 150	
13C4-PFHPA	8.00	103	20 - 150	
13C8-PFOA	8.00	106	20 - 150	
13C9-PFNA	4.00	117	20 - 150	
13C6-PFDA	4.00	114	20 - 150	
13C7-PFUnA	4.00	129	20 - 150	
13C2-PFDOA	4.00	159	20 - 150	*
13C2-PFTEDA	4.00	117	20 - 150	
13C3-PFBS	8.00	109	20 - 150	
13C3-PFHXS	8.00	106	20 - 150	
13C8-PFOS	8.00	108	20 - 150	
13C2-4:2FTS	16.0	129	20 - 150	
13C2-6:2FTS	16.0	96.7	20 - 150	
13C2-8:2FTS	16.0	93.6	20 - 150	
13C8-PFOSA	8.00	47.0	20 - 150	
D5-NETFOSA	8.00	27.9	20 - 150	
D3-NMEFOSA	8.00	29.9	20 - 150	
D3-NMEFOSAA	16.0	107	20 - 150	
D5-NETFOSAA	16.0	105	20 - 150	
D7-NMEFOSE	80.0	40.5	20 - 150	
D9-NETFOSE	80.0	45.8	20 - 150	
13C3-HFPO-DA	32.0	111	20 - 150	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23A0033
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCA0105-MRL1) ng/L	Lab File ID: S2023-01-10A (10)			Analyzed: 01/10/23 16:56
13C4-PFBA	32.0	105	20 - 150	
13C5-PFPEA	16.0	103	20 - 150	
13C5-PFHXA	8.00	112	20 - 150	
13C4-PFHPA	8.00	104	20 - 150	
13C8-PFOA	8.00	113	20 - 150	
13C9-PFNA	4.00	106	20 - 150	
13C6-PFDA	4.00	113	20 - 150	
13C7-PFUnA	4.00	116	20 - 150	
13C2-PFDOA	4.00	139	20 - 150	
13C2-PFTEDA	4.00	124	20 - 150	
13C3-PFBS	8.00	114	20 - 150	
13C3-PFHXS	8.00	98.0	20 - 150	
13C8-PFOS	8.00	107	20 - 150	
13C2-4:2FTS	16.0	139	20 - 150	
13C2-6:2FTS	16.0	90.5	20 - 150	
13C2-8:2FTS	16.0	98.7	20 - 150	
13C8-PFOSA	8.00	50.6	20 - 150	
D5-NETFOSA	8.00	33.2	20 - 150	
D3-NMEFOSA	8.00	31.5	20 - 150	
D3-NMEFOSAA	16.0	102	20 - 150	
D5-NETFOSAA	16.0	111	20 - 150	
D7-NMEFOSE	80.0	50.0	20 - 150	
D9-NETFOSE	80.0	51.9	20 - 150	
13C3-HFPO-DA	32.0	112	20 - 150	

METHOD BLANK SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Blank ID:	BCA0105-BLK1	Batch:	BCA0105
Prepared:	01/09/2023 09:35		

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCA0105-BS1	S2023-01-10A (9)	16:43
MRL Check	BCA0105-MRL1	S2023-01-10A (10)	16:56
AF-RHMW03-WGN01LF-2301W1	23A0033-01	S2023-01-10A (11)	17:09
AF-RHMW02-WGN01LF-2301W1	23A0033-02	S2023-01-10A (13)	17:34
AF-RHMW225401-WGN01B-2301W1	23A0033-03	S2023-01-10A (15)	18:00

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BLK1	File ID:	S2023-01-10A (8)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:30
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
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	0.132 J	0.40	0.20	0.064	J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U				

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BLK1	File ID:	S2023-01-10A (8)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:30
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
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:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCA0105	Laboratory ID:	BCA0105-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	17.2	107	40 - 150
PFPEA	8.00	8.30	104	40 - 150
PFHXA	4.00	4.02	100	40 - 150
PFHPA	4.00	4.62	115	40 - 150
PFOA	4.00	4.58	114	40 - 150
PFNA	4.00	4.27	107	40 - 150
PFDA	4.00	4.76	119	40 - 150
PFUnA	4.00	4.32	108	40 - 150
PFDOA	4.00	4.04	101	40 - 150
PFTRDA	4.00	3.44	86.0	40 - 150
PFTEDA	4.00	4.62	116	40 - 150
PFBS	3.54	3.87	109	40 - 150
PFPES	3.76	4.56	121	40 - 150
PFHXS	3.66	4.88	133	40 - 150
PFHPS	3.82	5.20	136	40 - 150
PFOS	67.6	64.3	95.1	40 - 150
PFNS	3.84	3.96	103	40 - 150
PFDS	3.86	4.24	110	40 - 150
PFDOS	3.88	4.57	118	40 - 150
4:2FTS	15.0	17.1	114	40 - 150
6:2FTS	15.2	17.6	116	40 - 150
8:2FTS	15.4	18.1	118	40 - 150
PFOSA	4.00	4.86	122	40 - 150
NMeFOSA	16.0	16.2	101	40 - 150
NEtFOSA	16.0	17.2	108	40 - 150
NMeFOSAA	4.00	3.52	88.0	40 - 150
NEtFOSAA	4.00	4.67	117	40 - 150
NMeFOSE	16.0	16.4	102	40 - 150
NEtFOSE	16.0	18.2	114	40 - 150
HFPO-DA	8.00	8.96	112	40 - 150
ADONA	7.56	8.13	108	40 - 150
PFEESA	7.12	7.54	106	40 - 150
PFMPA	8.00	7.82	97.8	40 - 150
PFMBA	8.00	8.79	110	40 - 150

LCS / LCS DUPLICATE RECOVERY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCA0105	Laboratory ID:	BCA0105-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	9.43	118	40 - 150
9CL-PF3ONS	7.48	6.82	91.2	40 - 150
11CL-PF3OUDS	7.56	9.04	120	40 - 150
3:3FTCA	16.0	13.9	86.7	40 - 150
5:3FTCA	16.0	15.8	99.0	40 - 150
7:3FTCA	16.0	13.8	86.3	40 - 150

CALIBRATION SUMMARY

Chemist:ABK
Instrument:Saphira
Type:Sciex Q5500

Quant Method:163

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.45737 x (std. dev. = 0.02404) (weighting: None)	%RSE=5.3
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.48574 x (std. dev. = 0.01155) (weighting: None)	%RSE=2.4
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.49274 x (std. dev. = 0.03156) (weighting: None)	%RSE=6.4
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.50489 x (std. dev. = 0.02115) (weighting: None)	%RSE=4.2
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.52097 x (std. dev. = 0.02123) (weighting: None)	%RSE=4.1
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.96009 x (std. dev. = 0.05426) (weighting: None)	%RSE=5.7
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 1.02523 x (std. dev. = 0.09672) (weighting: None)	%RSE=9.4
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.90887 x (std. dev. = 0.07626) (weighting: None)	%RSE=8.4
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.93616 x (std. dev. = 0.10920) (weighting: None)	%RSE=11.7
PFTrDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.92253 x (std. dev. = 0.08735) (weighting: None)	%RSE=9.5
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.95259 x (std. dev. = 0.04309) (weighting: None)	%RSE=4.5
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.28858 x (std. dev. = 0.01700) (weighting: None)	%RSE=5.9
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.80278 x (std. dev. = 0.04729) (weighting: None)	%RSE=5.9
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.76131 x (std. dev. = 0.03039) (weighting: None)	%RSE=4.0
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.48884 x (std. dev. = 0.02646) (weighting: None)	%RSE=5.4
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.56340 x + 0.03124 (r = 0.99836) (weighting: 1 / x^2)	%RSE=5.8
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.59821 x (std. dev. = 0.05543) (weighting: None)	%RSE=9.3
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.66341 x (std. dev. = 0.07257) (weighting: None)	%RSE=10.9
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.28368 x (std. dev. = 0.02092) (weighting: None)	%RSE=7.4
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 3.00361 x (std. dev. = 0.33150) (weighting: None)	%RSE=11.0
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.44997 x (std. dev. = 0.10161) (weighting: None)	%RSE=7.0
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.39768 x (std. dev. = 0.18756) (weighting: None)	%RSE=13.4
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.53271 x (std. dev. = 0.04293) (weighting: None)	%RSE=8.1
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.89740 x (std. dev. = 0.21556) (weighting: None)	%RSE=11.4
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.99225 x (std. dev. = 0.11051) (weighting: None)	%RSE=5.5
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.22459 x (std. dev. = 0.02677) (weighting: None)	%RSE=11.9
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.23908 x (std. dev. = 0.02916) (weighting: None)	%RSE=12.2
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.25632 x (std. dev. = 0.00858) (weighting: None)	%RSE=3.3
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.11214 x (std. dev. = 0.01379) (weighting: None)	%RSE=12.3
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.15857 x (std. dev. = 0.01221) (weighting: None)	%RSE=7.7
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.78135 x (std. dev. = 0.04584) (weighting: None)	%RSE=5.9
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = -0.01924 x^2 + 2.27172 x + -0.02336 (r = 0.99912) (weighting: 1 / x)	%RSE=5.6
11Cl-PF3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.04362 x (std. dev. = 0.09904) (weighting: None)	%RSE=9.5
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.02788 x (std. dev. = 0.00203) (weighting: None)	%RSE=7.3
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.29992 x (std. dev. = 0.02125) (weighting: None)	%RSE=7.1
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.45138 x (std. dev. = 0.02892) (weighting: None)	%RSE=6.4
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.86653 x (std. dev. = 0.06094) (weighting: None)	%RSE=7.0
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.14524 x (std. dev. = 0.00736) (weighting: None)	%RSE=5.1
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.36689 x (std. dev. = 0.01994) (weighting: None)	%RSE=5.4
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.40988 x (std. dev. = 0.04096) (weighting: None)	%RSE=10.0
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 253293.3115 x	%RSD=6.5
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 369654.4917 x	%RSD=2.9
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 439276.0695 x	%RSD=4.8
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 405543.5169 x	%RSD=4.8
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 431944.9318 x	%RSD=3.7
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 738710.0515 x	%RSD=2.5
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 771042.3446 x	%RSD=7.1

Chemist:ABK
Instrument:Saphira
Type:Sciex Q5500

Quant Method:163

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 7.8596 x	%RSD=2.8
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 3.2738 x	%RSD=4.5
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.0437 x	%RSD=6.7
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 1.9426 x	%RSD=5.5
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.0378 x	%RSD=4.2
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 0.9925 x	%RSD=3.1
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.1268 x	%RSD=9.2
13C7_PFUnA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.3932 x	%RSD=15.3
13C2_PFDoA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.3377 x	%RSD=5.5
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.0708 x	%RSD=7.5
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.6589 x	%RSD=7.0
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.6663 x	%RSD=4.3
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.3742 x	%RSD=6.1
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 1.0380 x	%RSD=11.6
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 1.5311 x	%RSD=10.4
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 1.4346 x	%RSD=8.0
13C8_PFOSA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 3.1435 x	%RSD=5.5
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.5644 x	%RSD=11.1
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 0.5321 x	%RSD=2.9
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.4881 x	%RSD=6.0
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 1.1701 x	%RSD=14.7
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 0.8661 x	%RSD=6.1
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 0.3992 x	%RSD=5.0
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 4.2898 x	%RSD=4.5

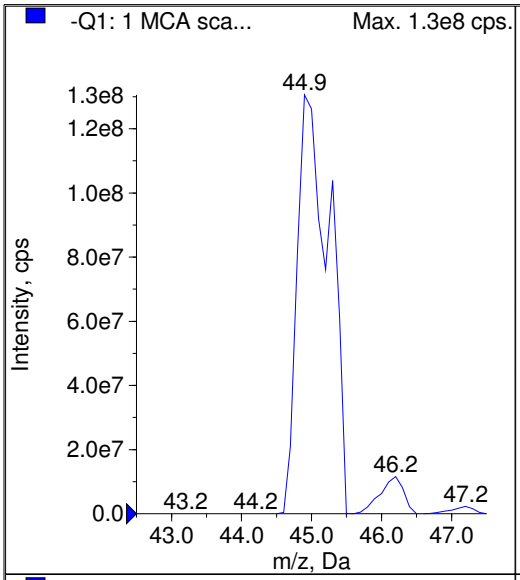
x= Concentration Analyte

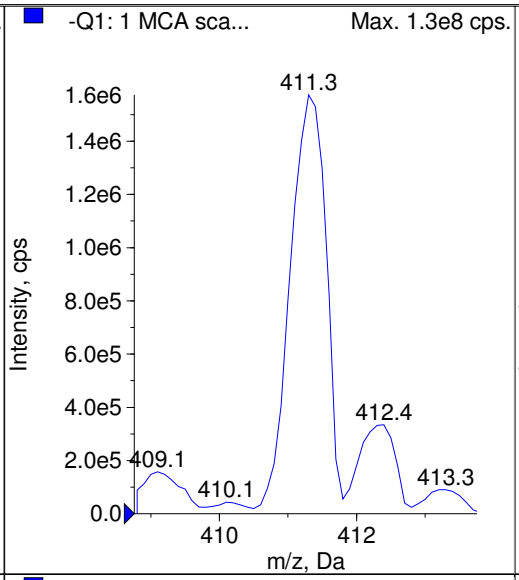
$$y = \text{Area Ratio} = \frac{\text{Area Analyte}}{\text{Area Internal Standard}}$$

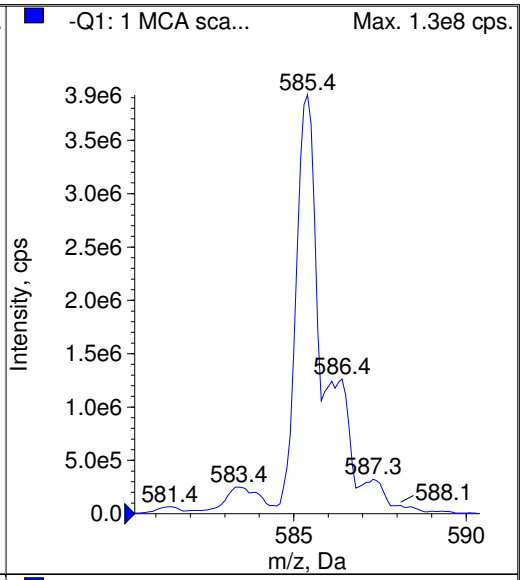
$$\text{Acid Factor} = \frac{\text{Moleculat weight Acid}}{\text{Molecular weight Salt}}$$

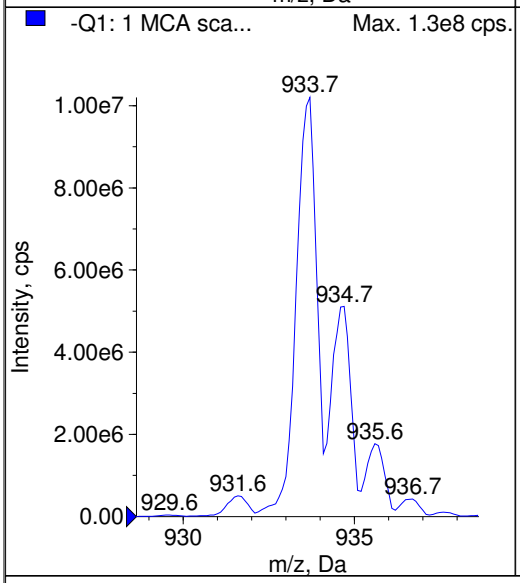
$$\text{Multiplier} = \frac{\text{Concentration of Analyte}}{\text{Concentration of PFOA}} \text{ in curve standard mix}$$

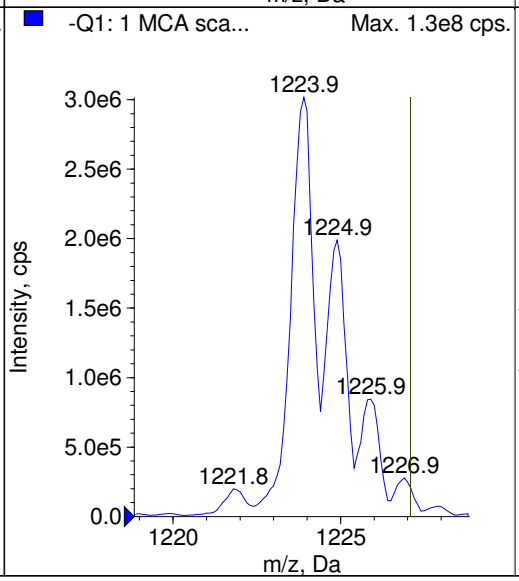
$$\text{Result } \left(\frac{\text{ng}}{\text{mL}}\right) = \text{x*Multiplier*Acid Factor}$$

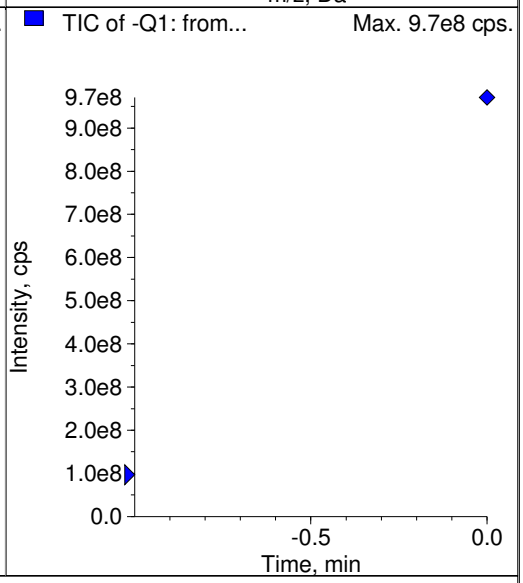






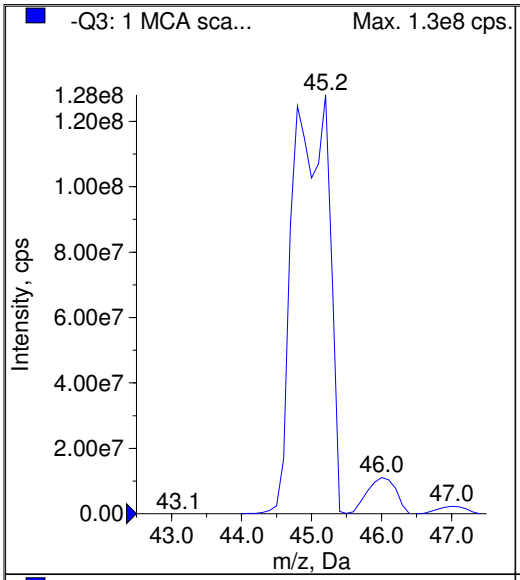


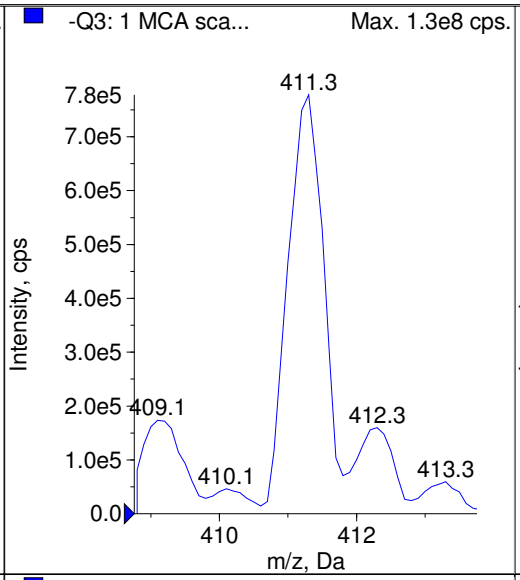


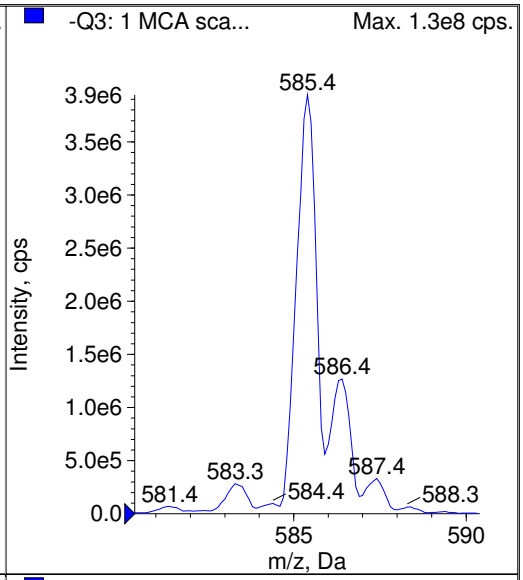


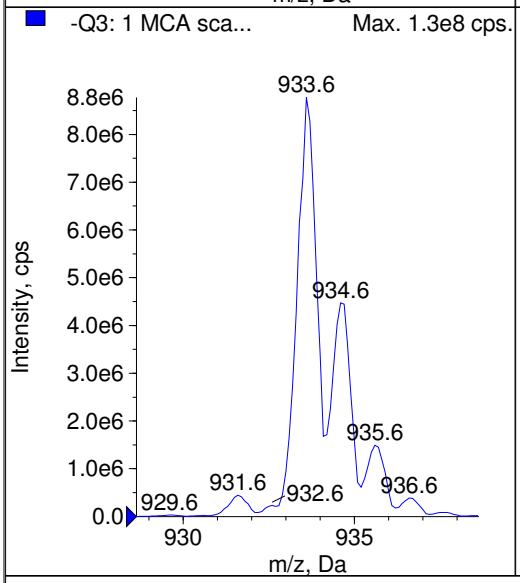
Peak List for " -Q1: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142838.wiff (Turbo Spray)"

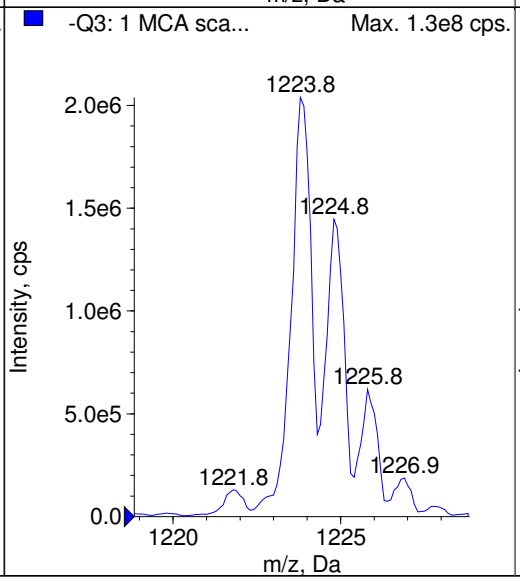
	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	45.0305	1.3061e8	0.6158	-0.0325
2	411.2590	411.3148	1.5745e6	0.6085	-0.0558
3	585.3850	585.3651	3.9270e6	0.6307	0.0199
4	933.6360	933.6197	1.0205e7	0.6552	0.0163
5	1223.8450	1223.8627	3.0170e6	0.6967	-0.0177
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

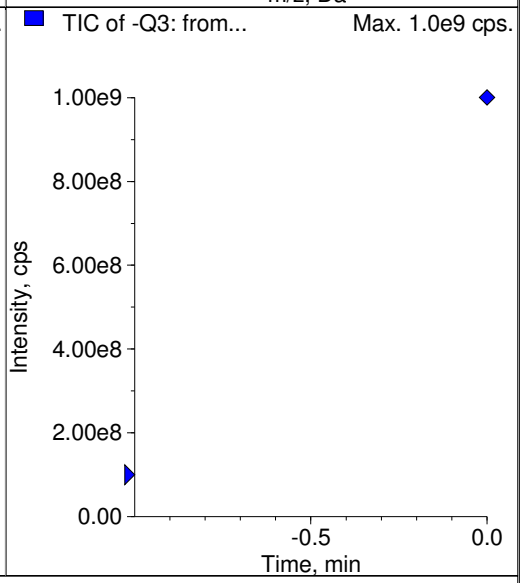












Peak List for " -Q3: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142403.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9799	1.2814e8	0.6414	0.0181
2	411.2590	411.2677	7.7810e5	0.6076	-8.6898e-3
3	585.3850	585.3784	3.9438e6	0.6511	6.5868e-3
4	933.6360	933.6279	8.7759e6	0.6302	8.0526e-3
5	1223.8450	1223.8609	2.0397e6	0.6225	-0.0159
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

EPA 1633

Initial Calibration: SC00101

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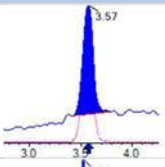
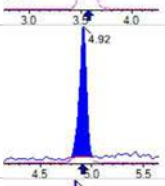
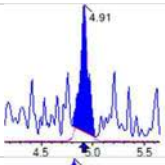
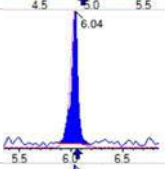
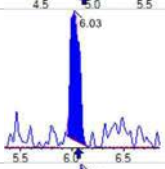
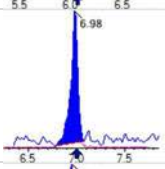
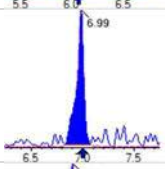
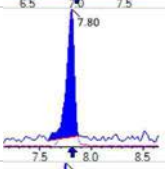
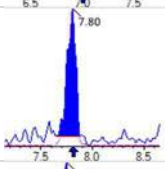
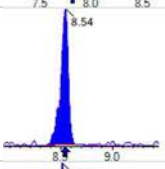
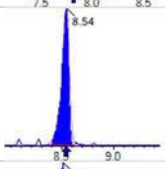
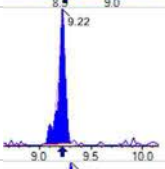
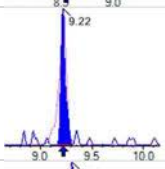
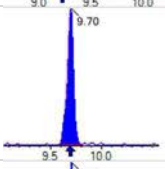
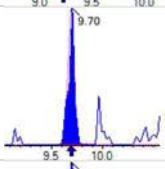
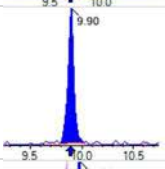
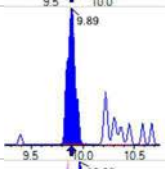
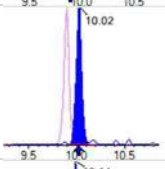
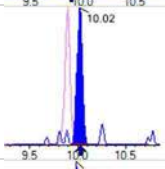
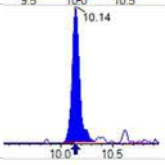
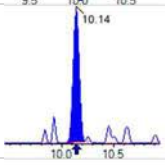
Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

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) 92092	(3.57 , 1.00) (0.00 , N/A , 0.0)	118.3	N/A 0.0 0.0	0.3689 [0.4000]	92.2%			
PFPeA	(263.0 / 219.0) 60389 (263.0 / 69.0) 1090	(4.92 , 1.00) (0.00 , N/A , 0.1)	140.5 14.2	0.0181 166.3 166.3	0.1961 [0.2000]	98.0%			
PFHxA	(313.0 / 269.0) 38694 (313.0 / 119.0) 4907	(6.04 , 1.00) (0.01 , N/A , 0.8)	86.0 21.8	0.1268 129.2 129.2	0.0938 [0.1000]	93.8%			
PFHpA	(363.0 / 319.0) 35857 (363.0 / 169.0) 10152	(6.98 , 1.00) (0.00 , N/A , -0.1)	64.9 40.2	0.2831 99.5 99.5	0.0931 [0.1000]	93.1%			
PFOA	(413.0 / 369.0) 49841 (413.0 / 169.0) 15782	(7.80 , 1.00) (0.00 , N/A , 0.2)	82.4 45.4	0.3167 99.2 99.2	0.0983 [0.1000]	98.3%			
PFNA	(463.0 / 419.0) 37398 (463.0 / 169.0) 9847	(8.54 , 1.00) (0.00 , N/A , 0.2)	117.8 181.5	0.2633 117.4 117.4	0.0926 [0.1000]	92.6%			
PFDA	(513.0 / 469.0) 57340 (513.0 / 169.0) 6863	(9.22 , 1.00) (0.00 , N/A , 0.4)	93.3 50.4	0.1197 109.0 109.0	0.1120 [0.1000]	112.0%			
PFUnA	(563.0 / 519.0) 64511 (563.0 / 169.0) 8639	(9.70 , 1.00) (0.01 , N/A , -0.2)	187.6 38.0	0.1339 128.0 128.0	0.1124 [0.1000]	112.4%			
PFDoA	(613.0 / 569.0) 52270 (613.0 / 169.0) 9172	(9.90 , 1.00) (0.00 , N/A , 0.5)	112.1 24.2	0.1755 136.4 136.4	0.0874 [0.1000]	87.4%			
PFTrDA	(663.0 / 619.0) 56000 (663.0 / 169.0) 10487	(10.02 , 1.01) (N/A , 0.00 , 0.1)	122.9 52.0	0.1873 92.9 92.9	0.0950 [0.1000]	95.0%			
PFTeDA	(713.0 / 669.0) 46298 (713.0 / 169.0) 10778	(10.14 , 1.00) (0.00 , N/A , 0.3)	82.7 47.7	0.2328 119.1 119.1	0.1026 [0.1000]	102.6%			

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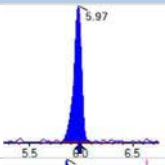
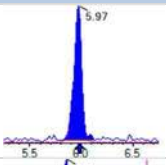
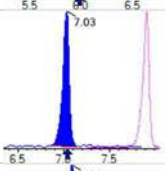
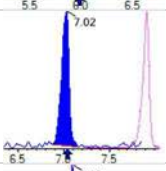
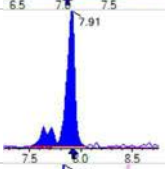
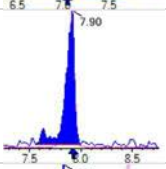
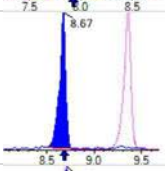
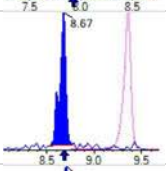
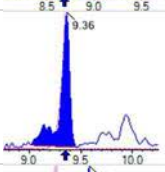
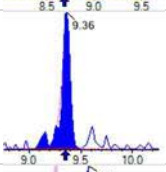
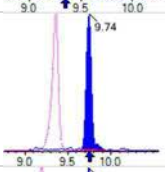
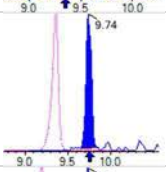
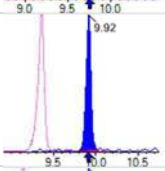
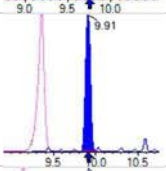
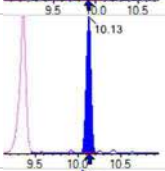
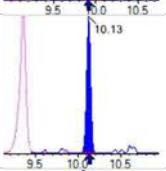
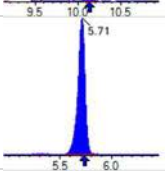
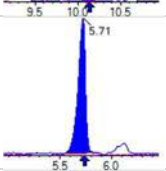
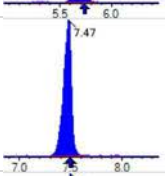
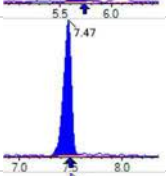
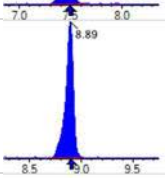
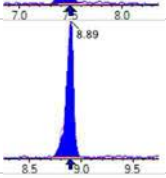
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

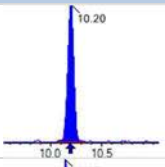
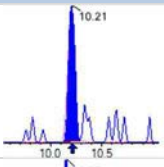
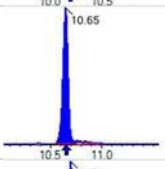
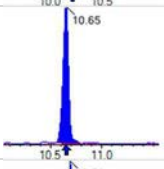
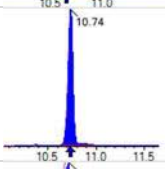
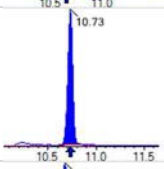
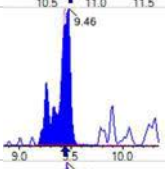
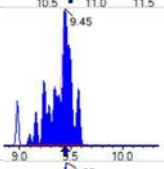
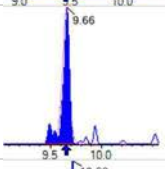
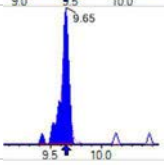
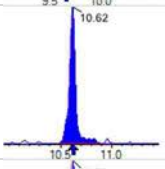
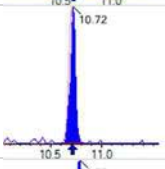
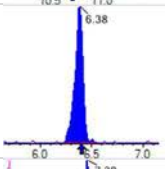
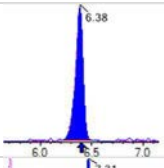
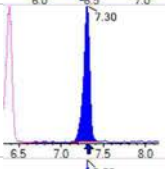
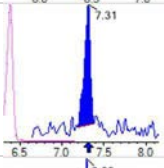
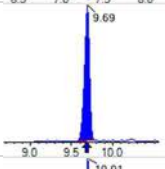
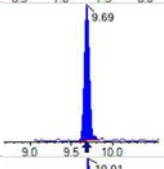
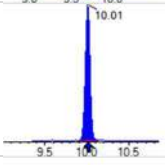
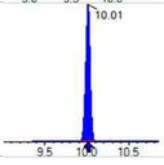
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 57580 (299.0 / 99.0) 41168	(5.97 , 1.00) (0.00 , N/A , -0.1)	173.2 102.6	0.7150 109.6 109.6	0.0809 [0.0885]	91.5%			
PFPeS	(349.0 / 80.0) 97882 (349.0 / 99.0) 34391	(7.03 , 0.89) (N/A , -0.01 , 0.4)	227.7 92.7	0.3513 95.1 95.1	0.0875 [0.0938]	93.2%			
PFHxS	(399.0 / 80.0) 102005 (399.0 / 99.0) 30334	(7.91 , 1.00) (0.00 , N/A , 0.1)	155.5 101.1	0.2974 90.1 90.1	0.0933 [0.0911]	102.4%			
PFHpS	(449.0 / 80.0) 89740 (449.0 / 99.0) 22834	(8.67 , 0.93) (N/A , -0.01 , -0.1)	224.3 79.4	0.2544 92.6 92.6	0.0868 [0.0951]	91.2%			
PFOS	(499.0 / 80.0) 178057 (499.0 / 99.0) 51057	(9.36 , 1.00) (0.00 , N/A , -0.2)	94.6 102.6	0.2867 126.2 126.2	0.0942 [0.0927]	101.6%			
PFNS	(549.0 / 80.0) 120371 (549.0 / 99.0) 23382	(9.74 , 1.04) (N/A , 0.00 , 0.0)	197.4 74.1	0.1943 83.4 83.4	0.0960 [0.0960]	100.0%			
PFDS	(599.0 / 80.0) 111278 (599.0 / 99.0) 41280	(9.92 , 1.06) (N/A , 0.00 , 0.5)	132.7 112.2	0.3710 162.5 162.5	0.0803 [0.0963]	83.3%			IR2,
PFDoS	(699.0 / 80.0) 54142 (699.0 / 99.0) 17882	(10.13 , 1.08) (N/A , 0.00 , 0.0)	281.5 132.6	0.3303 159.3 159.3	0.0919 [0.0970]	94.8%			IR2,
4:2FTS	(327.0 / 307.0) 271683 (327.0 / 81.0) 151143	(5.71 , 1.00) (0.00 , N/A , -0.3)	535.9 161.8	0.5563 88.4 88.4	0.3867 [0.3738]	103.5%			
6:2FTS	(427.0 / 407.0) 194511 (427.0 / 81.0) 123812	(7.47 , 1.00) (0.00 , N/A , 0.0)	393.7 222.6	0.6365 83.1 83.1	0.3874 [0.3796]	102.1%			
8:2FTS	(527.0 / 507.0) 170434 (527.0 / 81.0) 120246	(8.89 , 1.00) (0.00 , N/A , -0.2)	309.0 234.0	0.7055 93.0 93.0	0.3942 [0.3833]	102.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

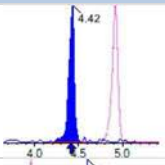
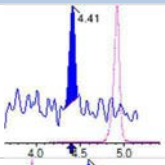
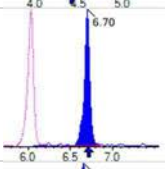
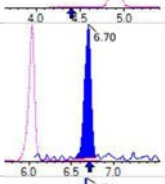
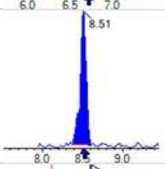
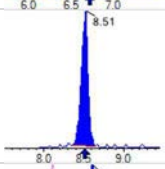
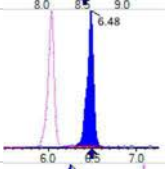
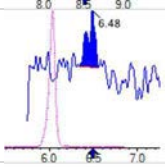
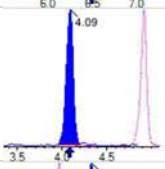
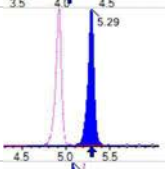
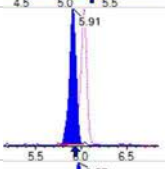
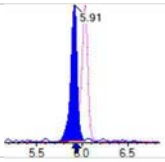
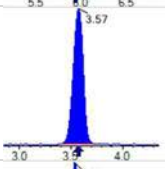
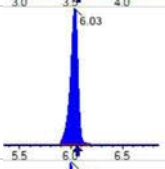
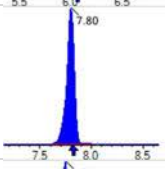
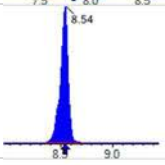
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 140486 (498.0 / 478.0) 4970	(10.20 , 1.00) (0.00 , N/A , -0.6)	298.6 24.0	0.0354 187.6 187.6	0.1069 [0.1000]	106.9%			
NMeFOSA	(512.0 / 219.0) 78285 (512.0 / 169.0) 53076	(10.65 , 1.00) (0.00 , N/A , -0.2)	287.0 329.7	0.6780 95.0 95.0	0.3931 [0.4000]	98.3%			
NEtFOSA	(526.0 / 219.0) 79752 (526.0 / 169.0) 82856	(10.74 , 1.00) (0.00 , N/A , 0.2)	508.9 463.9	1.0389 98.2 98.2	0.3792 [0.4000]	94.8%			
NMeFOSAA	(570.0 / 419.0) 33369 (570.0 / 483.0) 15869	(9.46 , 1.00) (0.02 , N/A , 0.0)	37.3 107.0	0.4756 93.5 93.5	0.1230 [0.1000]	123.0%			
NEtFOSAA	(584.0 / 419.0) 21068 (584.0 / 526.0) 17326	(9.66 , 1.00) (0.01 , N/A , 0.6)	199.5 3079.4	0.8224 132.2 132.2	0.0787 [0.1000]	78.7%			
NMeFOSE	(616.0 / 59.0) 19821	(10.62 , 1.00) (0.01 , N/A , 0.0)	121.1	N/A 0.0 0.0	0.4174 [0.4000]	104.3%			
NEtFOSE	(630.0 / 59.0) 4408	(10.72 , 1.00) (0.02 , N/A , 0.0)	140.1	N/A 0.0 0.0	0.5070 [0.4000]	126.7%			
HFPO-DA	(285.0 / 169.0) 23328 (285.0 / 185.0) 70316	(6.38 , 1.00) (0.00 , N/A , -0.1)	245.7 193.9	3.0142 112.4 112.4	0.1778 [0.2000]	88.9%			
ADONA	(377.0 / 85.0) 117566 (377.0 / 251.0) 11395	(7.30 , 1.14) (N/A , -0.01 , -0.3)	280.2 36.1	0.0969 83.3 83.3	0.1714 [0.1885]	90.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 345516 (533.0 / 353.0) 109310	(9.69 , 1.52) (N/A , 0.00 , 0.2)	298.2 157.4	0.3164 101.9 101.9	0.1909 [0.1867]	102.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 192407 (633.0 / 453.0) 44286	(10.01 , 1.57) (N/A , 0.00 , -0.2)	367.5 7815296.9	0.2302 67.0 67.0	0.2102 [0.1886]	111.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

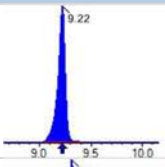
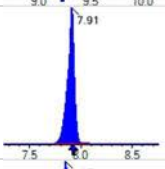
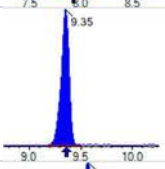
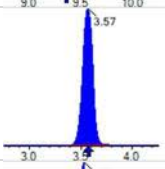
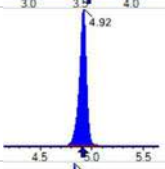
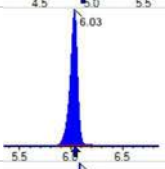
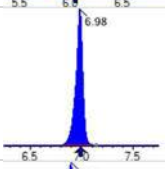
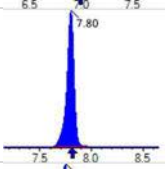
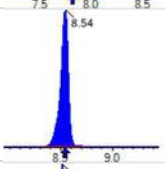
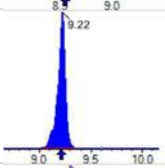
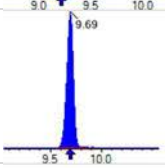
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3445 (241.0 / 117.0) 3764	(4.42 , 0.90) (N/A , 0.02 , 0.7)	120.8 20.8	1.0924 74.3 74.3	0.3897 [0.4000]	97.4%			
5:3FTCA	(341.0 / 236.7) 25064 (341.0 / 217.0) 33829	(6.70 , 1.11) (N/A , -0.01 , 0.2)	212.1 76.8	1.3497 80.8 80.8	0.3993 [0.4000]	99.8%			
7:3FTCA	(441.0 / 317.0) 34347 (441.0 / 337.0) 24460	(8.51 , 1.41) (N/A , -0.01 , 0.0)	121.1 156.6	0.7122 82.6 82.6	0.3636 [0.4000]	90.9%			
PFEESA	(315.0 / 135.0) 65800 (315.0 / 83.0) 18530	(6.48 , 1.07) (N/A , -0.01 , 0.2)	278.7 10.1	0.2816 92.1 92.1	0.1619 [0.1785]	90.7%			
PFMPA	(229.0 / 85.0) 17691	(4.09 , 0.83) (N/A , 0.01 , 0.0)	263.6	N/A 0.0 0.0	0.1921 [0.2000]	96.0%			
PFMBA	(279.0 / 85.0) 43877	(5.29 , 1.08) (N/A , 0.00 , 0.0)	340.7	N/A 0.0 0.0	0.1886 [0.2000]	94.3%			
NFDHA	(295.0 / 201.0) 29539 (295.0 / 85.0) 26212	(5.91 , 0.98) (N/A , -0.01 , -0.2)	273.7 146.5	0.8874 96.5 96.5	0.1722 [0.2000]	86.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 268330	(3.57 , N/A) (N/A , 0.00 , N/A)	503.6	N/A	1.0594 [1.0000]	105.9% { 103.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 385426	(6.03 , N/A) (N/A , -0.02 , N/A)	579.7	N/A	1.0427 [1.0000]	104.3% { 104.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 453387	(7.80 , N/A) (N/A , -0.01 , N/A)	475.1	N/A	1.0321 [1.0000]	103.2% { 97.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 408043	(8.54 , N/A) (N/A , 0.00 , N/A)	629.9	N/A	1.0062 [1.0000]	100.6% { 94.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

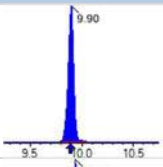
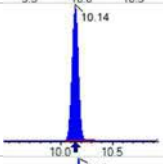
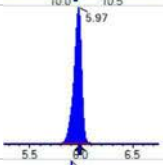
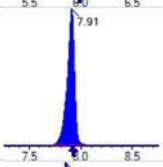
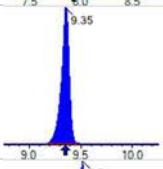
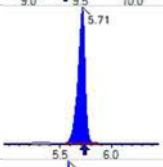
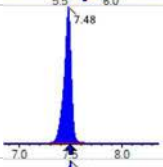
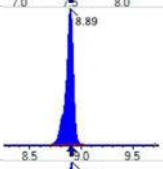
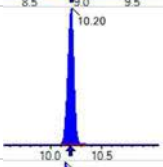
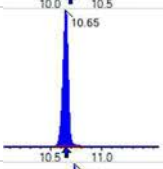
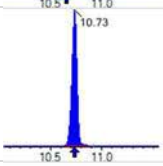
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 453069	(9.22 , N/A) (N/A , 0.01 , N/A)	394.3	N/A	1.0489 [1.0000]	104.9% { 106.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 734524	(7.91 , N/A) (N/A , 0.00 , N/A)	728.7	N/A	0.9943 [1.0000]	99.4% { 98.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 776273	(9.35 , N/A) (N/A , 0.00 , N/A)	401.6	N/A	1.0068 [1.0000]	100.7% { 94.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2183221	(3.57 , N/A) (N/A , 0.00 , N/A)	659.8	N/A	8.2817 [8.0000]	103.5% { 106.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1268192	(4.92 , N/A) (N/A , 0.01 , N/A)	592.9	N/A	4.0203 [4.0000]	100.5% { 103.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 837108	(6.03 , N/A) (N/A , -0.02 , N/A)	423.3	N/A	2.1255 [2.0000]	106.3% { 102.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 763114	(6.98 , N/A) (N/A , -0.01 , N/A)	584.4	N/A	2.0384 [2.0000]	101.9% { 106.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 973164	(7.80 , N/A) (N/A , -0.01 , N/A)	534.0	N/A	2.1067 [2.0000]	105.3% { 105.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 420570	(8.54 , N/A) (N/A , 0.00 , N/A)	505.6	N/A	1.0385 [1.0000]	103.8% { 102.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 499544	(9.22 , N/A) (N/A , 0.01 , N/A)	419.3	N/A	0.9785 [1.0000]	97.9% { 113.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 631353	(9.69 , N/A) (N/A , 0.00 , N/A)	369.9	N/A	1.0002 [1.0000]	100.0% { 97.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

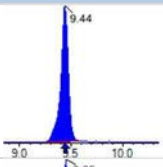
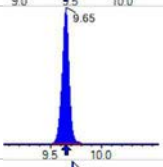
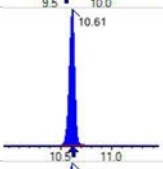
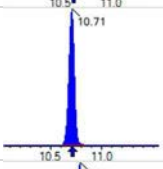
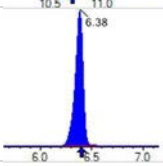
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 638826	(9.90 , N/A) (N/A , 0.00 , N/A)	416.4	N/A	1.0540 [1.0000]	105.4% { 103.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 473743	(10.14 , N/A) (N/A , 0.00 , N/A)	820.4	N/A	0.9765 [1.0000]	97.6% { 102.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2180901	(5.97 , N/A) (N/A , -0.01 , N/A)	651.9	N/A	2.2334 [2.0000]	111.7% { 110.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1307852	(7.91 , N/A) (N/A , 0.00 , N/A)	600.3	N/A	2.1372 [2.0000]	106.9% { 108.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2012752	(9.35 , N/A) (N/A , 0.00 , N/A)	552.8	N/A	2.1842 [2.0000]	109.2% { 105.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 874349	(5.71 , N/A) (N/A , -0.01 , N/A)	424.0	N/A	4.5872 [4.0000]	114.7% { 120.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1314442	(7.48 , N/A) (N/A , -0.01 , N/A)	529.2	N/A	4.6752 [4.0000]	116.9% { 114.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1185860	(8.89 , N/A) (N/A , 0.00 , N/A)	408.0	N/A	4.5016 [4.0000]	112.5% { 123.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2466757	(10.20 , N/A) (N/A , 0.00 , N/A)	901.8	N/A	2.0217 [2.0000]	101.1% { 98.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 419868	(10.65 , N/A) (N/A , 0.00 , N/A)	729.8	N/A	1.9165 [2.0000]	95.8% { 97.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 422310	(10.73 , N/A) (N/A , 0.00 , N/A)	774.3	N/A	2.0448 [2.0000]	102.2% { 96.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (1)
Acquired: 2023/01/09 - 15:03

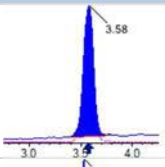
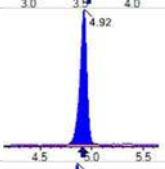
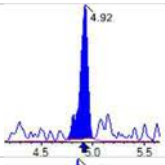
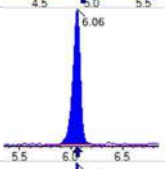
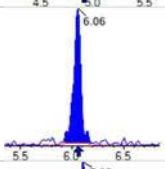
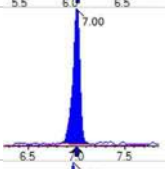
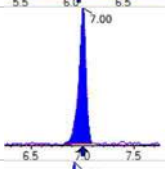
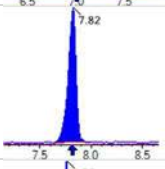
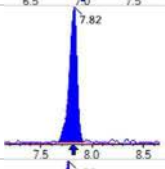
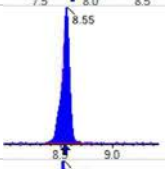
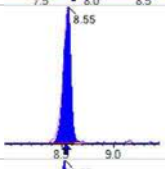
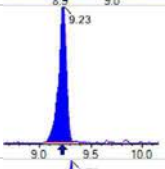
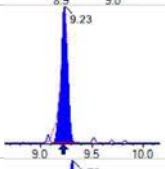
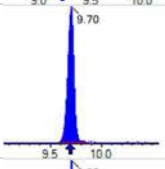
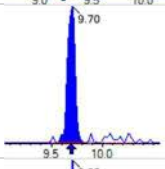
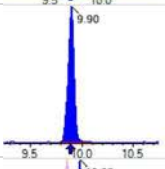
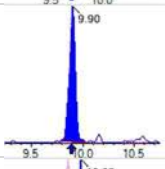
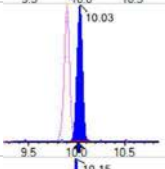
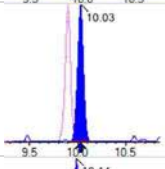
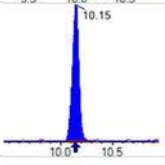
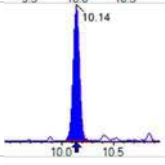
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1208317	(9.44 , N/A) (N/A , 0.01 , N/A)	315.4	N/A	4.1839 [4.0000]	104.6% { 103.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1119981	(9.65 , N/A) (N/A , 0.00 , N/A)	33.0	N/A	4.9323 [4.0000]	123.3% { 131.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 741073	(10.61 , N/A) (N/A , 0.00 , N/A)	1141.3	N/A	22.0450 [20.0000]	110.2% { 109.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 310111	(10.71 , N/A) (N/A , 0.00 , N/A)	759.4	N/A	20.0164 [20.0000]	100.1% { 95.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1654858	(6.38 , N/A) (N/A , -0.01 , N/A)	606.7	N/A	8.0070 [8.0000]	100.1% { 103.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

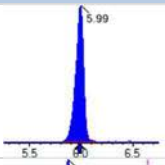
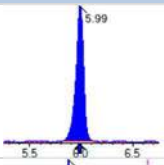
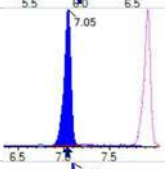
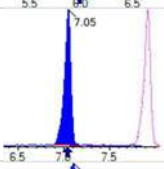
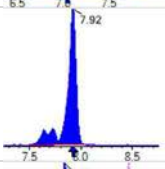
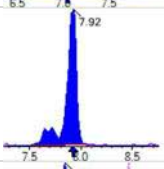
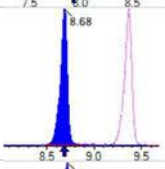
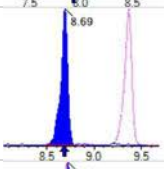
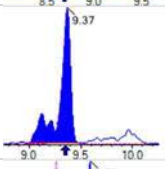
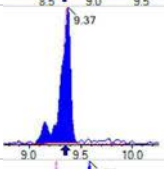
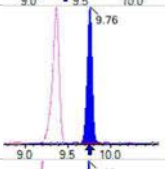
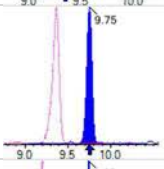
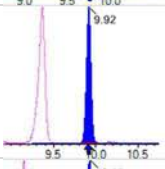
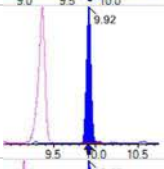
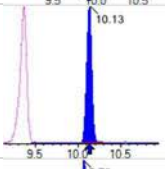
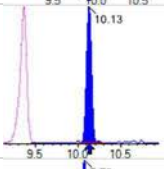
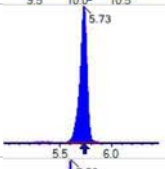
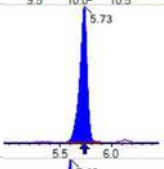
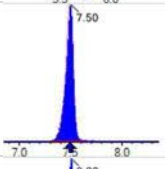
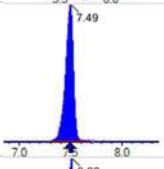
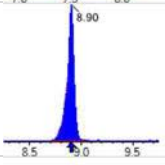
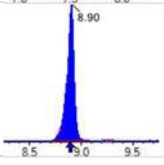
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 454938	(3.58 , 1.00) (0.00 , N/A , 0.0)	307.8	N/A 0.0 0.0	1.8603 [2.0000]	93.0%			
PFPeA	(263.0 / 219.0) 294869 (263.0 / 69.0) 3045	(4.92 , 1.00) (0.00 , N/A , 0.1)	392.5 34.2	0.0103 95.1 95.1	0.9646 [1.0000]	96.5%			
PFHxA	(313.0 / 269.0) 181548 (313.0 / 119.0) 15539	(6.06 , 1.00) (0.00 , N/A , 0.1)	238.4 75.3	0.0856 87.2 87.2	0.4688 [0.5000]	93.8%			
PFHpA	(363.0 / 319.0) 182802 (363.0 / 169.0) 52682	(7.00 , 1.00) (0.00 , N/A , 0.1)	220.4 189.5	0.2882 101.3 101.3	0.5165 [0.5000]	103.3%			
PFOA	(413.0 / 369.0) 240041 (413.0 / 169.0) 73829	(7.82 , 1.00) (0.00 , N/A , 0.0)	321.7 153.4	0.3076 96.3 96.3	0.5130 [0.5000]	102.6%			
PFNA	(463.0 / 419.0) 184974 (463.0 / 169.0) 42826	(8.55 , 1.00) (0.00 , N/A , 0.0)	277.8 270.8	0.2315 103.2 103.2	0.4683 [0.5000]	93.7%			
PFDA	(513.0 / 469.0) 225617 (513.0 / 169.0) 26260	(9.23 , 1.00) (-0.01 , N/A , -0.2)	196.3 157.3	0.1164 106.0 106.0	0.4019 [0.5000]	80.4%			
PFUnA	(563.0 / 519.0) 274360 (563.0 / 169.0) 31245	(9.70 , 1.00) (0.00 , N/A , 0.3)	368.4 55.5	0.1139 108.9 108.9	0.5067 [0.5000]	101.3%			
PFDoA	(613.0 / 569.0) 249585 (613.0 / 169.0) 41395	(9.90 , 1.00) (0.00 , N/A , -0.3)	290.5 136.0	0.1659 128.9 128.9	0.4702 [0.5000]	94.0%			
PFTrDA	(663.0 / 619.0) 269001 (663.0 / 169.0) 46732	(10.03 , 1.01) (N/A , 0.01 , 0.1)	388.1 181.8	0.1737 86.1 86.1	0.5143 [0.5000]	102.9%			
PFTeDA	(713.0 / 669.0) 228474 (713.0 / 169.0) 46487	(10.15 , 1.00) (0.00 , N/A , 0.4)	422.8 132.6	0.2035 104.1 104.1	0.4910 [0.5000]	98.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

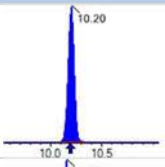
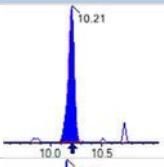
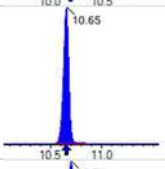
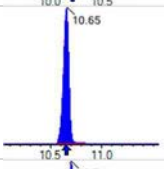
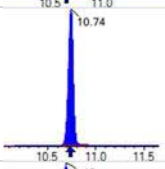
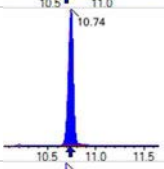
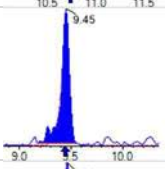
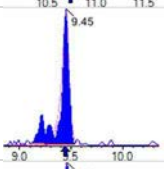
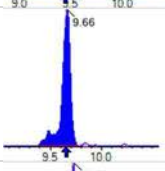
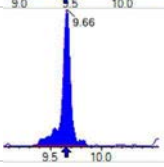
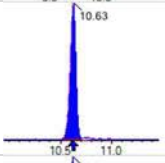
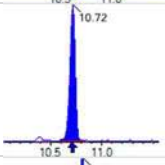
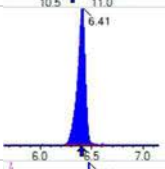
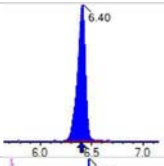
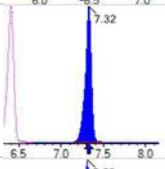
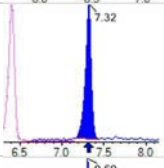
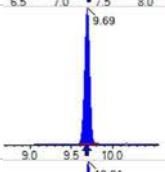
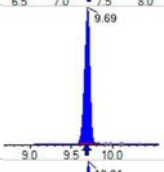
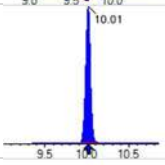
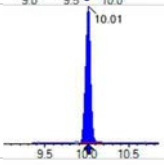
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 266463 (299.0 / 99.0) 180284	(5.99 , 1.00) (0.00 , N/A , 0.0)	369.1 344.0	0.6766 103.7 103.7	0.4053 [0.4424]	91.6%			
PFPeS	(349.0 / 80.0) 482715 (349.0 / 99.0) 163194	(7.05 , 0.89) (N/A , 0.01 , -0.1)	522.9 372.7	0.3381 91.5 91.5	0.4477 [0.4692]	95.4%			
PFHxS	(399.0 / 80.0) 439314 (399.0 / 99.0) 145992	(7.92 , 1.00) (0.00 , N/A , 0.1)	460.7 305.6	0.3323 100.7 100.7	0.4171 [0.4555]	91.6%			
PFHpS	(449.0 / 80.0) 415688 (449.0 / 99.0) 117524	(8.68 , 0.93) (N/A , 0.01 , -0.3)	362.0 282.4	0.2827 102.9 102.9	0.4480 [0.4757]	94.2%			
PFOS	(499.0 / 80.0) 524927 (499.0 / 99.0) 107006	(9.37 , 1.00) (0.00 , N/A , 0.0)	157.0 174.7	0.2038 89.7 89.7	0.4271 [0.4637]	92.1%			
PFNS	(549.0 / 80.0) 503372 (549.0 / 99.0) 120086	(9.76 , 1.04) (N/A , 0.01 , 0.3)	329.9 285.1	0.2386 102.4 102.4	0.4473 [0.4799]	93.2%			
PFDS	(599.0 / 80.0) 578443 (599.0 / 99.0) 142125	(9.92 , 1.06) (N/A , 0.01 , 0.0)	445.1 271.1	0.2457 107.6 107.6	0.4650 [0.4816]	96.6%			
PFDoS	(699.0 / 80.0) 238022 (699.0 / 99.0) 55980	(10.13 , 1.08) (N/A , 0.01 , 0.2)	471.3 197.2	0.2352 113.4 113.4	0.4505 [0.4848]	92.9%			
4:2FTS	(327.0 / 307.0) 1200866 (327.0 / 81.0) 696991	(5.73 , 1.00) (0.00 , N/A , 0.0)	776.5 375.1	0.5804 92.2 92.2	1.7851 [1.8691]	95.5%			
6:2FTS	(427.0 / 407.0) 829938 (427.0 / 81.0) 630204	(7.50 , 1.00) (0.00 , N/A , 0.2)	795.4 550.2	0.7593 99.1 99.1	1.8246 [1.8981]	96.1%			
8:2FTS	(527.0 / 507.0) 827532 (527.0 / 81.0) 557146	(8.90 , 1.00) (0.00 , N/A , 0.0)	427.3 413.3	0.6733 88.7 88.7	2.1114 [1.9166]	110.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

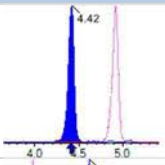
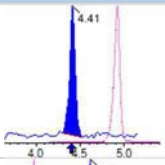
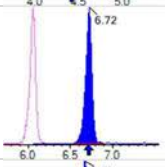
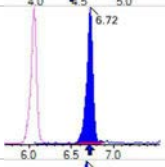
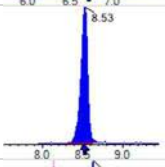
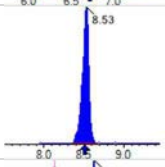
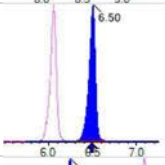
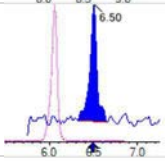
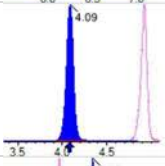
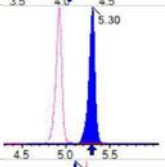
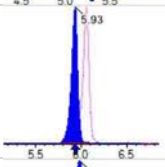
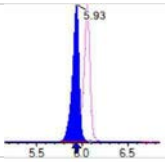
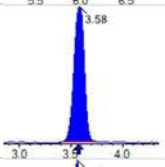
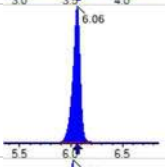
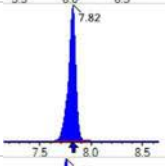
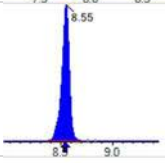
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 617858 (498.0 / 478.0) 13790	(10.20 , 1.00) (0.00 , N/A , -0.3)	809.7 125.7	0.0223 118.4 118.4	0.4404 [0.5000]	88.1%			
NMeFOSA	(512.0 / 219.0) 386262 (512.0 / 169.0) 273558	(10.65 , 1.00) (0.00 , N/A , 0.0)	750.2 800.8	0.7082 99.3 99.3	1.9527 [2.0000]	97.6%			
NEtFOSA	(526.0 / 219.0) 397674 (526.0 / 169.0) 413321	(10.74 , 1.00) (0.00 , N/A , 0.0)	1016.4 759.5	1.0393 98.3 98.3	1.9550 [2.0000]	97.8%			
NMeFOSAA	(570.0 / 419.0) 111640 (570.0 / 483.0) 50862	(9.45 , 1.00) (0.00 , N/A , 0.0)	112.0 95.7	0.4556 89.6 89.6	0.4148 [0.5000]	83.0%			
NEtFOSAA	(584.0 / 419.0) 108405 (584.0 / 526.0) 76156	(9.66 , 1.00) (0.00 , N/A , 0.1)	607.5 193.3	0.7025 113.0 113.0	0.4545 [0.5000]	90.9%			
NMeFOSE	(616.0 / 59.0) 84096	(10.63 , 1.00) (0.01 , N/A , 0.0)	329.9	N/A 0.0 0.0	1.9876 [2.0000]	99.4%			
NEtFOSE	(630.0 / 59.0) 15236	(10.72 , 1.00) (0.00 , N/A , 0.0)	306.1	N/A 0.0 0.0	1.6850 [2.0000]	84.2%			
HFPO-DA	(285.0 / 169.0) 112549 (285.0 / 185.0) 319431	(6.41 , 1.00) (0.00 , N/A , 0.0)	488.2 422.7	2.8381 105.8 105.8	0.8730 [1.0000]	87.3%			
ADONA	(377.0 / 85.0) 653540 (377.0 / 251.0) 71405	(7.32 , 1.14) (N/A , 0.01 , 0.3)	670.2 187.5	0.1093 93.9 93.9	0.9698 [0.9427]	102.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 1748582 (533.0 / 353.0) 547819	(9.69 , 1.51) (N/A , 0.01 , -0.2)	521.8 271.2	0.3133 100.9 100.9	0.9064 [0.9333]	97.1%			
11Cl-PF3OUDS	(631.0 / 451.0) 820373 (633.0 / 453.0) 248932	(10.01 , 1.56) (N/A , 0.01 , -0.1)	748.7 432.5	0.3034 88.4 88.4	0.9119 [0.9432]	96.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

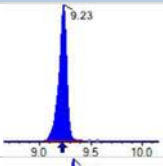
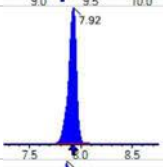
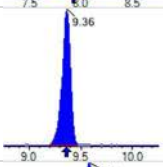
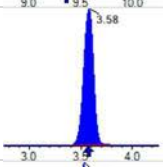
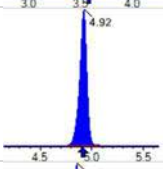
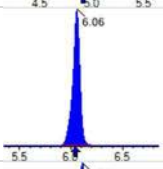
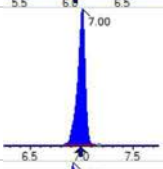
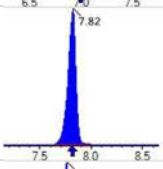
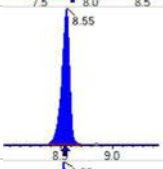
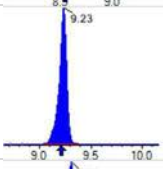
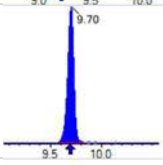
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 16141 (241.0 / 117.0) 25421	(4.42 , 0.90) (N/A , 0.01 , 0.1)	268.7 118.7	1.5749 107.1 107.1	1.8397 [2.0000]	92.0%			
5:3FTCA	(341.0 / 236.7) 104619 (341.0 / 217.0) 161569	(6.72 , 1.11) (N/A , 0.01 , -0.1)	329.8 219.7	1.5444 92.5 92.5	1.7754 [2.0000]	88.8%			
7:3FTCA	(441.0 / 317.0) 165326 (441.0 / 337.0) 128252	(8.53 , 1.41) (N/A , 0.01 , -0.1)	252.3 414.1	0.7757 90.0 90.0	1.8643 [2.0000]	93.2%			
PFEESA	(315.0 / 135.0) 317181 (315.0 / 83.0) 113717	(6.50 , 1.07) (N/A , 0.01 , 0.0)	527.0 60.4	0.3585 117.3 117.3	0.8314 [0.8925]	93.2%			
PFMPA	(229.0 / 85.0) 82793	(4.09 , 0.83) (N/A , 0.01 , 0.0)	638.0	N/A 0.0 0.0	0.9058 [1.0000]	90.6%			
PFMBA	(279.0 / 85.0) 211291	(5.30 , 1.08) (N/A , 0.01 , 0.0)	624.4	N/A 0.0 0.0	0.9151 [1.0000]	91.5%			
NFDHA	(295.0 / 201.0) 136156 (295.0 / 85.0) 142708	(5.93 , 0.98) (N/A , 0.01 , -0.3)	482.7 441.0	1.0481 114.0 114.0	0.8454 [1.0000]	84.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 267944	(3.58 , N/A) (N/A , 0.01 , N/A)	402.8	N/A	1.0578 [1.0000]	105.8% { 103.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 381216	(6.06 , N/A) (N/A , 0.01 , N/A)	476.1	N/A	1.0313 [1.0000]	103.1% { 103.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 438308	(7.82 , N/A) (N/A , 0.01 , N/A)	579.1	N/A	0.9978 [1.0000]	99.8% { 93.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 404036	(8.55 , N/A) (N/A , 0.01 , N/A)	519.1	N/A	0.9963 [1.0000]	99.6% { 93.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

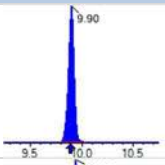
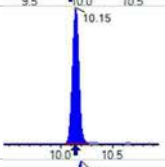
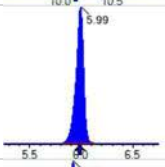
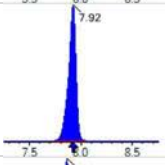
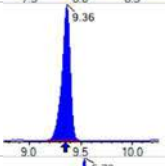
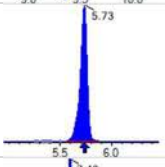
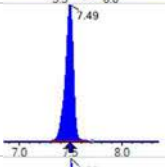
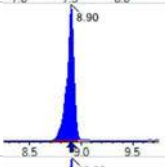
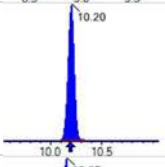
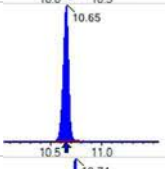
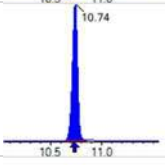
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 410913	(9.23 , N/A) (N/A , 0.02 , N/A)	414.1	N/A	0.9513 [1.0000]	95.1% { 96.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 713999	(7.92 , N/A) (N/A , 0.01 , N/A)	560.7	N/A	0.9665 [1.0000]	96.7% { 95.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 740328	(9.36 , N/A) (N/A , 0.01 , N/A)	333.2	N/A	0.9602 [1.0000]	96.0% { 90.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2138754	(3.58 , N/A) (N/A , 0.01 , N/A)	628.6	N/A	8.1247 [8.0000]	101.6% { 104.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1258629	(4.92 , N/A) (N/A , 0.01 , N/A)	603.9	N/A	4.0340 [4.0000]	100.9% { 102.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 785869	(6.06 , N/A) (N/A , 0.01 , N/A)	529.6	N/A	2.0174 [2.0000]	100.9% { 96.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 701047	(7.00 , N/A) (N/A , 0.01 , N/A)	419.0	N/A	1.8933 [2.0000]	94.7% { 97.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 898198	(7.82 , N/A) (N/A , 0.01 , N/A)	416.9	N/A	2.0113 [2.0000]	100.6% { 97.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 411436	(8.55 , N/A) (N/A , 0.01 , N/A)	583.5	N/A	1.0260 [1.0000]	102.6% { 99.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 547503	(9.23 , N/A) (N/A , 0.02 , N/A)	424.8	N/A	1.1825 [1.0000]	118.2% { 124.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 595757	(9.70 , N/A) (N/A , 0.01 , N/A)	286.7	N/A	1.0407 [1.0000]	104.1% { 91.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

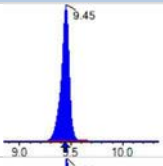
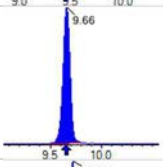
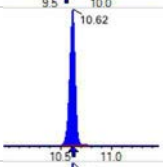
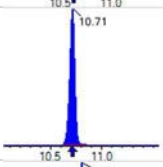
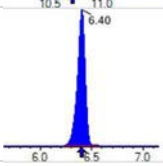
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 567004	(9.90 , N/A) (N/A , 0.01 , N/A)	573.7	N/A	1.0315 [1.0000]	103.2% { 91.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 488453	(10.15 , N/A) (N/A , 0.00 , N/A)	649.3	N/A	1.1101 [1.0000]	111.0% { 105.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2015704	(5.99 , N/A) (N/A , 0.01 , N/A)	524.3	N/A	2.1235 [2.0000]	106.2% { 101.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1260214	(7.92 , N/A) (N/A , 0.01 , N/A)	730.1	N/A	2.1185 [2.0000]	105.9% { 104.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1805885	(9.36 , N/A) (N/A , 0.01 , N/A)	356.2	N/A	2.0549 [2.0000]	102.7% { 94.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 837225	(5.73 , N/A) (N/A , 0.01 , N/A)	525.6	N/A	4.5187 [4.0000]	113.0% { 115.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1190891	(7.49 , N/A) (N/A , 0.01 , N/A)	541.3	N/A	4.3575 [4.0000]	108.9% { 103.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1074881	(8.90 , N/A) (N/A , 0.01 , N/A)	442.4	N/A	4.1976 [4.0000]	104.9% { 111.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2633619	(10.20 , N/A) (N/A , 0.00 , N/A)	801.8	N/A	2.2633 [2.0000]	113.2% { 104.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 417015	(10.65 , N/A) (N/A , 0.01 , N/A)	753.3	N/A	1.9959 [2.0000]	99.8% { 96.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 408405	(10.74 , N/A) (N/A , 0.01 , N/A)	684.4	N/A	2.0735 [2.0000]	103.7% { 93.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (2)
Acquired: 2023/01/09 - 15:16

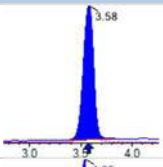
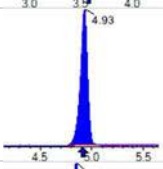
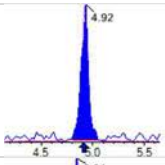
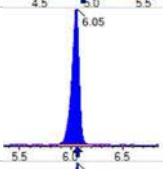
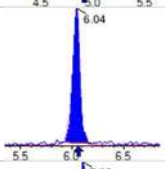
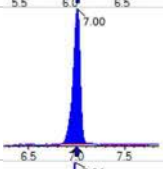
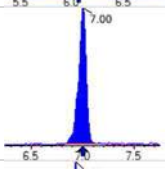
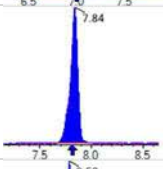
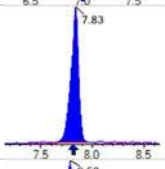
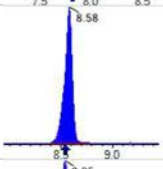
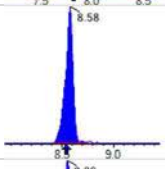
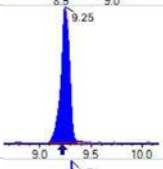
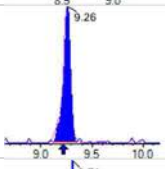
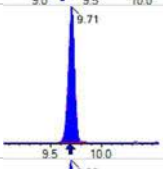
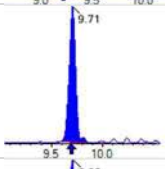
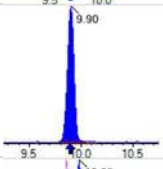
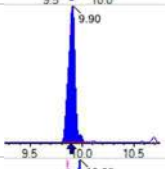
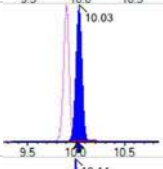
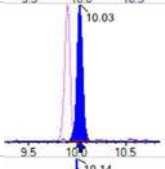
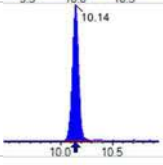
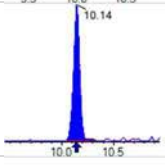
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1198243	(9.45 , N/A) (N/A , 0.02 , N/A)	389.2	N/A	4.3505 [4.0000]	108.8% { 102.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 997681	(9.66 , N/A) (N/A , 0.01 , N/A)	97.0	N/A	4.6070 [4.0000]	115.2% { 116.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 660274	(10.62 , N/A) (N/A , 0.00 , N/A)	1007.9	N/A	20.5951 [20.0000]	103.0% { 97.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 322529	(10.71 , N/A) (N/A , 0.01 , N/A)	703.3	N/A	21.8288 [20.0000]	109.1% { 99.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1626089	(6.40 , N/A) (N/A , 0.01 , N/A)	580.9	N/A	7.9547 [8.0000]	99.4% { 101.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

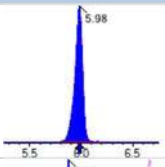
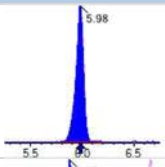
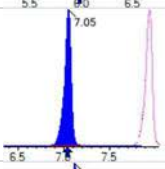
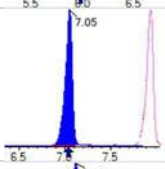
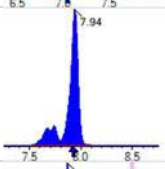
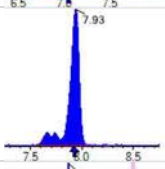
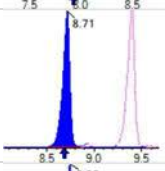
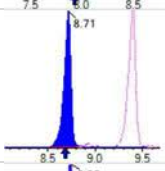
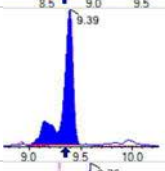
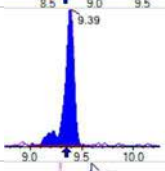
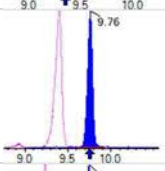
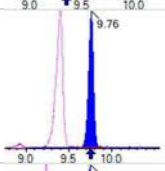
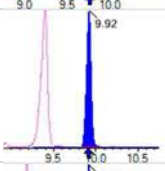
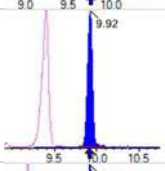
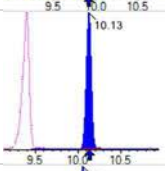
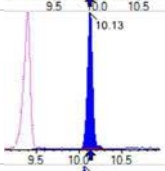
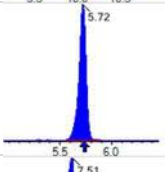
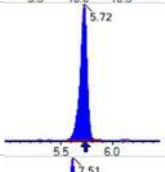
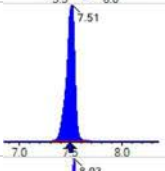
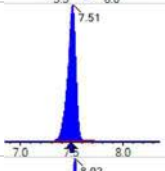
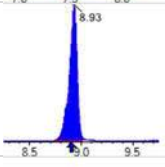
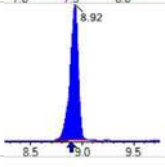
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 908616	(3.58 , 1.00) (0.00 , N/A , 0.0)	303.9	N/A 0.0 0.0	3.9353 [4.0000]	98.4%			
PFPeA	(263.0 / 219.0) 577960 (263.0 / 69.0) 6875	(4.93 , 1.00) (0.00 , N/A , 0.2)	515.1 77.5	0.0119 109.6 109.6	1.9745 [2.0000]	98.7%			
PFHxA	(313.0 / 269.0) 348762 (313.0 / 119.0) 30911	(6.05 , 1.00) (0.00 , N/A , 0.3)	338.1 137.7	0.0886 90.3 90.3	0.9626 [1.0000]	96.3%			
PFHpA	(363.0 / 319.0) 363851 (363.0 / 169.0) 103130	(7.00 , 1.00) (0.00 , N/A , 0.1)	304.2 265.4	0.2834 99.6 99.6	0.9759 [1.0000]	97.6%			
PFOA	(413.0 / 369.0) 455205 (413.0 / 169.0) 142202	(7.84 , 1.00) (0.00 , N/A , 0.2)	356.8 317.9	0.3124 97.8 97.8	0.9457 [1.0000]	94.6%			
PFNA	(463.0 / 419.0) 388371 (463.0 / 169.0) 80861	(8.58 , 1.00) (0.00 , N/A , 0.1)	475.3 350.5	0.2082 92.8 92.8	0.9741 [1.0000]	97.4%			
PFDA	(513.0 / 469.0) 512272 (513.0 / 169.0) 48039	(9.25 , 1.00) (0.00 , N/A , -0.5)	294.0 134.0	0.0938 85.4 85.4	0.9940 [1.0000]	99.4%			
PFUnA	(563.0 / 519.0) 548757 (563.0 / 169.0) 59470	(9.71 , 1.00) (0.00 , N/A , 0.1)	392.7 125.2	0.1084 103.6 103.6	0.9023 [1.0000]	90.2%			
PFDoA	(613.0 / 569.0) 494064 (613.0 / 169.0) 69248	(9.90 , 1.00) (0.00 , N/A , -0.2)	349.8 199.2	0.1402 108.9 108.9	0.9147 [1.0000]	91.5%			
PFTrDA	(663.0 / 619.0) 555074 (663.0 / 169.0) 110816	(10.03 , 1.01) (N/A , 0.01 , 0.2)	609.5 211.0	0.1996 99.0 99.0	1.0429 [1.0000]	104.3%			
PFTeDA	(713.0 / 669.0) 456888 (713.0 / 169.0) 82131	(10.14 , 1.00) (0.00 , N/A , -0.1)	503.5 148.4	0.1798 92.0 92.0	1.0471 [1.0000]	104.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

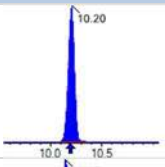
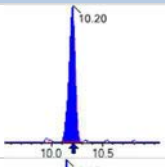
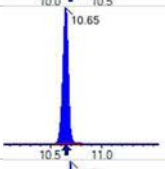
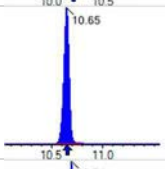
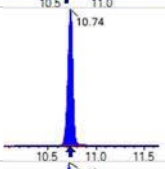
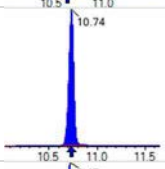
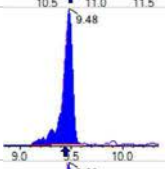
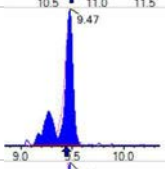
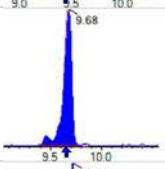
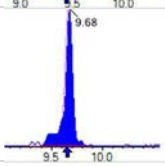
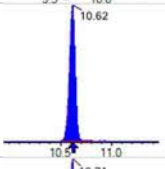
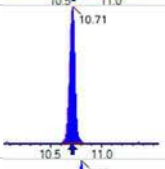
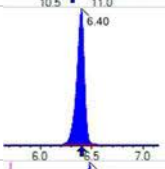
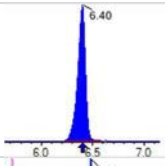
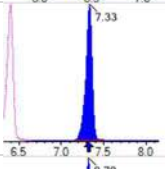
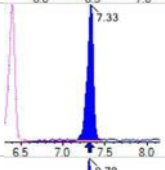
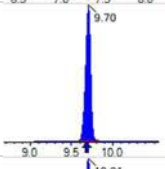
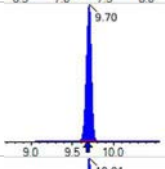
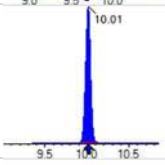
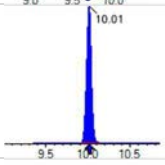
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 561239 (299.0 / 99.0) 359503	(5.98 , 1.00) (0.00 , N/A , 0.0)	485.9 376.4	0.6406 98.2 98.2	0.9006 [0.8847]	101.8%			
PFPeS	(349.0 / 80.0) 930216 (349.0 / 99.0) 355048	(7.05 , 0.89) (N/A , 0.01 , 0.0)	568.6 464.7	0.3817 103.3 103.3	0.8819 [0.9384]	94.0%			
PFHxS	(399.0 / 80.0) 919045 (399.0 / 99.0) 298355	(7.94 , 1.00) (0.00 , N/A , 0.2)	696.6 507.4	0.3246 98.4 98.4	0.8919 [0.9110]	97.9%			
PFHpS	(449.0 / 80.0) 898310 (449.0 / 99.0) 247914	(8.71 , 0.93) (N/A , 0.03 , -0.2)	489.0 354.1	0.2760 100.4 100.4	0.9967 [0.9514]	104.8%			
PFOS	(499.0 / 80.0) 1069836 (499.0 / 99.0) 221593	(9.39 , 1.00) (-0.01 , N/A , 0.1)	266.2 335.7	0.2071 91.2 91.2	0.9526 [0.9275]	102.7%			
PFNS	(549.0 / 80.0) 1153067 (549.0 / 99.0) 296108	(9.76 , 1.04) (N/A , 0.01 , 0.0)	467.5 499.2	0.2568 110.3 110.3	1.0548 [0.9599]	109.9%			
PFDS	(599.0 / 80.0) 1288314 (599.0 / 99.0) 275733	(9.92 , 1.06) (N/A , 0.01 , -0.1)	631.2 430.6	0.2140 93.7 93.7	1.0663 [0.9631]	110.7%			
PFDoS	(699.0 / 80.0) 532473 (699.0 / 99.0) 117655	(10.13 , 1.08) (N/A , 0.00 , -0.1)	613.8 286.5	0.2210 106.6 106.6	1.0375 [0.9696]	107.0%			
4:2FTS	(327.0 / 307.0) 2530590 (327.0 / 81.0) 1521518	(5.72 , 1.00) (0.00 , N/A , -0.1)	599.8 514.1	0.6013 95.5 95.5	3.7876 [3.7381]	101.3%			
6:2FTS	(427.0 / 407.0) 1664581 (427.0 / 81.0) 1215337	(7.51 , 1.00) (0.00 , N/A , -0.1)	680.4 549.0	0.7301 95.3 95.3	3.7368 [3.7962]	98.4%			
8:2FTS	(527.0 / 507.0) 1392138 (527.0 / 81.0) 1016965	(8.93 , 1.00) (0.00 , N/A , 0.2)	446.6 410.5	0.7305 96.3 96.3	3.6117 [3.8332]	94.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

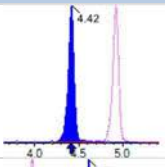
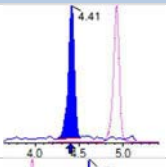
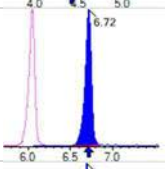
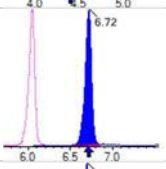
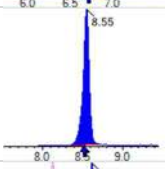
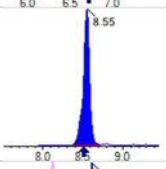
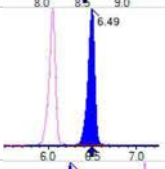
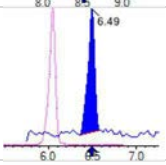
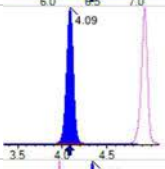
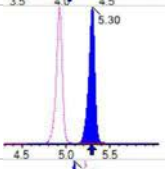
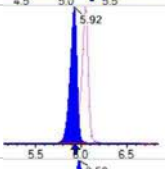
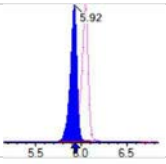
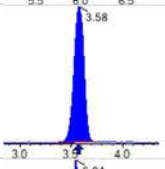
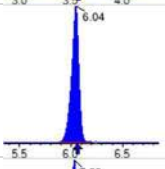
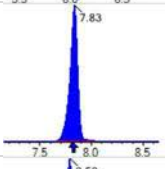
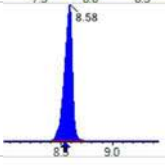
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1345149 (498.0 / 478.0) 28483	(10.20 , 1.00) (0.00 , N/A , 0.1)	900.5 204.6	0.0212 112.3 112.3	1.0124 [1.0000]	101.2%			
NMeFOSA	(512.0 / 219.0) 853826 (512.0 / 169.0) 585402	(10.65 , 1.00) (0.00 , N/A , 0.0)	647.0 859.5	0.6856 96.1 96.1	4.1623 [4.0000]	104.1%			
NEtFOSA	(526.0 / 219.0) 842917 (526.0 / 169.0) 918914	(10.74 , 1.00) (0.00 , N/A , 0.0)	1108.2 1097.8	1.0902 103.1 103.1	3.9920 [4.0000]	99.8%			
NMeFOSAA	(570.0 / 419.0) 278219 (570.0 / 483.0) 115683	(9.48 , 1.00) (0.01 , N/A , 0.2)	207.4 333.4	0.4158 81.8 81.8	1.0720 [1.0000]	107.2%			
NEtFOSAA	(584.0 / 419.0) 227342 (584.0 / 526.0) 154057	(9.68 , 1.00) (0.01 , N/A , 0.0)	356.0 298.9	0.6776 109.0 109.0	0.9452 [1.0000]	94.5%			
NMeFOSE	(616.0 / 59.0) 170864	(10.62 , 1.00) (0.00 , N/A , 0.0)	393.7	N/A 0.0 0.0	3.8812 [4.0000]	97.0%			
NEtFOSE	(630.0 / 59.0) 32417	(10.71 , 1.00) (0.01 , N/A , 0.0)	563.0	N/A 0.0 0.0	3.6396 [4.0000]	91.0%			
HFPO-DA	(285.0 / 169.0) 266094 (285.0 / 185.0) 676144	(6.40 , 1.00) (0.00 , N/A , -0.1)	501.9 527.0	2.5410 94.7 94.7	2.1718 [2.0000]	108.6%			
ADONA	(377.0 / 85.0) 1229115 (377.0 / 251.0) 149376	(7.33 , 1.15) (N/A , 0.02 , 0.0)	638.7 264.6	0.1215 104.4 104.4	1.9192 [1.8854]	101.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 3335905 (533.0 / 353.0) 1048337	(9.70 , 1.52) (N/A , 0.02 , 0.2)	505.9 558.3	0.3143 101.2 101.2	1.8077 [1.8665]	96.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 1657511 (633.0 / 453.0) 607351	(10.01 , 1.57) (N/A , 0.01 , 0.1)	721.9 479.8	0.3664 106.7 106.7	1.9388 [1.8864]	102.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

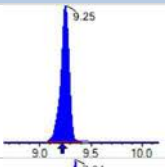
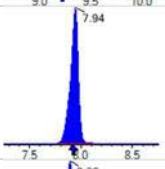
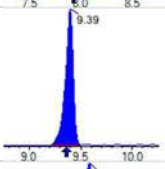
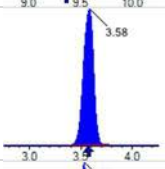
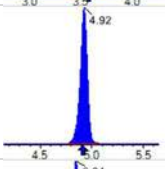
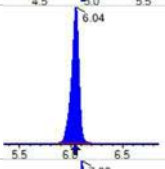
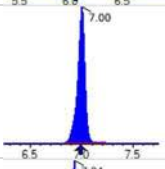
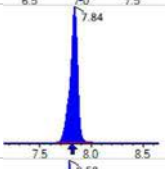
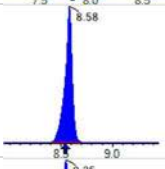
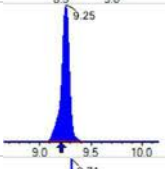
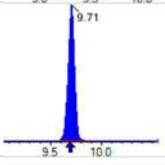
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 29889 (241.0 / 117.0) 51313	(4.42 , 0.90) (N/A , 0.01 , 0.1)	332.4 171.4	1.7168 116.7 116.7	3.5576 [4.0000]	88.9%			
5:3FTCA	(341.0 / 236.7) 220233 (341.0 / 217.0) 355542	(6.72 , 1.11) (N/A , 0.01 , 0.0)	434.6 336.6	1.6144 96.7 96.7	3.9944 [4.0000]	99.9%			
7:3FTCA	(441.0 / 317.0) 333758 (441.0 / 337.0) 289169	(8.55 , 1.41) (N/A , 0.03 , 0.1)	344.1 326.5	0.8664 100.5 100.5	4.0222 [4.0000]	100.6%			
PFEESA	(315.0 / 135.0) 662665 (315.0 / 83.0) 188290	(6.49 , 1.07) (N/A , 0.00 , -0.1)	519.6 107.3	0.2841 92.9 92.9	1.8563 [1.7849]	104.0%			
PFMPA	(229.0 / 85.0) 170523	(4.09 , 0.83) (N/A , 0.01 , 0.0)	894.2	N/A 0.0 0.0	1.9484 [2.0000]	97.4%			
PFMBA	(279.0 / 85.0) 434307	(5.30 , 1.08) (N/A , 0.01 , 0.0)	652.0	N/A 0.0 0.0	1.9644 [2.0000]	98.2%			
NFDHA	(295.0 / 201.0) 313907 (295.0 / 85.0) 299532	(5.92 , 0.98) (N/A , 0.00 , 0.0)	508.4 457.8	0.9542 103.8 103.8	2.0830 [2.0000]	104.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 251639	(3.58 , N/A) (N/A , 0.01 , N/A)	505.1	N/A	0.9935 [1.0000]	99.3% { 97.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 363755	(6.04 , N/A) (N/A , -0.01 , N/A)	440.7	N/A	0.9840 [1.0000]	98.4% { 98.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 424921	(7.83 , N/A) (N/A , 0.02 , N/A)	479.8	N/A	0.9673 [1.0000]	96.7% { 90.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 413773	(8.58 , N/A) (N/A , 0.04 , N/A)	497.6	N/A	1.0203 [1.0000]	102.0% { 95.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

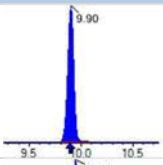
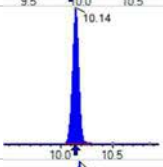
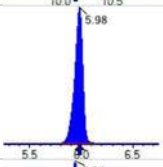
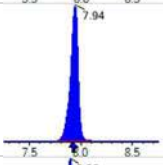
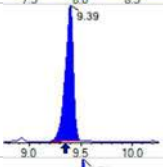
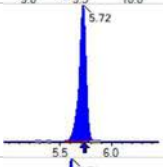
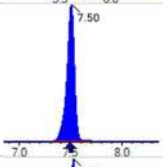
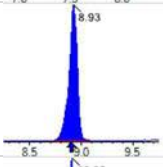
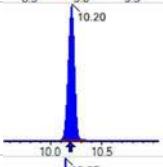
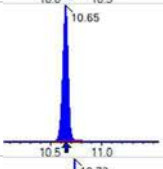
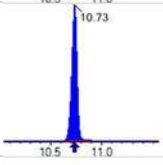
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 436761	(9.25 , N/A) (N/A , 0.04 , N/A)	369.7	N/A	1.0112 [1.0000]	101.1% { 102.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 732317	(7.94 , N/A) (N/A , 0.03 , N/A)	640.2	N/A	0.9913 [1.0000]	99.1% { 98.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 825866	(9.39 , N/A) (N/A , 0.04 , N/A)	360.3	N/A	1.0711 [1.0000]	107.1% { 101.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2019297	(3.58 , N/A) (N/A , 0.01 , N/A)	567.2	N/A	8.1679 [8.0000]	102.1% { 98.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1205200	(4.92 , N/A) (N/A , 0.01 , N/A)	553.1	N/A	4.0482 [4.0000]	101.2% { 98.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 735329	(6.04 , N/A) (N/A , 0.00 , N/A)	522.8	N/A	1.9783 [2.0000]	98.9% { 90.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 738483	(7.00 , N/A) (N/A , 0.01 , N/A)	499.2	N/A	2.0901 [2.0000]	104.5% { 102.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 923940	(7.84 , N/A) (N/A , 0.03 , N/A)	510.2	N/A	2.1341 [2.0000]	106.7% { 100.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 415267	(8.58 , N/A) (N/A , 0.04 , N/A)	730.8	N/A	1.0112 [1.0000]	101.1% { 100.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 502659	(9.25 , N/A) (N/A , 0.05 , N/A)	540.6	N/A	1.0214 [1.0000]	102.1% { 114.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 669137	(9.71 , N/A) (N/A , 0.02 , N/A)	421.0	N/A	1.0997 [1.0000]	110.0% { 103.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

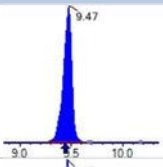
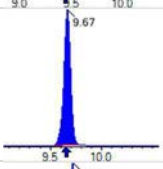
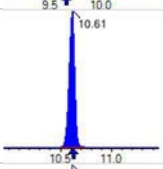
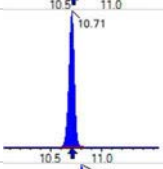
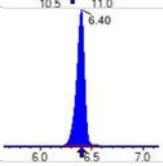
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 576947	(9.90 , N/A) (N/A , 0.01 , N/A)	473.0	N/A	0.9875 [1.0000]	98.7% { 93.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 458038	(10.14 , N/A) (N/A , 0.00 , N/A)	692.4	N/A	0.9794 [1.0000]	97.9% { 99.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1910548	(5.98 , N/A) (N/A , 0.00 , N/A)	541.7	N/A	1.9624 [2.0000]	98.1% { 96.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1233006	(7.94 , N/A) (N/A , 0.03 , N/A)	533.2	N/A	2.0209 [2.0000]	101.0% { 102.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1754066	(9.39 , N/A) (N/A , 0.04 , N/A)	286.4	N/A	1.7892 [2.0000]	89.5% { 92.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 831498	(5.72 , N/A) (N/A , 0.00 , N/A)	461.8	N/A	4.3756 [4.0000]	109.4% { 115.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1166262	(7.50 , N/A) (N/A , 0.02 , N/A)	569.1	N/A	4.1607 [4.0000]	104.0% { 101.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1057116	(8.93 , N/A) (N/A , 0.04 , N/A)	418.1	N/A	4.0250 [4.0000]	100.6% { 110.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2494313	(10.20 , N/A) (N/A , 0.01 , N/A)	838.6	N/A	1.9216 [2.0000]	96.1% { 99.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 432450	(10.65 , N/A) (N/A , 0.00 , N/A)	723.0	N/A	1.8554 [2.0000]	92.8% { 100.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 423942	(10.73 , N/A) (N/A , 0.00 , N/A)	828.9	N/A	1.9294 [2.0000]	96.5% { 97.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (3)
Acquired: 2023/01/09 - 15:29

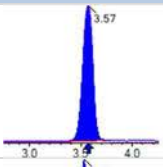
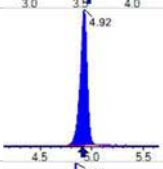
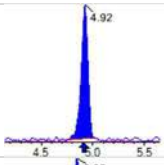
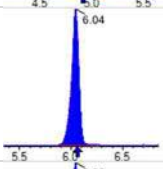
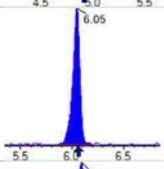
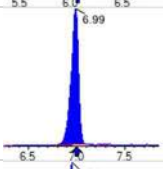
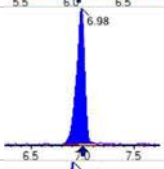
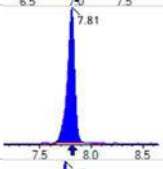
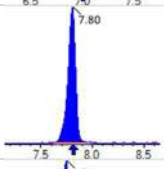
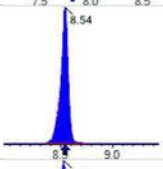
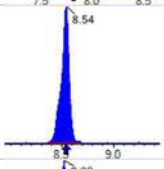
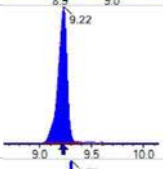
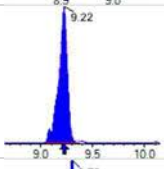
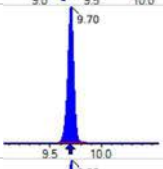
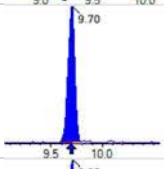
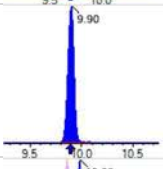
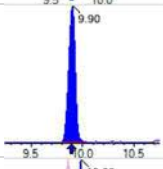
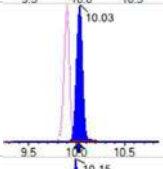
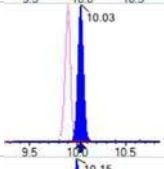
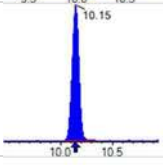
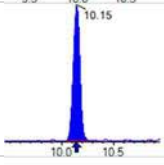
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1155571	(9.47 , N/A) (N/A , 0.04 , N/A)	355.7	N/A	3.7610 [4.0000]	94.0% { 98.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1006013	(9.67 , N/A) (N/A , 0.02 , N/A)	88.8	N/A	4.1643 [4.0000]	104.1% { 117.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 687012	(10.61 , N/A) (N/A , 0.00 , N/A)	858.9	N/A	19.2096 [20.0000]	96.0% { 101.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 317697	(10.71 , N/A) (N/A , 0.00 , N/A)	891.1	N/A	19.2747 [20.0000]	96.4% { 98.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1545341	(6.40 , N/A) (N/A , 0.00 , N/A)	534.4	N/A	7.9226 [8.0000]	99.0% { 96.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

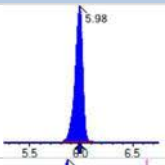
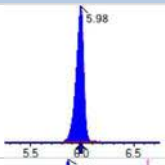
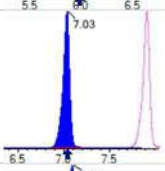
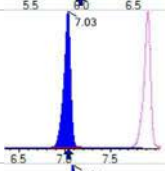
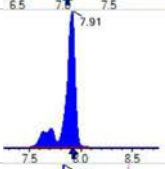
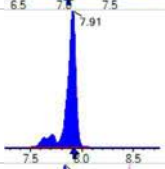
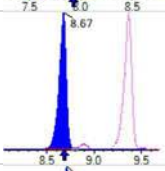
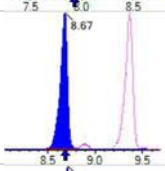
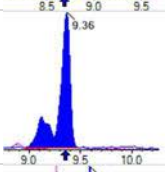
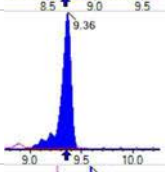
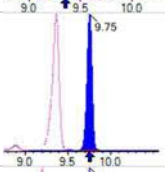
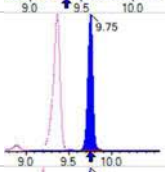
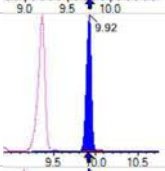
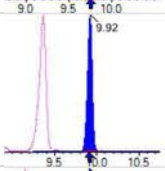
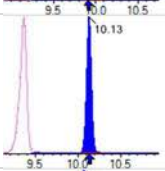
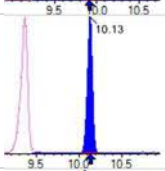
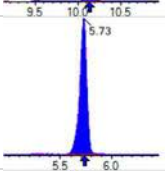
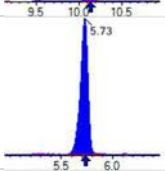
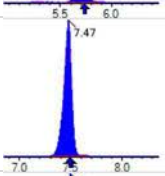
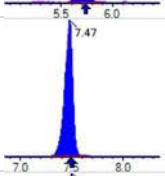
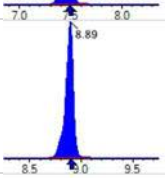
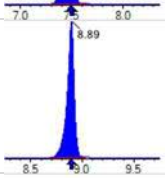
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1911524	(3.57 , 1.00) (0.00 , N/A , 0.0)	423.7	N/A 0.0 0.0	8.0770 [8.0000]	101.0%			
PFPeA	(263.0 / 219.0) 1217823 (263.0 / 69.0) 11889	(4.92 , 1.00) (0.00 , N/A , 0.1)	528.5 134.7	0.0098 89.9 89.9	3.9766 [4.0000]	99.4%			
PFHxA	(313.0 / 269.0) 763611 (313.0 / 119.0) 71646	(6.04 , 1.00) (0.00 , N/A , -0.2)	405.0 232.0	0.0938 95.6 95.6	2.0713 [2.0000]	103.6%			
PFHpA	(363.0 / 319.0) 761692 (363.0 / 169.0) 196075	(6.99 , 1.00) (0.00 , N/A , 0.1)	428.9 279.5	0.2574 90.5 90.5	2.0051 [2.0000]	100.3%			
PFOA	(413.0 / 369.0) 986504 (413.0 / 169.0) 297571	(7.81 , 1.00) (0.00 , N/A , 0.3)	438.0 361.0	0.3016 94.5 94.5	2.0657 [2.0000]	103.3%			
PFNA	(463.0 / 419.0) 807628 (463.0 / 169.0) 169923	(8.54 , 1.00) (0.00 , N/A , 0.0)	520.8 326.4	0.2104 93.8 93.8	2.0416 [2.0000]	102.1%			
PFDA	(513.0 / 469.0) 987517 (513.0 / 169.0) 95441	(9.22 , 1.00) (0.01 , N/A , 0.2)	359.8 245.8	0.0966 88.0 88.0	2.0356 [2.0000]	101.8%			
PFUnA	(563.0 / 519.0) 1264324 (563.0 / 169.0) 118650	(9.70 , 1.00) (0.00 , N/A , 0.2)	522.1 250.6	0.0938 89.7 89.7	1.9384 [2.0000]	96.9%			
PFDoA	(613.0 / 569.0) 1258321 (613.0 / 169.0) 128689	(9.90 , 1.00) (0.00 , N/A , 0.0)	564.1 252.7	0.1023 79.5 79.5	2.3269 [2.0000]	116.3%			
PFTrDA	(663.0 / 619.0) 1104209 (663.0 / 169.0) 221284	(10.03 , 1.01) (N/A , 0.01 , 0.0)	701.3 386.0	0.2004 99.4 99.4	2.0721 [2.0000]	103.6%			
PFTeDA	(713.0 / 669.0) 890067 (713.0 / 169.0) 165900	(10.15 , 1.00) (0.00 , N/A , -0.1)	667.0 289.7	0.1864 95.3 95.3	1.9567 [2.0000]	97.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

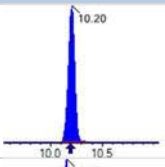
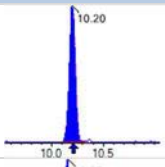
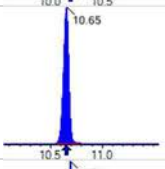
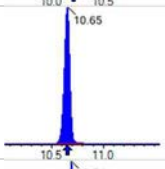
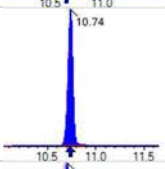
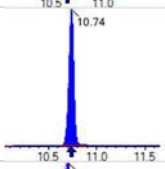
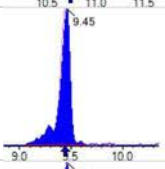
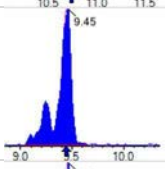
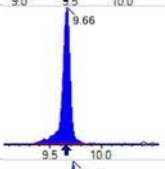
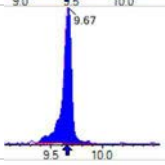
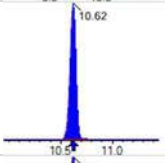
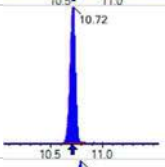
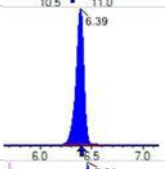
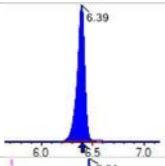
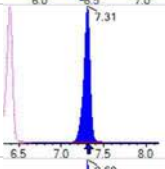
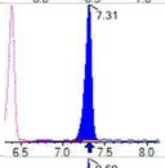
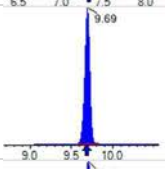
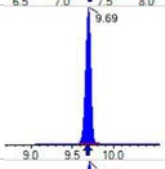
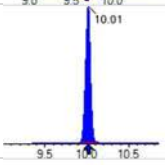
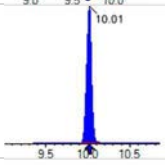
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1242866 (299.0 / 99.0) 757803	(5.98 , 1.00) (0.00 , N/A , 0.0)	572.4 502.1	0.6097 93.5 93.5	1.8274 [1.7695]	103.3%			
PFPeS	(349.0 / 80.0) 2063631 (349.0 / 99.0) 712713	(7.03 , 0.89) (N/A , -0.01 , 0.0)	557.5 544.2	0.3454 93.4 93.4	1.8891 [1.8768]	100.7%			
PFHxS	(399.0 / 80.0) 1971489 (399.0 / 99.0) 654593	(7.91 , 1.00) (0.00 , N/A , 0.1)	655.8 771.2	0.3320 100.6 100.6	1.8475 [1.8220]	101.4%			
PFHpS	(449.0 / 80.0) 1872197 (449.0 / 99.0) 538891	(8.67 , 0.93) (N/A , -0.01 , -0.2)	534.8 459.6	0.2878 104.7 104.7	1.9035 [1.9028]	100.0%			
PFOS	(499.0 / 80.0) 2074744 (499.0 / 99.0) 466255	(9.36 , 1.00) (0.00 , N/A , 0.0)	276.4 576.8	0.2247 98.9 98.9	1.7328 [1.8550]	93.4%			
PFNS	(549.0 / 80.0) 2477175 (549.0 / 99.0) 567970	(9.75 , 1.04) (N/A , 0.01 , 0.1)	704.7 650.0	0.2293 98.4 98.4	2.0765 [1.9198]	108.2%			
PFDS	(599.0 / 80.0) 2688276 (599.0 / 99.0) 637352	(9.92 , 1.06) (N/A , 0.01 , 0.0)	610.6 478.0	0.2371 103.8 103.8	2.0388 [1.9262]	105.8%			
PFDoS	(699.0 / 80.0) 1191018 (699.0 / 99.0) 242048	(10.13 , 1.08) (N/A , 0.00 , 0.0)	941.9 562.7	0.2032 98.0 98.0	2.1265 [1.9391]	109.7%			
4:2FTS	(327.0 / 307.0) 5337176 (327.0 / 81.0) 2912348	(5.73 , 1.00) (0.00 , N/A , 0.0)	687.5 550.0	0.5457 86.7 86.7	8.6127 [7.4762]	115.2%			
6:2FTS	(427.0 / 407.0) 3487816 (427.0 / 81.0) 2616625	(7.47 , 1.00) (0.00 , N/A , 0.0)	645.9 610.0	0.7502 97.9 97.9	7.8629 [7.5923]	103.6%			
8:2FTS	(527.0 / 507.0) 3324448 (527.0 / 81.0) 2528288	(8.89 , 1.00) (0.00 , N/A , -0.1)	403.6 495.2	0.7605 100.2 100.2	7.9939 [7.6663]	104.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

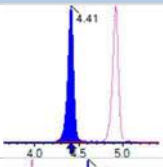
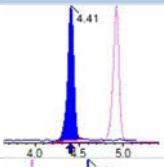
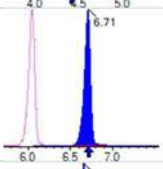
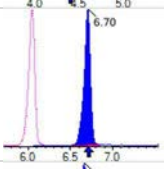
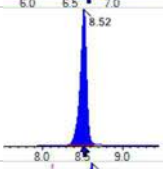
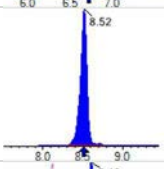
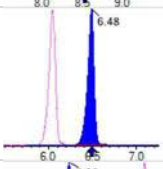
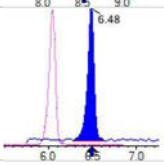
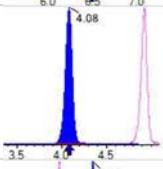
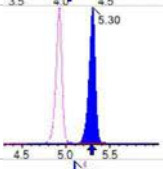
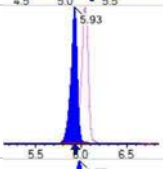
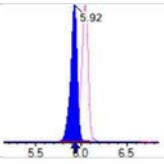
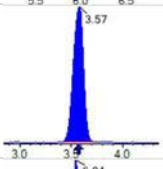
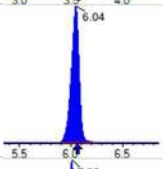
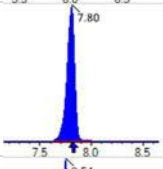
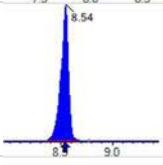
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2800740 (498.0 / 478.0) 69181	(10.20 , 1.00) (0.00 , N/A , 0.2)	975.5 357.2	0.0247 131.0 131.0	2.0679 [2.0000]	103.4%			
NMeFOSA	(512.0 / 219.0) 1791267 (512.0 / 169.0) 1227472	(10.65 , 1.00) (0.00 , N/A , 0.0)	905.6 727.2	0.6853 96.1 96.1	8.9176 [8.0000]	111.5%			
NEtFOSA	(526.0 / 219.0) 1739142 (526.0 / 169.0) 1869171	(10.74 , 1.00) (0.00 , N/A , 0.1)	1210.7 1215.2	1.0748 101.6 101.6	8.3636 [8.0000]	104.5%			
NMeFOSAA	(570.0 / 419.0) 518975 (570.0 / 483.0) 249456	(9.45 , 1.00) (0.01 , N/A , 0.4)	262.4 229.5	0.4807 94.5 94.5	2.0475 [2.0000]	102.4%			
NEtFOSAA	(584.0 / 419.0) 472522 (584.0 / 526.0) 284116	(9.66 , 1.00) (0.00 , N/A , -0.2)	551.2 238.9	0.6013 96.7 96.7	1.9335 [2.0000]	96.7%			
NMeFOSE	(616.0 / 59.0) 353463	(10.62 , 1.00) (0.01 , N/A , 0.0)	668.1	N/A 0.0 0.0	7.7816 [8.0000]	97.3%			
NEtFOSE	(630.0 / 59.0) 73494	(10.72 , 1.00) (0.01 , N/A , 0.0)	633.2	N/A 0.0 0.0	8.0121 [8.0000]	100.2%			
HFPO-DA	(285.0 / 169.0) 534614 (285.0 / 185.0) 1429738	(6.39 , 1.00) (0.00 , N/A , -0.1)	544.4 568.1	2.6743 99.7 99.7	4.1440 [4.0000]	103.6%			
ADONA	(377.0 / 85.0) 2634581 (377.0 / 251.0) 303333	(7.31 , 1.14) (N/A , -0.01 , -0.1)	645.3 428.9	0.1151 98.9 98.9	3.9069 [3.7708]	103.6%			
9Cl-Pf3ONS	(531.0 / 351.0) 7312562 (533.0 / 353.0) 2449095	(9.69 , 1.52) (N/A , 0.01 , 0.0)	607.9 574.2	0.3349 107.9 107.9	3.7763 [3.7330]	101.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 3695375 (633.0 / 453.0) 1232132	(10.01 , 1.57) (N/A , 0.01 , 0.0)	1424.2 591.3	0.3334 97.1 97.1	4.1050 [3.7728]	108.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

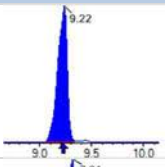
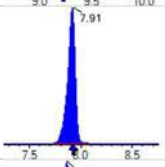
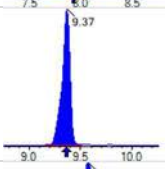
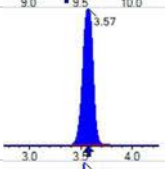
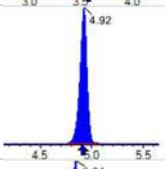
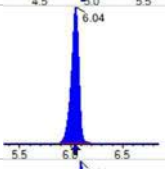
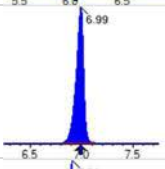
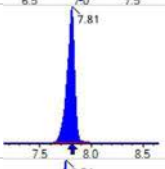
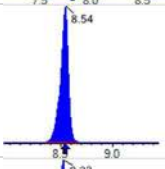
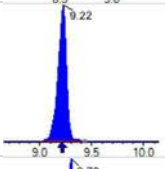
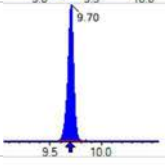
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 68729 (241.0 / 117.0) 104895	(4.41 , 0.90) (N/A , 0.00 , 0.2)	376.3 241.2	1.5262 103.8 103.8	7.8188 [8.0000]	97.7%			
5:3FTCA	(341.0 / 236.7) 468844 (341.0 / 217.0) 744103	(6.71 , 1.11) (N/A , -0.01 , 0.1)	439.3 483.9	1.5871 95.0 95.0	8.3572 [8.0000]	104.5%			
7:3FTCA	(441.0 / 317.0) 729470 (441.0 / 337.0) 595107	(8.52 , 1.41) (N/A , 0.00 , 0.1)	368.2 363.6	0.8158 94.6 94.6	8.6399 [8.0000]	108.0%			
PFEESA	(315.0 / 135.0) 1338162 (315.0 / 83.0) 442441	(6.48 , 1.07) (N/A , 0.00 , 0.1)	562.4 166.7	0.3306 108.2 108.2	3.6841 [3.5698]	103.2%			
PFMPA	(229.0 / 85.0) 364469	(4.08 , 0.83) (N/A , 0.00 , 0.0)	746.0	N/A 0.0 0.0	3.9802 [4.0000]	99.5%			
PFMBA	(279.0 / 85.0) 918146	(5.30 , 1.08) (N/A , 0.01 , 0.0)	656.0	N/A 0.0 0.0	3.9692 [4.0000]	99.2%			
NFDHA	(295.0 / 201.0) 651812 (295.0 / 85.0) 629071	(5.93 , 0.98) (N/A , 0.00 , 0.1)	593.9 433.8	0.9651 104.9 104.9	4.2509 [4.0000]	106.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 258381	(3.57 , N/A) (N/A , 0.00 , N/A)	476.4	N/A	1.0201 [1.0000]	102.0% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 356458	(6.04 , N/A) (N/A , -0.01 , N/A)	442.4	N/A	0.9643 [1.0000]	96.4% { 96.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 456002	(7.80 , N/A) (N/A , -0.01 , N/A)	429.8	N/A	1.0381 [1.0000]	103.8% { 97.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 422786	(8.54 , N/A) (N/A , 0.00 , N/A)	529.5	N/A	1.0425 [1.0000]	104.3% { 97.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

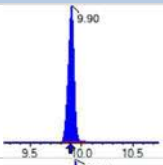
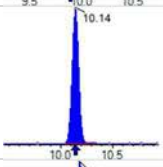
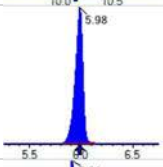
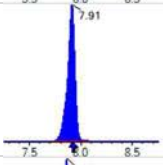
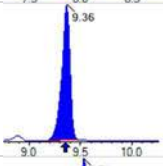
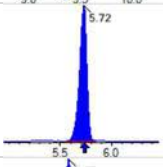
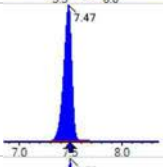
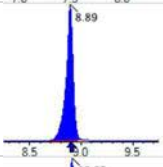
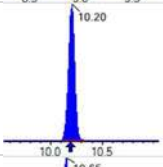
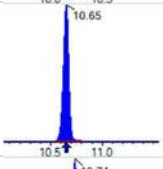
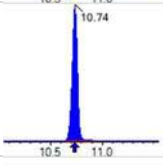
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 432254	(9.22 , N/A) (N/A , 0.01 , N/A)	295.4	N/A	1.0007 [1.0000]	100.1% { 101.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 775592	(7.91 , N/A) (N/A , 0.00 , N/A)	658.9	N/A	1.0499 [1.0000]	105.0% { 103.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 823368	(9.37 , N/A) (N/A , 0.01 , N/A)	396.2	N/A	1.0679 [1.0000]	106.8% { 100.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2069771	(3.57 , N/A) (N/A , 0.00 , N/A)	609.7	N/A	8.1536 [8.0000]	101.9% { 101.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1260966	(4.92 , N/A) (N/A , 0.01 , N/A)	563.9	N/A	4.3222 [4.0000]	108.1% { 102.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 748196	(6.04 , N/A) (N/A , 0.00 , N/A)	589.5	N/A	2.0541 [2.0000]	102.7% { 91.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 752411	(6.99 , N/A) (N/A , 0.00 , N/A)	486.3	N/A	2.1731 [2.0000]	108.7% { 104.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 916665	(7.81 , N/A) (N/A , 0.00 , N/A)	480.9	N/A	1.9730 [2.0000]	98.6% { 99.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 412034	(8.54 , N/A) (N/A , 0.00 , N/A)	562.4	N/A	0.9819 [1.0000]	98.2% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 473197	(9.22 , N/A) (N/A , 0.01 , N/A)	326.0	N/A	0.9715 [1.0000]	97.2% { 107.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 717654	(9.70 , N/A) (N/A , 0.01 , N/A)	391.6	N/A	1.1917 [1.0000]	119.2% { 110.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

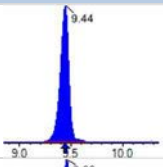
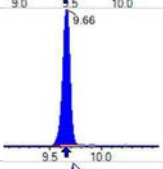
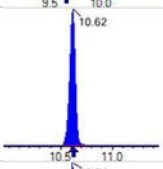
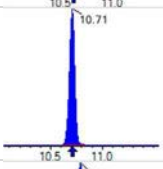
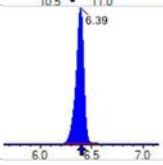
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 577648	(9.90 , N/A) (N/A , 0.01 , N/A)	600.4	N/A	0.9990 [1.0000]	99.9% { 93.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 477530	(10.14 , N/A) (N/A , 0.00 , N/A)	555.3	N/A	1.0317 [1.0000]	103.2% { 103.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2085124	(5.98 , N/A) (N/A , 0.00 , N/A)	563.1	N/A	2.0222 [2.0000]	101.1% { 105.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1276926	(7.91 , N/A) (N/A , 0.00 , N/A)	652.5	N/A	1.9761 [2.0000]	98.8% { 106.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1914252	(9.36 , N/A) (N/A , 0.01 , N/A)	215.2	N/A	1.9585 [2.0000]	97.9% { 100.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 771227	(5.72 , N/A) (N/A , 0.00 , N/A)	456.8	N/A	3.8319 [4.0000]	95.8% { 106.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1161329	(7.47 , N/A) (N/A , -0.01 , N/A)	516.0	N/A	3.9119 [4.0000]	97.8% { 100.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1140538	(8.89 , N/A) (N/A , 0.00 , N/A)	405.4	N/A	4.1003 [4.0000]	102.5% { 118.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2542481	(10.20 , N/A) (N/A , 0.01 , N/A)	1234.1	N/A	1.9646 [2.0000]	98.2% { 101.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 423463	(10.65 , N/A) (N/A , 0.00 , N/A)	715.0	N/A	1.8224 [2.0000]	91.1% { 98.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 417502	(10.74 , N/A) (N/A , 0.00 , N/A)	693.2	N/A	1.9059 [2.0000]	95.3% { 95.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (4)
Acquired: 2023/01/09 - 15:42

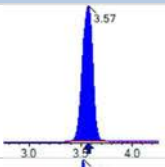
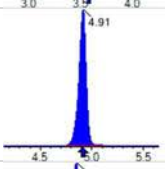
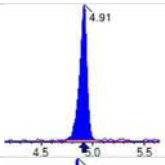
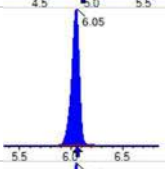
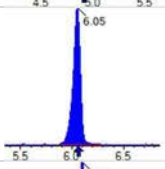
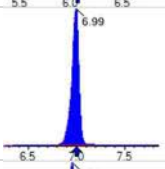
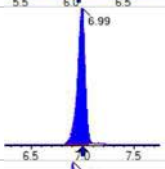
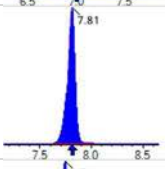
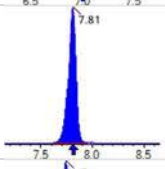
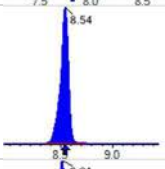
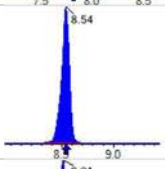
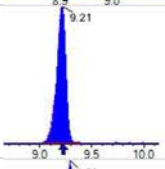
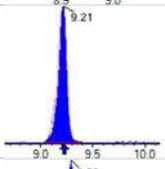
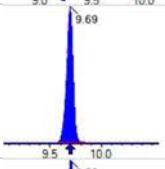
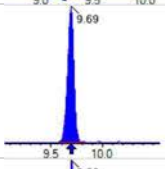
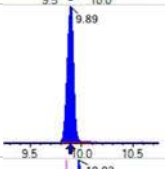
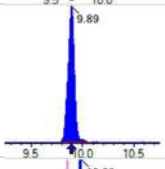
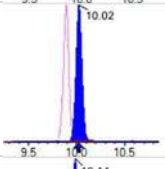
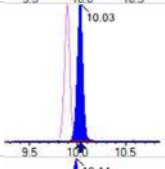
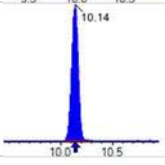
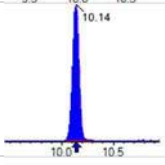
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1128587	(9.44 , N/A) (N/A , 0.01 , N/A)	283.1	N/A	3.6843 [4.0000]	92.1% { 96.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1022245	(9.66 , N/A) (N/A , 0.01 , N/A)	87.9	N/A	4.2444 [4.0000]	106.1% { 119.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 708849	(10.62 , N/A) (N/A , 0.00 , N/A)	688.6	N/A	19.8804 [20.0000]	99.4% { 104.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 327190	(10.71 , N/A) (N/A , 0.00 , N/A)	891.1	N/A	19.9108 [20.0000]	99.6% { 101.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1627178	(6.39 , N/A) (N/A , 0.00 , N/A)	614.9	N/A	8.5129 [8.0000]	106.4% { 101.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

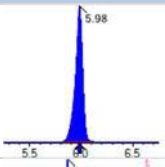
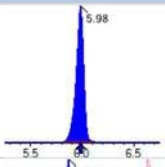
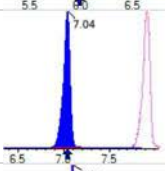
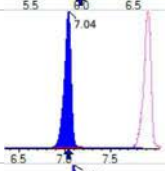
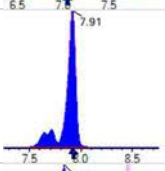
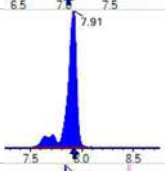
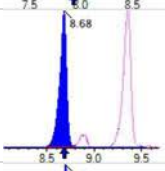
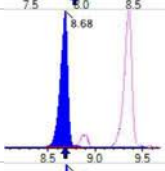
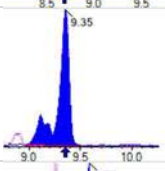
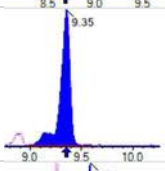
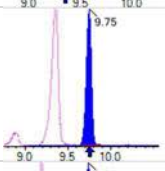
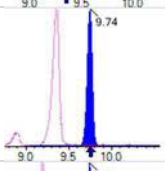
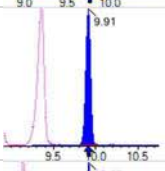
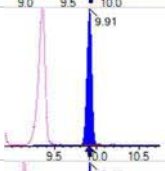
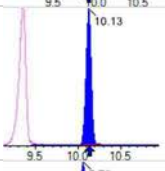
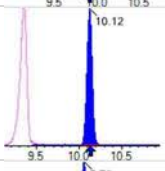
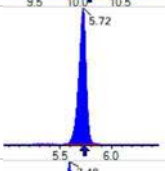
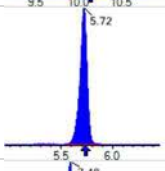
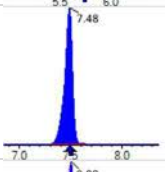
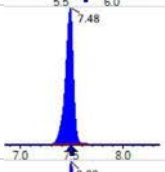
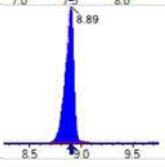
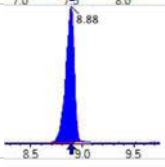
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4714265	(3.57 , 1.00) (0.00 , N/A , 0.0)	500.6	N/A 0.0 0.0	20.1879 [20.0000]	100.9%			
PFPeA	(263.0 / 219.0) 3044805 (263.0 / 69.0) 33054	(4.91 , 1.00) (0.00 , N/A , 0.1)	530.0 220.5	0.0109 100.0 100.0	10.2232 [10.0000]	102.2%			
PFHxA	(313.0 / 269.0) 1872972 (313.0 / 119.0) 183823	(6.05 , 1.00) (0.00 , N/A , -0.2)	472.1 298.6	0.0981 100.0 100.0	4.6547 [5.0000]	93.1%			
PFHpA	(363.0 / 319.0) 1890528 (363.0 / 169.0) 537973	(6.99 , 1.00) (0.00 , N/A , 0.1)	476.5 349.0	0.2846 100.0 100.0	5.2044 [5.0000]	104.1%			
PFOA	(413.0 / 369.0) 2367813 (413.0 / 169.0) 755993	(7.81 , 1.00) (0.00 , N/A , 0.1)	539.1 500.1	0.3193 100.0 100.0	4.9423 [5.0000]	98.8%			
PFNA	(463.0 / 419.0) 1952864 (463.0 / 169.0) 437970	(8.54 , 1.00) (0.00 , N/A , 0.1)	486.7 476.8	0.2243 100.0 100.0	4.9352 [5.0000]	98.7%			
PFDA	(513.0 / 469.0) 2425099 (513.0 / 169.0) 266315	(9.21 , 1.00) (0.00 , N/A , -0.1)	477.9 328.2	0.1098 100.0 100.0	5.3639 [5.0000]	107.3%			
PFUnA	(563.0 / 519.0) 2689405 (563.0 / 169.0) 281377	(9.69 , 1.00) (0.00 , N/A , 0.1)	462.4 412.6	0.1046 100.0 100.0	4.5573 [5.0000]	91.1%			
PFDoA	(613.0 / 569.0) 2655991 (613.0 / 169.0) 341740	(9.89 , 1.00) (0.00 , N/A , 0.1)	426.5 477.2	0.1287 100.0 100.0	4.5958 [5.0000]	91.9%			
PFTrDA	(663.0 / 619.0) 2676821 (663.0 / 169.0) 539853	(10.02 , 1.01) (N/A , 0.00 , -0.1)	1125.0 561.7	0.2017 100.0 100.0	4.7003 [5.0000]	94.0%			
PFTeDA	(713.0 / 669.0) 2334196 (713.0 / 169.0) 456327	(10.14 , 1.00) (0.00 , N/A , 0.1)	669.0 491.0	0.1955 100.0 100.0	5.3037 [5.0000]	106.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

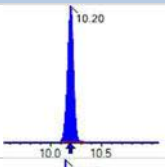
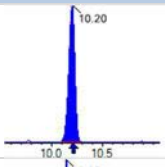
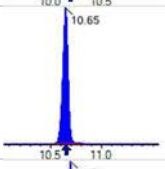
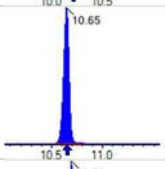
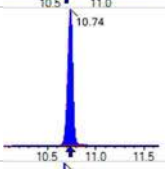
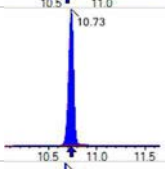
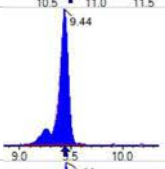
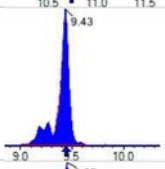
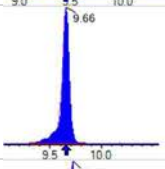
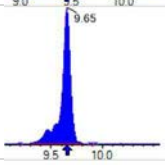
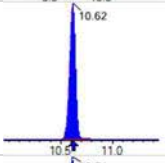
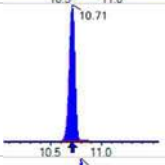
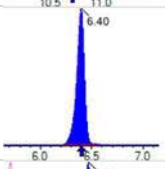
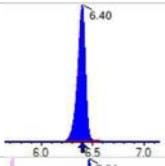
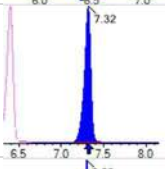
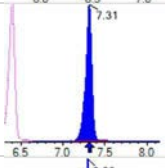
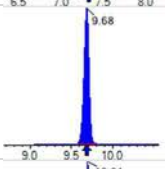
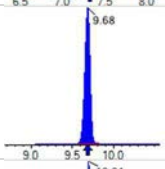
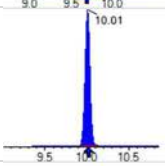
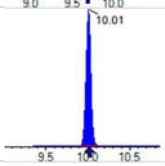
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2862669 (299.0 / 99.0) 1867077	(5.98 , 1.00) (0.00 , N/A , 0.1)	631.8 585.6	0.6522 100.0 100.0	4.4346 [4.4237]	100.2%			
PFPeS	(349.0 / 80.0) 5097584 (349.0 / 99.0) 1884046	(7.04 , 0.89) (N/A , 0.00 , 0.1)	617.0 667.4	0.3696 100.0 100.0	4.9476 [4.6919]	105.4%			
PFHxS	(399.0 / 80.0) 4750874 (399.0 / 99.0) 1567508	(7.91 , 1.00) (0.00 , N/A , 0.1)	748.6 746.0	0.3299 100.0 100.0	4.7203 [4.5549]	103.6%			
PFHpS	(449.0 / 80.0) 4640909 (449.0 / 99.0) 1275587	(8.68 , 0.93) (N/A , 0.00 , 0.1)	586.3 537.6	0.2749 100.0 100.0	4.7489 [4.7570]	99.8%			
PFOS	(499.0 / 80.0) 5432827 (499.0 / 99.0) 1234469	(9.35 , 1.00) (0.00 , N/A , 0.1)	455.7 1078.5	0.2272 100.0 100.0	4.6508 [4.6375]	100.3%			
PFNS	(549.0 / 80.0) 5903446 (549.0 / 99.0) 1374871	(9.75 , 1.04) (N/A , 0.00 , 0.1)	690.0 559.2	0.2329 100.0 100.0	4.9803 [4.7994]	103.8%			
PFDS	(599.0 / 80.0) 6573410 (599.0 / 99.0) 1500795	(9.91 , 1.06) (N/A , 0.00 , -0.2)	748.9 598.4	0.2283 100.0 100.0	5.0173 [4.8155]	104.2%			
PFDoS	(699.0 / 80.0) 2635748 (699.0 / 99.0) 546458	(10.13 , 1.08) (N/A , 0.00 , 0.1)	1024.3 641.8	0.2073 100.0 100.0	4.7362 [4.8478]	97.7%			
4:2FTS	(327.0 / 307.0) 12072530 (327.0 / 81.0) 7596722	(5.72 , 1.00) (0.00 , N/A , 0.0)	623.3 650.8	0.6293 100.0 100.0	20.7813 [18.6906]	111.2%			
6:2FTS	(427.0 / 407.0) 8830075 (427.0 / 81.0) 6763574	(7.48 , 1.00) (0.00 , N/A , 0.2)	635.6 634.2	0.7660 100.0 100.0	20.0853 [18.9808]	105.8%			
8:2FTS	(527.0 / 507.0) 7411558 (527.0 / 81.0) 5622849	(8.89 , 1.00) (0.00 , N/A , 0.5)	528.3 429.2	0.7587 100.0 100.0	21.1560 [19.1658]	110.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

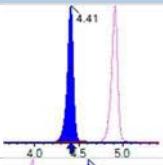
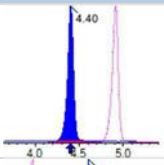
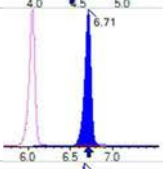
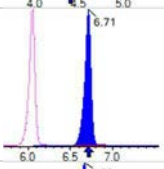
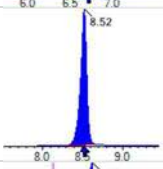
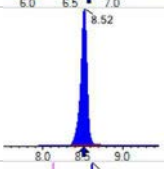
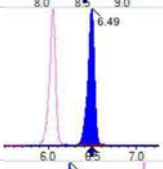
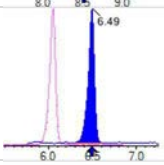
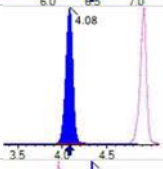
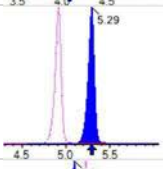
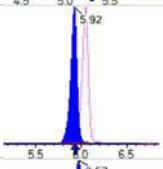
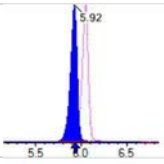
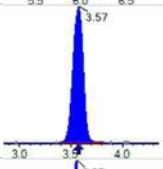
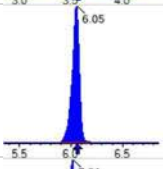
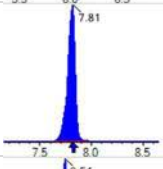
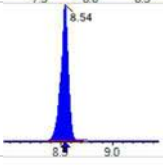
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7125080 (498.0 / 478.0) 134343	(10.20 , 1.00) (0.00 , N/A , -0.3)	1204.7 543.5	0.0189 100.0 100.0	5.3206 [5.0000]	106.4%			
NMeFOSA	(512.0 / 219.0) 4389114 (512.0 / 169.0) 3131103	(10.65 , 1.00) (0.00 , N/A , 0.1)	901.9 977.0	0.7134 100.0 100.0	21.4377 [20.0000]	107.2%			
NEtFOSA	(526.0 / 219.0) 4449264 (526.0 / 169.0) 4706386	(10.74 , 1.00) (0.01 , N/A , 0.1)	1168.2 1291.8	1.0578 100.0 100.0	20.4403 [20.0000]	102.2%			
NMeFOSAA	(570.0 / 419.0) 1284056 (570.0 / 483.0) 652840	(9.44 , 1.00) (0.00 , N/A , 0.1)	394.6 383.0	0.5084 100.0 100.0	4.8834 [5.0000]	97.7%			
NEtFOSAA	(584.0 / 419.0) 1143746 (584.0 / 526.0) 711235	(9.66 , 1.00) (0.01 , N/A , 0.1)	635.1 395.8	0.6218 100.0 100.0	5.6036 [5.0000]	112.1%			
NMeFOSE	(616.0 / 59.0) 907078	(10.62 , 1.00) (0.00 , N/A , 0.0)	571.5	N/A 0.0 0.0	20.8155 [20.0000]	104.1%			
NEtFOSE	(630.0 / 59.0) 179289	(10.71 , 1.00) (0.01 , N/A , 0.0)	998.1	N/A 0.0 0.0	19.7834 [20.0000]	98.9%			
HFPO-DA	(285.0 / 169.0) 1337208 (285.0 / 185.0) 3587049	(6.40 , 1.00) (0.00 , N/A , 0.0)	626.7 597.9	2.6825 100.0 100.0	10.5473 [10.0000]	105.5%			
ADONA	(377.0 / 85.0) 6614600 (377.0 / 251.0) 769779	(7.32 , 1.14) (N/A , 0.00 , 0.1)	635.2 494.6	0.1164 100.0 100.0	9.9813 [9.4270]	105.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 18697936 (533.0 / 353.0) 5805453	(9.68 , 1.51) (N/A , 0.00 , 0.1)	706.3 544.9	0.3105 100.0 100.0	10.0880 [9.3325]	108.1%			
11Cl-PF3OUDS	(631.0 / 451.0) 8582211 (633.0 / 453.0) 2947530	(10.01 , 1.57) (N/A , 0.00 , 0.1)	777.4 708.8	0.3434 100.0 100.0	9.7010 [9.4321]	102.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

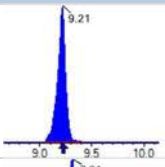
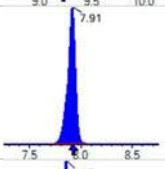
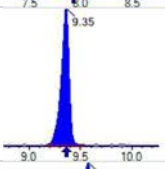
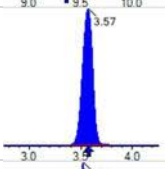
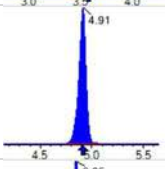
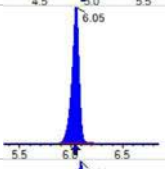
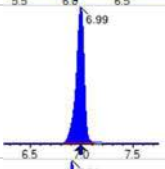
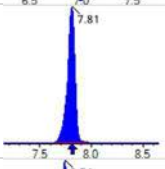
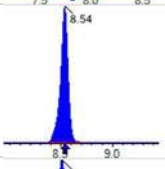
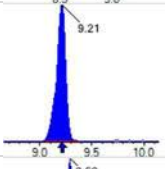
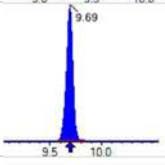
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 175297 (241.0 / 117.0) 257860	(4.41 , 0.90) (N/A , 0.00 , 0.1)	439.4 356.2	1.4710 100.0 100.0	20.5059 [20.0000]	102.5%			
5:3FTCA	(341.0 / 236.7) 1148880 (341.0 / 217.0) 1918879	(6.71 , 1.11) (N/A , 0.00 , -0.1)	423.9 475.4	1.6702 100.0 100.0	18.7630 [20.0000]	93.8%			
7:3FTCA	(441.0 / 317.0) 1765298 (441.0 / 337.0) 1521762	(8.52 , 1.41) (N/A , 0.00 , 0.1)	451.1 449.0	0.8620 100.0 100.0	19.1564 [20.0000]	95.8%			
PFEESA	(315.0 / 135.0) 3255068 (315.0 / 83.0) 995107	(6.49 , 1.07) (N/A , 0.00 , -0.1)	562.7 261.3	0.3057 100.0 100.0	8.2106 [8.9246]	92.0%			
PFMPA	(229.0 / 85.0) 920844	(4.08 , 0.83) (N/A , 0.00 , 0.0)	863.2	N/A 0.0 0.0	10.3404 [10.0000]	103.4%			
PFMBA	(279.0 / 85.0) 2359269	(5.29 , 1.08) (N/A , 0.00 , 0.0)	636.4	N/A 0.0 0.0	10.4876 [10.0000]	104.9%			
NFDHA	(295.0 / 201.0) 1624142 (295.0 / 85.0) 1493702	(5.92 , 0.98) (N/A , 0.00 , 0.0)	509.0 549.3	0.9197 100.0 100.0	9.7046 [10.0000]	97.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 258324	(3.57 , N/A) (N/A , 0.00 , N/A)	448.3	N/A	1.0199 [1.0000]	102.0% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 368593	(6.05 , N/A) (N/A , 0.00 , N/A)	533.2	N/A	0.9971 [1.0000]	99.7% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 467479	(7.81 , N/A) (N/A , 0.00 , N/A)	461.0	N/A	1.0642 [1.0000]	106.4% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 433350	(8.54 , N/A) (N/A , 0.00 , N/A)	497.3	N/A	1.0686 [1.0000]	106.9% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

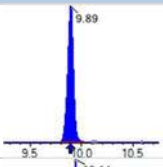
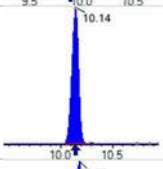
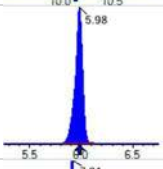
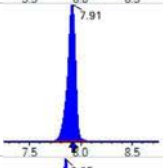
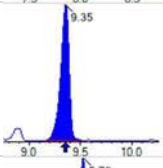
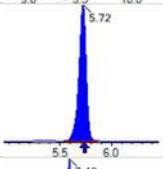
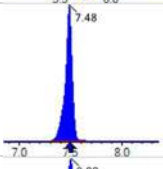
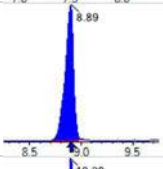
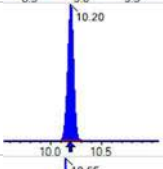
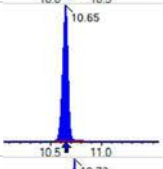
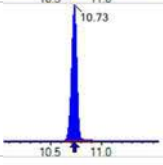
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 427392	(9.21 , N/A) (N/A , 0.00 , N/A)	349.4	N/A	0.9895 [1.0000]	98.9% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 746546	(7.91 , N/A) (N/A , 0.00 , N/A)	682.4	N/A	1.0106 [1.0000]	101.1% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 817658	(9.35 , N/A) (N/A , 0.00 , N/A)	295.5	N/A	1.0605 [1.0000]	106.0% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2042281	(3.57 , N/A) (N/A , 0.00 , N/A)	631.8	N/A	8.0471 [8.0000]	100.6% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1226312	(4.91 , N/A) (N/A , 0.00 , N/A)	580.0	N/A	4.0651 [4.0000]	101.6% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 816622	(6.05 , N/A) (N/A , 0.00 , N/A)	562.0	N/A	2.1682 [2.0000]	108.4% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 719482	(6.99 , N/A) (N/A , 0.00 , N/A)	489.7	N/A	2.0096 [2.0000]	100.5% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 919625	(7.81 , N/A) (N/A , 0.00 , N/A)	517.3	N/A	1.9308 [2.0000]	96.5% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 412148	(8.54 , N/A) (N/A , 0.00 , N/A)	556.9	N/A	0.9583 [1.0000]	95.8% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 440992	(9.21 , N/A) (N/A , 0.00 , N/A)	293.7	N/A	0.9157 [1.0000]	91.6% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 649310	(9.69 , N/A) (N/A , 0.00 , N/A)	314.1	N/A	1.0905 [1.0000]	109.0% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

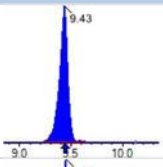
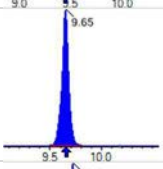
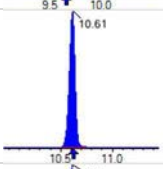
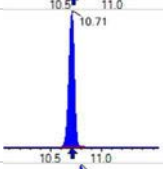
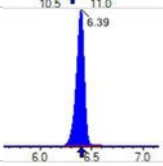
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 617325	(9.89 , N/A) (N/A , 0.00 , N/A)	295.4	N/A	1.0798 [1.0000]	108.0% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 462005	(10.14 , N/A) (N/A , 0.00 , N/A)	858.1	N/A	1.0095 [1.0000]	101.0% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1979054	(5.98 , N/A) (N/A , 0.00 , N/A)	565.3	N/A	1.9940 [2.0000]	99.7% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1204352	(7.91 , N/A) (N/A , 0.00 , N/A)	517.3	N/A	1.9363 [2.0000]	96.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1902011	(9.35 , N/A) (N/A , 0.00 , N/A)	151.2	N/A	1.9596 [2.0000]	98.0% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 722995	(5.72 , N/A) (N/A , 0.00 , N/A)	528.6	N/A	3.7321 [4.0000]	93.3% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1150994	(7.48 , N/A) (N/A , 0.00 , N/A)	656.1	N/A	4.0279 [4.0000]	100.7% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 960784	(8.89 , N/A) (N/A , 0.00 , N/A)	368.2	N/A	3.5884 [4.0000]	89.7% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2513853	(10.20 , N/A) (N/A , 0.00 , N/A)	1055.9	N/A	1.9561 [2.0000]	97.8% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 431620	(10.65 , N/A) (N/A , 0.00 , N/A)	864.3	N/A	1.8705 [2.0000]	93.5% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 437037	(10.73 , N/A) (N/A , 0.00 , N/A)	691.1	N/A	2.0090 [2.0000]	100.4% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL5
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (5)
Acquired: 2023/01/09 - 15:55

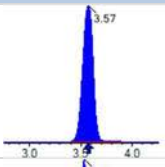
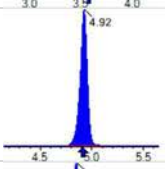
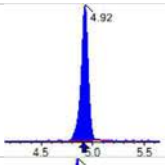
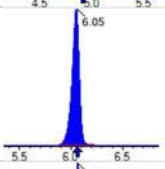
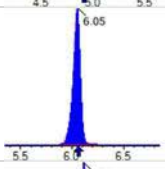
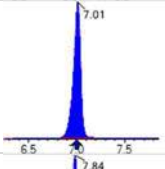
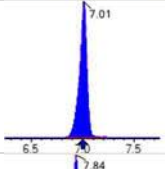
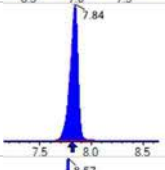
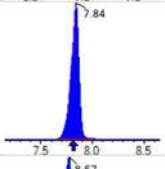
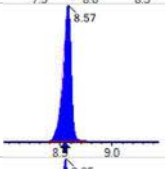
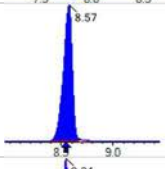
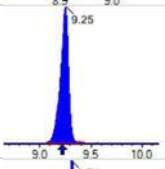
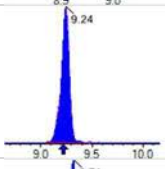
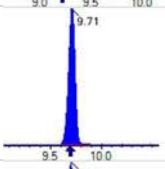
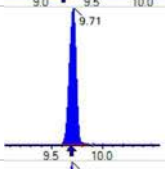
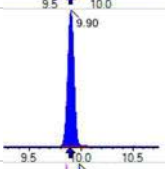
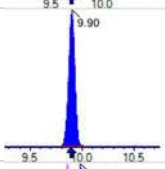
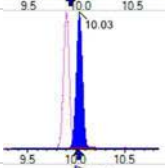
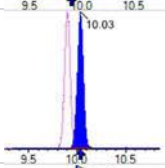
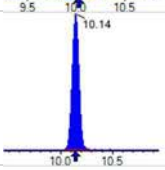
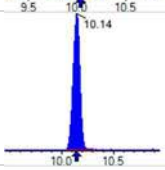
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1170774	(9.43 , N/A) (N/A , 0.00 , N/A)	339.5	N/A	3.8487 [4.0000]	96.2% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 853746	(9.65 , N/A) (N/A , 0.00 , N/A)	72.0	N/A	3.5695 [4.0000]	89.2% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 680047	(10.61 , N/A) (N/A , 0.00 , N/A)	988.0	N/A	19.2058 [20.0000]	96.0% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 323257	(10.71 , N/A) (N/A , 0.00 , N/A)	938.0	N/A	19.8089 [20.0000]	99.0% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1599094	(6.39 , N/A) (N/A , 0.00 , N/A)	574.2	N/A	8.0906 [8.0000]	101.1% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

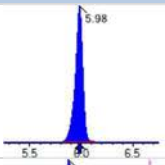
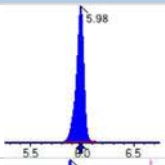
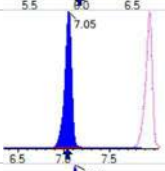
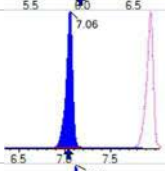
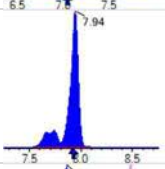
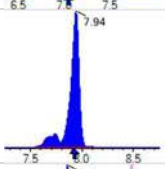
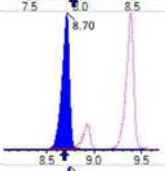
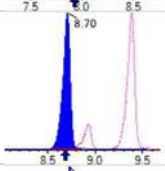
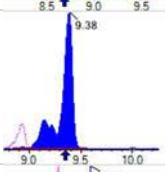
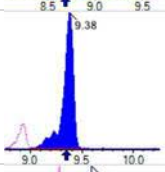
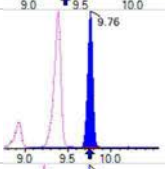
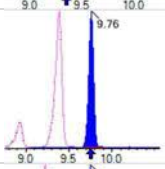
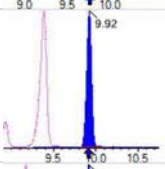
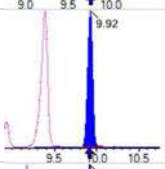
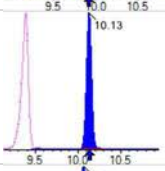
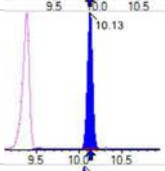
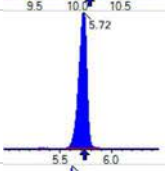
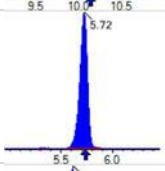
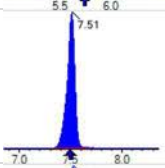
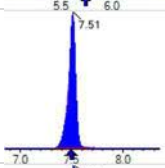
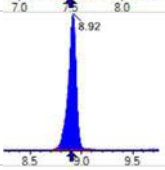
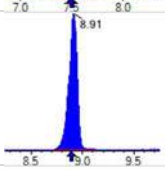
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 9619357	(3.57 , 1.00) (0.00 , N/A , 0.0)	564.5	N/A 0.0 0.0	42.3971 [40.0000]	106.0%			
PFPeA	(263.0 / 219.0) 6117679 (263.0 / 69.0) 65616	(4.92 , 1.00) (0.00 , N/A , 0.1)	572.0 342.4	0.0107 98.8 98.8	20.3981 [20.0000]	102.0%			
PFHxA	(313.0 / 269.0) 3942087 (313.0 / 119.0) 364027	(6.05 , 1.00) (0.00 , N/A , -0.1)	544.6 397.2	0.0923 94.1 94.1	10.5675 [10.0000]	105.7%			
PFHpA	(363.0 / 319.0) 3701015 (363.0 / 169.0) 1083302	(7.01 , 1.00) (0.00 , N/A , -0.1)	619.1 475.7	0.2927 102.9 102.9	9.9016 [10.0000]	99.0%			
PFOA	(413.0 / 369.0) 4815156 (413.0 / 169.0) 1457327	(7.84 , 1.00) (0.00 , N/A , 0.0)	541.7 548.2	0.3027 94.8 94.8	10.6592 [10.0000]	106.6%			
PFNA	(463.0 / 419.0) 4054226 (463.0 / 169.0) 788574	(8.57 , 1.00) (0.01 , N/A , 0.3)	512.4 432.9	0.1945 86.7 86.7	10.2703 [10.0000]	102.7%			
PFDA	(513.0 / 469.0) 5058536 (513.0 / 169.0) 526911	(9.25 , 1.00) (0.00 , N/A , 0.2)	500.0 378.7	0.1042 94.9 94.9	10.2869 [10.0000]	102.9%			
PFUnA	(563.0 / 519.0) 5322193 (563.0 / 169.0) 551755	(9.71 , 1.00) (0.00 , N/A , 0.0)	480.3 530.7	0.1037 99.1 99.1	10.3230 [10.0000]	103.2%			
PFDoA	(613.0 / 569.0) 5849218 (613.0 / 169.0) 723391	(9.90 , 1.00) (0.00 , N/A , 0.1)	668.3 442.0	0.1237 96.1 96.1	11.3486 [10.0000]	113.5%			
PFTrDA	(663.0 / 619.0) 5489480 (663.0 / 169.0) 1101391	(10.03 , 1.01) (N/A , 0.01 , 0.0)	802.1 764.6	0.2006 99.5 99.5	10.8080 [10.0000]	108.1%			
PFTeDA	(713.0 / 669.0) 4476434 (713.0 / 169.0) 840408	(10.14 , 1.00) (0.00 , N/A , 0.0)	828.3 558.2	0.1877 96.0 96.0	10.2017 [10.0000]	102.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

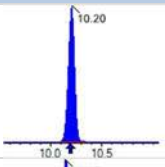
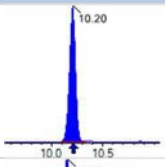
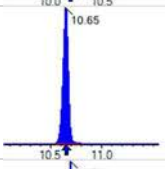
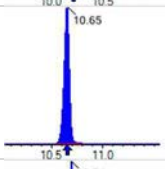
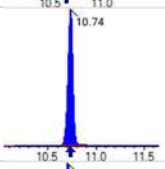
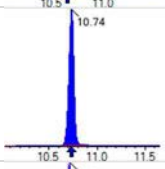
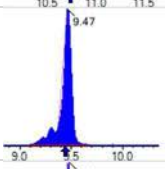
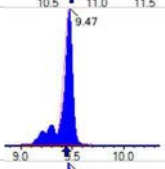
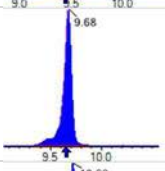
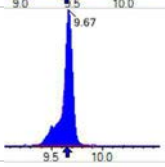
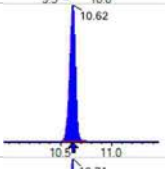
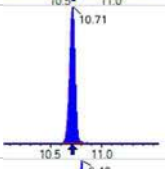
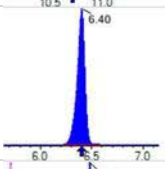
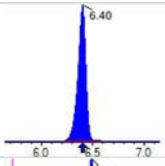
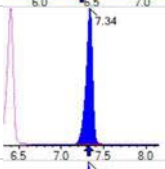
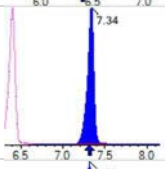
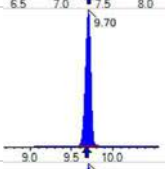
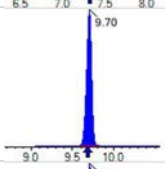
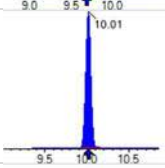
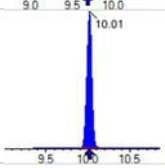
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5885875 (299.0 / 99.0) 3612746	(5.98 , 1.00) (0.00 , N/A , -0.1)	569.6 559.4	0.6138 94.1 94.1	8.9738 [8.8473]	101.4%			
PFPeS	(349.0 / 80.0) 10461749 (349.0 / 99.0) 3816732	(7.05 , 0.89) (N/A , 0.01 , -0.2)	576.1 593.6	0.3648 98.7 98.7	9.9837 [9.3838]	106.4%			
PFHxS	(399.0 / 80.0) 9641367 (399.0 / 99.0) 3015124	(7.94 , 1.00) (0.00 , N/A , 0.2)	818.6 920.9	0.3127 94.8 94.8	9.4187 [9.1098]	103.4%			
PFHpS	(449.0 / 80.0) 9362808 (449.0 / 99.0) 2487718	(8.70 , 0.93) (N/A , 0.03 , 0.1)	546.7 504.2	0.2657 96.7 96.7	10.1480 [9.5141]	106.7%			
PFOS	(499.0 / 80.0) 10513597 (499.0 / 99.0) 2198697	(9.38 , 1.00) (0.00 , N/A , 0.1)	559.8 1473.6	0.2091 92.0 92.0	9.5872 [9.2749]	103.4%			
PFNS	(549.0 / 80.0) 11444147 (549.0 / 99.0) 2770846	(9.76 , 1.04) (N/A , 0.01 , 0.1)	594.2 633.5	0.2421 104.0 104.0	10.2263 [9.5989]	106.5%			
PFDS	(599.0 / 80.0) 13163826 (599.0 / 99.0) 2954665	(9.92 , 1.06) (N/A , 0.01 , 0.0)	747.0 682.1	0.2245 98.3 98.3	10.6426 [9.6311]	110.5%			
PFDoS	(699.0 / 80.0) 5231642 (699.0 / 99.0) 1068718	(10.13 , 1.08) (N/A , 0.00 , 0.0)	1028.6 555.0	0.2043 98.5 98.5	9.9575 [9.6956]	102.7%			
4:2FTS	(327.0 / 307.0) 22401909 (327.0 / 81.0) 15268334	(5.72 , 1.00) (0.00 , N/A , 0.1)	621.6 641.2	0.6816 108.3 108.3	35.6709 [37.3811]	95.4%			
6:2FTS	(427.0 / 407.0) 16871179 (427.0 / 81.0) 13414429	(7.51 , 1.00) (0.00 , N/A , -0.1)	589.3 660.7	0.7951 103.8 103.8	39.0669 [37.9617]	102.9%			
8:2FTS	(527.0 / 507.0) 15004026 (527.0 / 81.0) 10762647	(8.92 , 1.00) (0.00 , N/A , 0.1)	444.4 460.0	0.7173 94.6 94.6	43.9053 [38.3315]	114.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

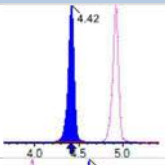
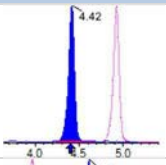
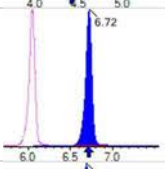
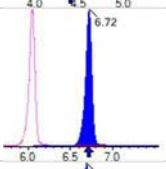
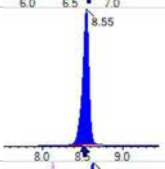
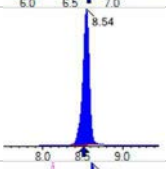
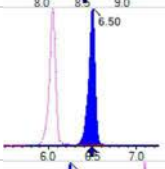
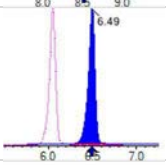
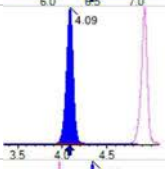
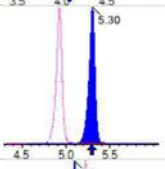
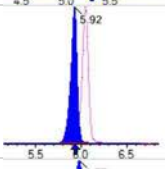
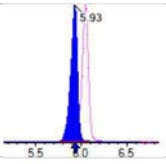
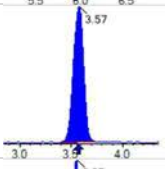
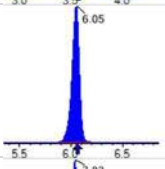
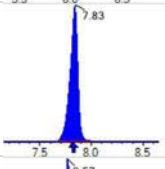
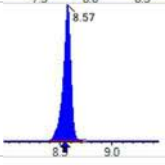
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 13427153 (498.0 / 478.0) 292685	(10.20 , 1.00) (0.00 , N/A , 0.0)	1048.3 471.7	0.0218 115.6 115.6	10.3954 [10.0000]	104.0%			
NMeFOSA	(512.0 / 219.0) 8724261 (512.0 / 169.0) 6266744	(10.65 , 1.00) (0.00 , N/A , 0.0)	1018.9 850.0	0.7183 100.7 100.7	42.9966 [40.0000]	107.5%			
NEtFOSA	(526.0 / 219.0) 8549286 (526.0 / 169.0) 8961702	(10.74 , 1.00) (0.00 , N/A , 0.0)	993.6 1252.1	1.0482 99.1 99.1	41.1405 [40.0000]	102.9%			
NMeFOSAA	(570.0 / 419.0) 2422144 (570.0 / 483.0) 1321636	(9.47 , 1.00) (0.01 , N/A , -0.2)	559.7 332.2	0.5456 107.3 107.3	9.0925 [10.0000]	90.9%			
NEtFOSAA	(584.0 / 419.0) 2292168 (584.0 / 526.0) 1314257	(9.68 , 1.00) (0.01 , N/A , 0.3)	719.9 511.6	0.5734 92.2 92.2	11.4104 [10.0000]	114.1%			
NMeFOSE	(616.0 / 59.0) 1731231	(10.62 , 1.00) (0.01 , N/A , 0.0)	945.7	N/A 0.0 0.0	38.6491 [40.0000]	96.6%			
NEtFOSE	(630.0 / 59.0) 366105	(10.71 , 1.00) (0.01 , N/A , 0.0)	1396.4	N/A 0.0 0.0	40.3672 [40.0000]	100.9%			
HFPO-DA	(285.0 / 169.0) 2731327 (285.0 / 185.0) 7052570	(6.40 , 1.00) (0.00 , N/A , 0.1)	524.4 515.3	2.5821 96.3 96.3	20.2383 [20.0000]	101.2%			
ADONA	(377.0 / 85.0) 13293499 (377.0 / 251.0) 1494624	(7.34 , 1.15) (N/A , 0.02 , 0.0)	800.7 676.4	0.1124 96.6 96.6	18.8443 [18.8540]	99.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 32869230 (533.0 / 353.0) 11688641	(9.70 , 1.52) (N/A , 0.02 , 0.1)	623.5 773.0	0.3556 114.5 114.5	17.2315 [18.6651]	92.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 17556144 (633.0 / 453.0) 5235930	(10.01 , 1.57) (N/A , 0.01 , -0.1)	1229.1 940.6	0.2982 86.8 86.8	18.6426 [18.8642]	98.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

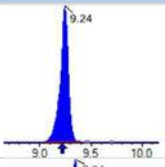
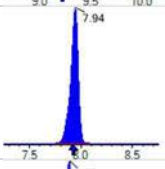
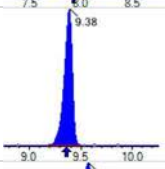
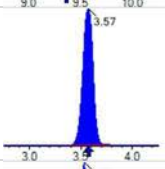
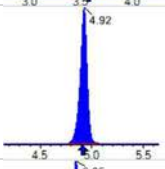
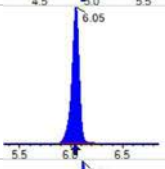
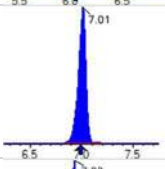
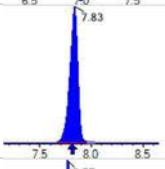
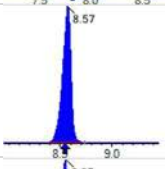
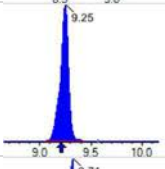
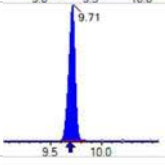
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 361478 (241.0 / 117.0) 525768	(4.42 , 0.90) (N/A , 0.01 , 0.0)	428.5 417.7	1.4545 98.9 98.9	41.9918 [40.0000]	105.0%			
5:3FTCA	(341.0 / 236.7) 2298650 (341.0 / 217.0) 3767411	(6.72 , 1.11) (N/A , 0.01 , 0.0)	495.2 496.2	1.6390 98.1 98.1	40.4934 [40.0000]	101.2%			
7:3FTCA	(441.0 / 317.0) 3464141 (441.0 / 337.0) 2993788	(8.55 , 1.41) (N/A , 0.03 , 0.1)	451.5 431.3	0.8642 100.3 100.3	40.5484 [40.0000]	101.4%			
PFEESA	(315.0 / 135.0) 7165453 (315.0 / 83.0) 1990128	(6.50 , 1.07) (N/A , 0.01 , 0.2)	735.8 372.4	0.2777 90.9 90.9	19.4958 [17.8492]	109.2%			
PFMPA	(229.0 / 85.0) 1874514	(4.09 , 0.83) (N/A , 0.01 , 0.0)	704.4	N/A 0.0 0.0	20.9034 [20.0000]	104.5%			
PFMBA	(279.0 / 85.0) 4747672	(5.30 , 1.08) (N/A , 0.01 , 0.0)	628.2	N/A 0.0 0.0	20.9583 [20.0000]	104.8%			
NFDHA	(295.0 / 201.0) 3424789 (295.0 / 85.0) 3055552	(5.92 , 0.98) (N/A , 0.00 , -0.1)	588.2 594.9	0.8922 97.0 97.0	22.0735 [20.0000]	110.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 259082	(3.57 , N/A) (N/A , 0.00 , N/A)	422.7	N/A	1.0229 [1.0000]	102.3% { 100.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 378757	(6.05 , N/A) (N/A , 0.00 , N/A)	479.6	N/A	1.0246 [1.0000]	102.5% { 102.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 447496	(7.83 , N/A) (N/A , 0.02 , N/A)	506.1	N/A	1.0187 [1.0000]	101.9% { 95.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 400987	(8.57 , N/A) (N/A , 0.03 , N/A)	451.7	N/A	0.9888 [1.0000]	98.9% { 92.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

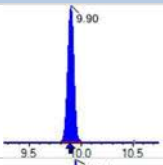
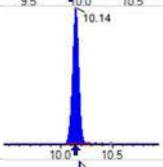
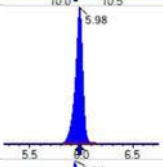
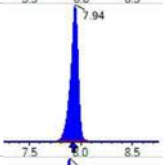
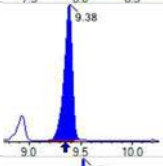
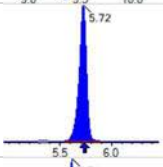
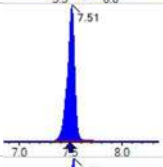
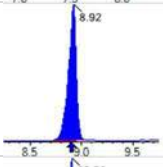
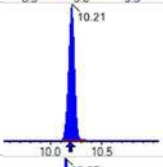
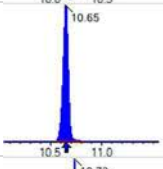
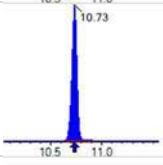
Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 413244	(9.24 , N/A) (N/A , 0.03 , N/A)	341.7	N/A	0.9567 [1.0000]	95.7% { 96.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 746486	(7.94 , N/A) (N/A , 0.03 , N/A)	582.3	N/A	1.0105 [1.0000]	101.1% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 780536	(9.38 , N/A) (N/A , 0.03 , N/A)	449.1	N/A	1.0123 [1.0000]	101.2% { 95.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1984274	(3.57 , N/A) (N/A , 0.00 , N/A)	584.0	N/A	7.7957 [8.0000]	97.4% { 97.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1234874	(4.92 , N/A) (N/A , 0.01 , N/A)	570.9	N/A	3.9836 [4.0000]	99.6% { 100.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 757074	(6.05 , N/A) (N/A , 0.00 , N/A)	516.2	N/A	1.9561 [2.0000]	97.8% { 92.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 740320	(7.01 , N/A) (N/A , 0.02 , N/A)	515.3	N/A	2.0123 [2.0000]	100.6% { 102.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 867114	(7.83 , N/A) (N/A , 0.02 , N/A)	461.8	N/A	1.9018 [2.0000]	95.1% { 94.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 411161	(8.57 , N/A) (N/A , 0.03 , N/A)	399.1	N/A	1.0331 [1.0000]	103.3% { 99.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 479646	(9.25 , N/A) (N/A , 0.04 , N/A)	362.4	N/A	1.0301 [1.0000]	103.0% { 108.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 567262	(9.71 , N/A) (N/A , 0.02 , N/A)	463.6	N/A	0.9853 [1.0000]	98.5% { 87.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK | Sample I.D.: SC00101-CAL6 | Quant Method: 1633 - S2023-01-09B
Instrument: Saphira | DF , IV: 1 , 10.0µL | Path: S2023-01-09B (6)
Type: Sciex Q3 5500 | Acquisition Method: 1633 2023-01-09.dam | Acquired: 2023/01/09 - 16:08

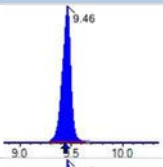
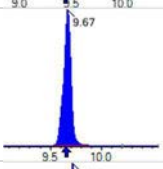
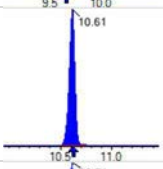
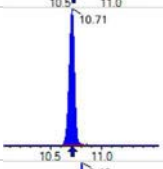
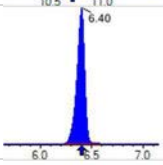
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 550558	(9.90 , N/A) (N/A , 0.01 , N/A)	535.6	N/A	0.9960 [1.0000]	99.6% { 89.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 460629	(10.14 , N/A) (N/A , 0.00 , N/A)	895.6	N/A	1.0410 [1.0000]	104.1% { 99.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2010813	(5.98 , N/A) (N/A , 0.00 , N/A)	524.1	N/A	2.0262 [2.0000]	101.3% { 101.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1224886	(7.94 , N/A) (N/A , 0.03 , N/A)	810.5	N/A	1.9695 [2.0000]	98.5% { 101.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1795679	(9.38 , N/A) (N/A , 0.03 , N/A)	111.6	N/A	1.9380 [2.0000]	96.9% { 94.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 781591	(5.72 , N/A) (N/A , 0.00 , N/A)	456.8	N/A	4.0349 [4.0000]	100.9% { 108.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1130637	(7.51 , N/A) (N/A , 0.02 , N/A)	609.4	N/A	3.9570 [4.0000]	98.9% { 98.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 937218	(8.92 , N/A) (N/A , 0.03 , N/A)	385.2	N/A	3.5007 [4.0000]	87.5% { 97.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2424676	(10.21 , N/A) (N/A , 0.01 , N/A)	1043.1	N/A	1.9764 [2.0000]	98.8% { 96.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 427756	(10.65 , N/A) (N/A , 0.00 , N/A)	945.5	N/A	1.9419 [2.0000]	97.1% { 99.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 417232	(10.73 , N/A) (N/A , 0.00 , N/A)	836.5	N/A	2.0092 [2.0000]	100.5% { 95.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL6
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (6)
Acquired: 2023/01/09 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1186133	(9.46 , N/A) (N/A , 0.03 , N/A)	340.3	N/A	4.0846 [4.0000]	102.1% { 101.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 840254	(9.67 , N/A) (N/A , 0.02 , N/A)	76.9	N/A	3.6802 [4.0000]	92.0% { 98.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 699031	(10.61 , N/A) (N/A , 0.00 , N/A)	1057.4	N/A	20.6808 [20.0000]	103.4% { 102.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 323500	(10.71 , N/A) (N/A , 0.00 , N/A)	953.4	N/A	20.7666 [20.0000]	103.8% { 100.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1702218	(6.40 , N/A) (N/A , 0.00 , N/A)	557.8	N/A	8.3812 [8.0000]	104.8% { 106.4% }			

APPL
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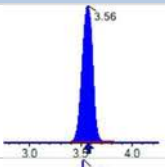
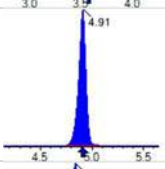
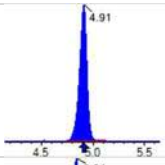
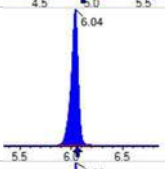
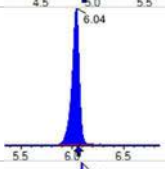
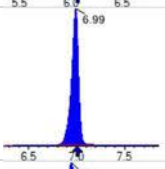
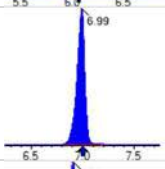
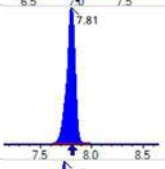
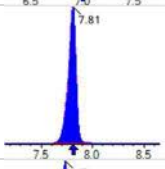
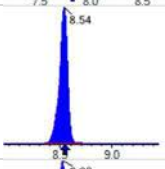
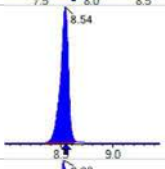
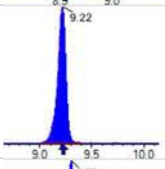
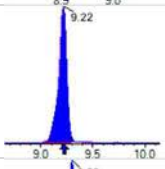
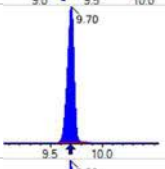
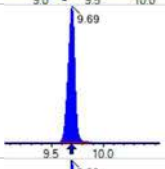
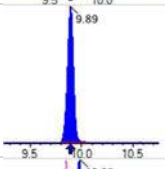
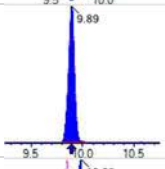
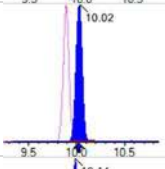
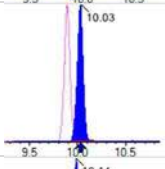
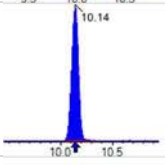
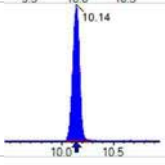
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

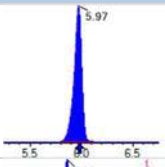
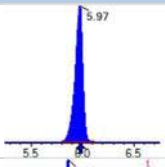
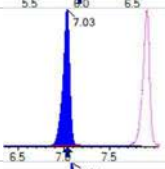
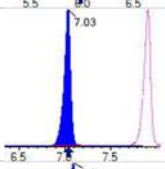
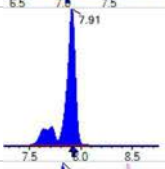
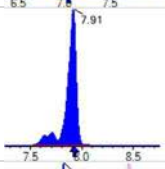
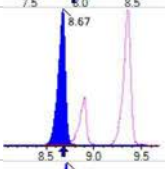
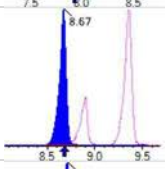
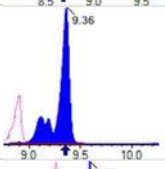
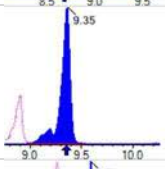
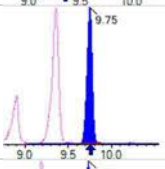
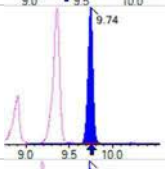
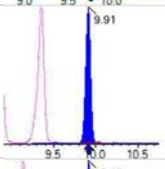
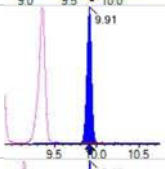
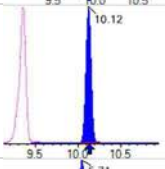
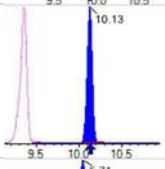
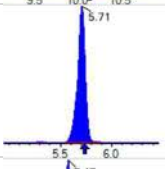
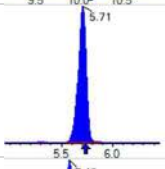
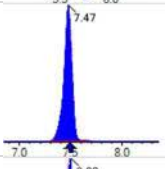
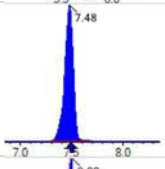
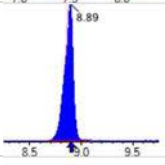
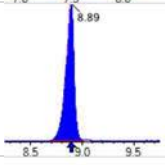
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 18107338	(3.56 , 1.00) (0.00 , N/A , 0.0)	628.5	N/A 0.0 0.0	84.9790 [80.0000]	106.2%			
PFPeA	(263.0 / 219.0) 11386165 (263.0 / 69.0) 127731	(4.91 , 1.00) (0.00 , N/A , 0.0)	576.8 394.2	0.0112 103.3 103.3	41.3951 [40.0000]	103.5%			
PFHxA	(313.0 / 269.0) 7549774 (313.0 / 119.0) 678703	(6.04 , 1.00) (0.00 , N/A , 0.0)	560.4 545.7	0.0899 91.6 91.6	20.9864 [20.0000]	104.9%			
PFHpA	(363.0 / 319.0) 6760319 (363.0 / 169.0) 1997423	(6.99 , 1.00) (0.00 , N/A , 0.1)	547.9 515.6	0.2955 103.8 103.8	19.4137 [20.0000]	97.1%			
PFOA	(413.0 / 369.0) 8718859 (413.0 / 169.0) 3068155	(7.81 , 1.00) (0.00 , N/A , -0.2)	550.2 611.4	0.3519 110.2 110.2	20.0847 [20.0000]	100.4%			
PFNA	(463.0 / 419.0) 8005375 (463.0 / 169.0) 1613497	(8.54 , 1.00) (0.00 , N/A , 0.0)	549.9 491.1	0.2016 89.9 89.9	22.0113 [20.0000]	110.1%			
PFDA	(513.0 / 469.0) 10288283 (513.0 / 169.0) 966626	(9.22 , 1.00) (0.00 , N/A , -0.1)	452.5 425.9	0.0940 85.6 85.6	20.3231 [20.0000]	101.6%			
PFUnA	(563.0 / 519.0) 10839333 (563.0 / 169.0) 991691	(9.70 , 1.00) (0.00 , N/A , 0.2)	563.6 533.3	0.0915 87.4 87.4	22.0944 [20.0000]	110.5%			
PFDoA	(613.0 / 569.0) 11053146 (613.0 / 169.0) 1380962	(9.89 , 1.00) (0.00 , N/A , -0.1)	608.3 500.7	0.1249 97.1 97.1	22.3048 [20.0000]	111.5%			
PFTrDA	(663.0 / 619.0) 10817393 (663.0 / 169.0) 2165867	(10.02 , 1.01) (N/A , 0.00 , -0.1)	808.4 706.7	0.2002 99.3 99.3	22.1516 [20.0000]	110.8%			
PFTeDA	(713.0 / 669.0) 8265771 (713.0 / 169.0) 1699269	(10.14 , 1.00) (0.00 , N/A , -0.1)	827.5 803.3	0.2056 105.2 105.2	18.8641 [20.0000]	94.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

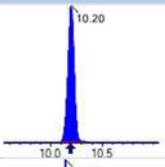
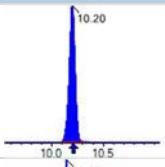
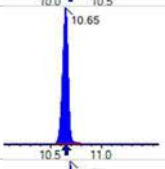
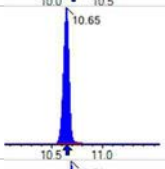
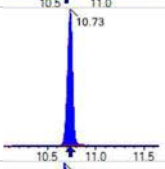
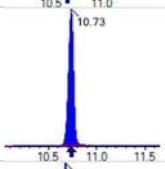
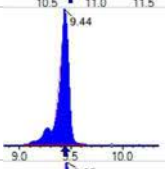
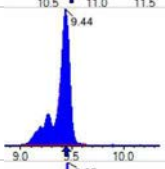
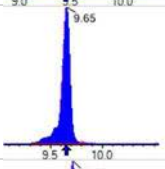
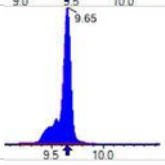
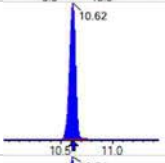
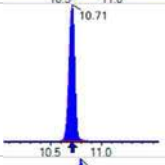
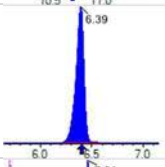
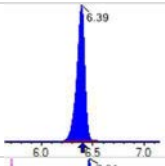
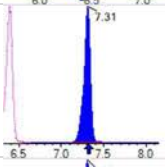
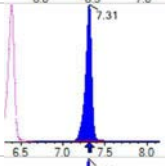
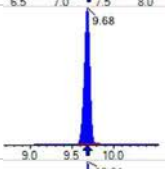
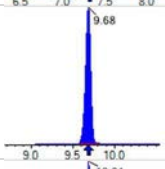
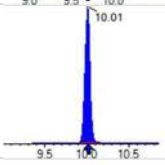
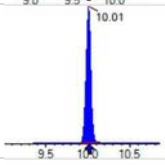
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 11171234 (299.0 / 99.0) 7178575	(5.97 , 1.00) (0.00 , N/A , 0.0)	643.0 604.1	0.6426 98.5 98.5	19.3081 [17.6947]	109.1%			
PFPeS	(349.0 / 80.0) 20295053 (349.0 / 99.0) 7410196	(7.03 , 0.89) (N/A , -0.01 , 0.1)	679.1 634.7	0.3651 98.8 98.8	20.2268 [18.7676]	107.8%			
PFHxS	(399.0 / 80.0) 18065957 (399.0 / 99.0) 6312599	(7.91 , 1.00) (0.00 , N/A , 0.0)	764.7 999.8	0.3494 105.9 105.9	18.4316 [18.2197]	101.2%			
PFHpS	(449.0 / 80.0) 17865904 (449.0 / 99.0) 5103472	(8.67 , 0.93) (N/A , -0.01 , 0.0)	577.5 594.6	0.2857 103.9 103.9	19.9631 [19.0281]	104.9%			
PFOS	(499.0 / 80.0) 21345437 (499.0 / 99.0) 4720069	(9.36 , 1.00) (0.00 , N/A , 0.1)	718.8 1423.2	0.2211 97.3 97.3	20.1229 [18.5499]	108.5%			
PFNS	(549.0 / 80.0) 20084043 (549.0 / 99.0) 5492596	(9.75 , 1.04) (N/A , 0.00 , 0.2)	532.0 843.0	0.2735 117.4 117.4	18.5019 [19.1977]	96.4%			
PFDS	(599.0 / 80.0) 24185549 (599.0 / 99.0) 5574973	(9.91 , 1.06) (N/A , 0.00 , 0.0)	733.5 752.4	0.2305 101.0 101.0	20.1582 [19.2621]	104.7%			
PFDoS	(699.0 / 80.0) 10462502 (699.0 / 99.0) 2390659	(10.12 , 1.08) (N/A , 0.00 , -0.2)	1131.6 807.6	0.2285 110.2 110.2	20.5295 [19.3913]	105.9%			
4:2FTS	(327.0 / 307.0) 40787902 (327.0 / 81.0) 25823570	(5.71 , 1.00) (0.00 , N/A , 0.1)	627.3 607.1	0.6331 100.6 100.6	73.9339 [74.7622]	98.9%			
6:2FTS	(427.0 / 407.0) 29757840 (427.0 / 81.0) 22830202	(7.47 , 1.00) (0.00 , N/A , -0.1)	623.6 714.1	0.7672 100.2 100.2	80.6345 [75.9234]	106.2%			
8:2FTS	(527.0 / 507.0) 26083513 (527.0 / 81.0) 19837596	(8.89 , 1.00) (0.00 , N/A , 0.1)	493.1 512.2	0.7605 100.2 100.2	68.5239 [76.6631]	89.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

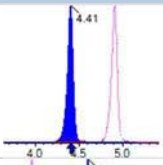
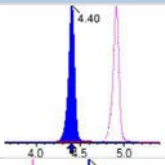
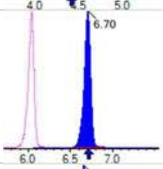
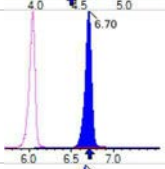
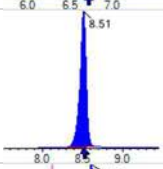
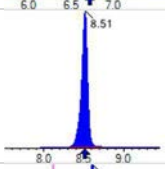
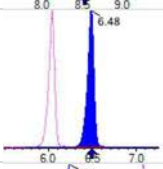
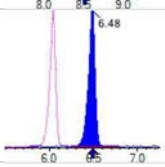
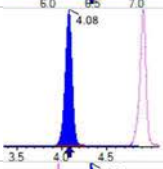
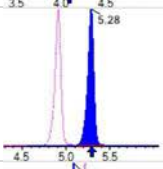
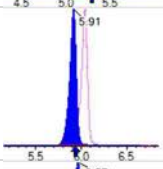
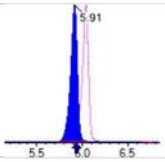
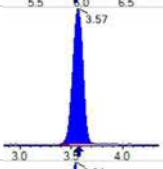
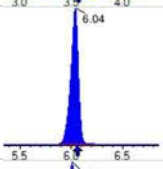
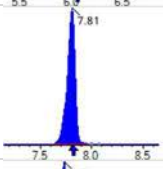
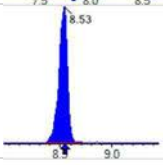
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 25054509 (498.0 / 478.0) 587289	(10.20 , 1.00) (0.00 , N/A , -0.1)	928.4 820.3	0.0234 124.3 124.3	20.7059 [20.0000]	103.5%			
NMeFOSA	(512.0 / 219.0) 16359713 (512.0 / 169.0) 11858900	(10.65 , 1.00) (0.00 , N/A , 0.1)	1074.5 1155.1	0.7249 101.6 101.6	79.3260 [80.0000]	99.2%			
NEtFOSA	(526.0 / 219.0) 16700147 (526.0 / 169.0) 17684918	(10.73 , 1.00) (0.00 , N/A , 0.0)	1443.4 1446.7	1.0590 100.1 100.1	86.0972 [80.0000]	107.6%			
NMeFOSAA	(570.0 / 419.0) 4513388 (570.0 / 483.0) 2458658	(9.44 , 1.00) (0.01 , N/A , 0.2)	557.0 382.6	0.5447 107.1 107.1	18.9075 [20.0000]	94.5%			
NEtFOSAA	(584.0 / 419.0) 4136327 (584.0 / 526.0) 2382412	(9.65 , 1.00) (0.01 , N/A , 0.1)	721.9 454.8	0.5760 92.6 92.6	22.1176 [20.0000]	110.6%			
NMeFOSE	(616.0 / 59.0) 3276307	(10.62 , 1.00) (0.00 , N/A , 0.0)	1175.1	N/A 0.0 0.0	78.3874 [80.0000]	98.0%			
NEtFOSE	(630.0 / 59.0) 639072	(10.71 , 1.00) (0.01 , N/A , 0.0)	860.5	N/A 0.0 0.0	77.4156 [80.0000]	96.8%			
HFPO-DA	(285.0 / 169.0) 4888890 (285.0 / 185.0) 13847698	(6.39 , 1.00) (0.00 , N/A , 0.1)	635.0 629.3	2.8325 105.6 105.6	40.8008 [40.0000]	102.0%			
ADONA	(377.0 / 85.0) 24579922 (377.0 / 251.0) 3047977	(7.31 , 1.14) (N/A , -0.01 , 0.0)	716.7 614.9	0.1240 106.6 106.6	39.2445 [37.7080]	104.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 58163793 (533.0 / 353.0) 21495855	(9.68 , 1.52) (N/A , 0.00 , 0.0)	621.6 659.8	0.3696 119.0 119.0	38.2911 [37.3302]	102.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 31057129 (633.0 / 453.0) 10998895	(10.01 , 1.57) (N/A , 0.00 , 0.0)	910.5 1139.8	0.3542 103.1 103.1	37.1447 [37.7283]	98.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

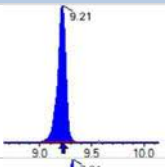
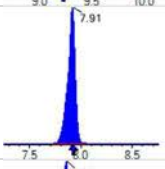
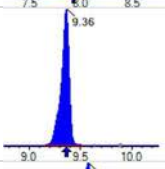
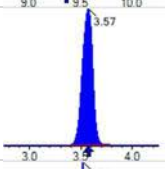
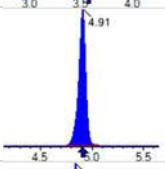
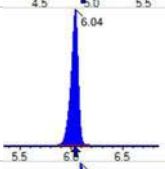
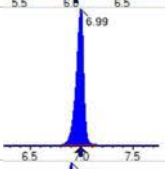
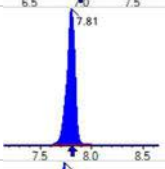
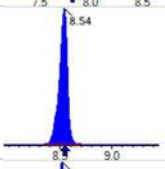
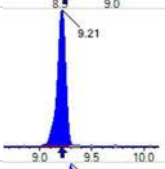
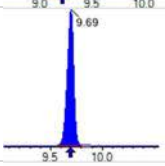
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 672289 (241.0 / 117.0) 1040480	(4.41 , 0.90) (N/A , 0.00 , 0.0)	508.8 481.4	1.5477 105.2 105.2	85.1541 [80.0000]	106.4%			
5:3FTCA	(341.0 / 236.7) 4343479 (341.0 / 217.0) 7300751	(6.70 , 1.11) (N/A , -0.01 , 0.0)	456.1 471.6	1.6809 100.6 100.6	79.3425 [80.0000]	99.2%			
7:3FTCA	(441.0 / 317.0) 6704537 (441.0 / 337.0) 5904713	(8.51 , 1.41) (N/A , -0.01 , 0.0)	443.3 410.7	0.8807 102.2 102.2	81.3773 [80.0000]	101.7%			
PFEESA	(315.0 / 135.0) 13394758 (315.0 / 83.0) 3777533	(6.48 , 1.07) (N/A , -0.01 , 0.0)	717.7 483.2	0.2820 92.2 92.2	37.7910 [35.6984]	105.9%			
PFMPA	(229.0 / 85.0) 3439376	(4.08 , 0.83) (N/A , 0.00 , 0.0)	764.0	N/A 0.0 0.0	41.8191 [40.0000]	104.5%			
PFMBA	(279.0 / 85.0) 8908778	(5.28 , 1.08) (N/A , -0.01 , 0.0)	673.3	N/A 0.0 0.0	42.8807 [40.0000]	107.2%			
NFDHA	(295.0 / 201.0) 6108921 (295.0 / 85.0) 5936524	(5.91 , 0.98) (N/A , -0.01 , 0.0)	628.8 705.8	0.9718 105.7 105.7	40.8281 [40.0000]	102.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 245308	(3.57 , N/A) (N/A , 0.00 , N/A)	470.7	N/A	0.9685 [1.0000]	96.8% { 95.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 361902	(6.04 , N/A) (N/A , -0.01 , N/A)	434.6	N/A	0.9790 [1.0000]	97.9% { 98.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 423945	(7.81 , N/A) (N/A , 0.00 , N/A)	444.6	N/A	0.9651 [1.0000]	96.5% { 90.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 391531	(8.53 , N/A) (N/A , -0.01 , N/A)	485.9	N/A	0.9654 [1.0000]	96.5% { 90.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

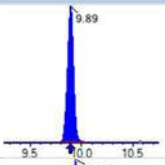
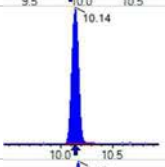
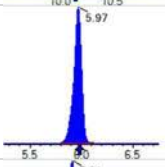
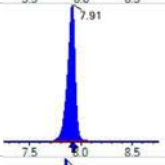
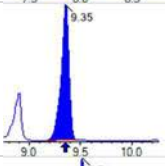
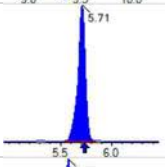
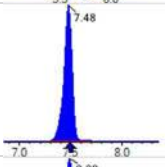
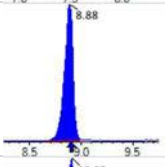
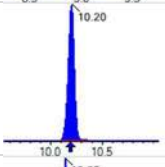
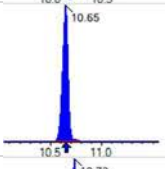
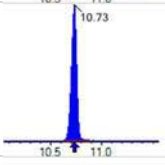
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 427778	(9.21 , N/A) (N/A , 0.00 , N/A)	440.1	N/A	0.9904 [1.0000]	99.0% { 100.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 724995	(7.91 , N/A) (N/A , 0.00 , N/A)	623.4	N/A	0.9814 [1.0000]	98.1% { 97.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 738144	(9.36 , N/A) (N/A , 0.00 , N/A)	407.6	N/A	0.9573 [1.0000]	95.7% { 90.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1863525	(3.57 , N/A) (N/A , 0.00 , N/A)	556.5	N/A	7.7324 [8.0000]	96.7% { 91.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1132545	(4.91 , N/A) (N/A , 0.00 , N/A)	544.2	N/A	3.8236 [4.0000]	95.6% { 92.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 730099	(6.04 , N/A) (N/A , -0.01 , N/A)	552.0	N/A	1.9743 [2.0000]	98.7% { 89.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 689704	(6.99 , N/A) (N/A , 0.00 , N/A)	456.2	N/A	1.9621 [2.0000]	98.1% { 95.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 833264	(7.81 , N/A) (N/A , 0.00 , N/A)	444.8	N/A	1.9291 [2.0000]	96.5% { 90.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 378812	(8.54 , N/A) (N/A , 0.00 , N/A)	533.4	N/A	0.9748 [1.0000]	97.5% { 91.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 493780	(9.21 , N/A) (N/A , 0.00 , N/A)	362.2	N/A	1.0244 [1.0000]	102.4% { 112.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 539785	(9.69 , N/A) (N/A , 0.00 , N/A)	270.8	N/A	0.9057 [1.0000]	90.6% { 83.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

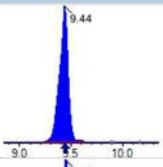
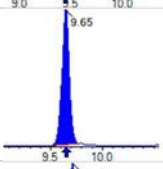
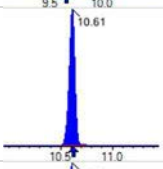
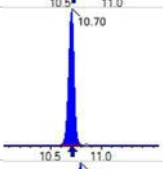
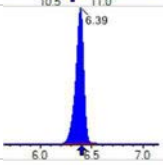
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 529343	(9.89 , N/A) (N/A , 0.00 , N/A)	453.7	N/A	0.9250 [1.0000]	92.5% { 85.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 459980	(10.14 , N/A) (N/A , 0.00 , N/A)	538.5	N/A	1.0042 [1.0000]	100.4% { 99.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1773781	(5.97 , N/A) (N/A , -0.01 , N/A)	499.8	N/A	1.8403 [2.0000]	92.0% { 89.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1172859	(7.91 , N/A) (N/A , 0.00 , N/A)	549.5	N/A	1.9418 [2.0000]	97.1% { 97.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1741806	(9.35 , N/A) (N/A , 0.00 , N/A)	87.1	N/A	1.9878 [2.0000]	99.4% { 91.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 686589	(5.71 , N/A) (N/A , -0.01 , N/A)	477.7	N/A	3.6495 [4.0000]	91.2% { 95.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 966199	(7.48 , N/A) (N/A , -0.01 , N/A)	515.7	N/A	3.4818 [4.0000]	87.0% { 83.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1043937	(8.88 , N/A) (N/A , -0.01 , N/A)	331.4	N/A	4.0149 [4.0000]	100.4% { 108.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2271453	(10.20 , N/A) (N/A , 0.00 , N/A)	718.4	N/A	1.9578 [2.0000]	97.9% { 90.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 434772	(10.65 , N/A) (N/A , 0.00 , N/A)	981.1	N/A	2.0871 [2.0000]	104.4% { 100.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 389447	(10.73 , N/A) (N/A , 0.00 , N/A)	671.5	N/A	1.9831 [2.0000]	99.2% { 89.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL7
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (7)
Acquired: 2023/01/09 - 16:21

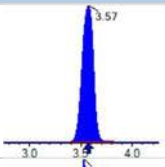
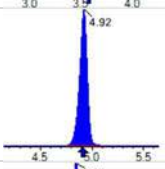
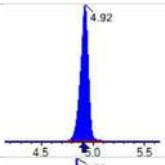
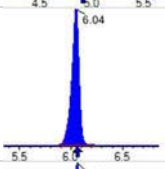
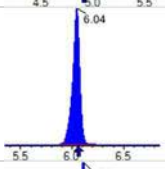
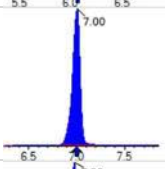
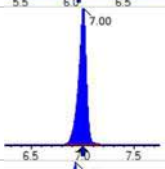
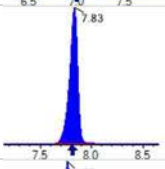
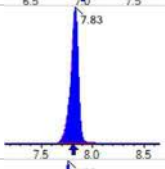
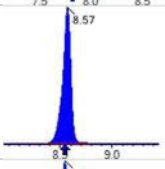
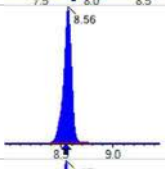
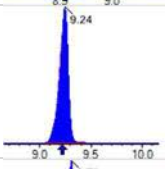
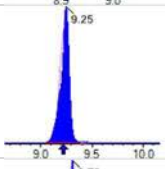
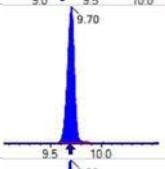
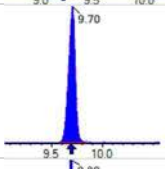
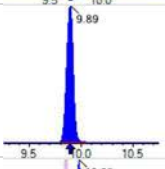
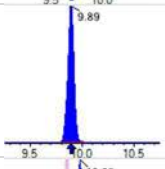
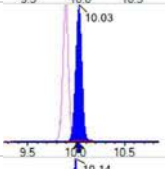
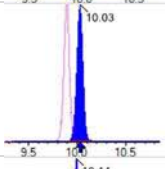
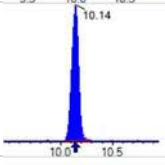
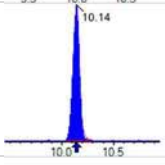
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1062879	(9.44 , N/A) (N/A , 0.00 , N/A)	301.1	N/A	3.8704 [4.0000]	96.8% { 90.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 782246	(9.65 , N/A) (N/A , 0.00 , N/A)	92.1	N/A	3.6229 [4.0000]	90.6% { 91.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 652259	(10.61 , N/A) (N/A , 0.00 , N/A)	776.1	N/A	20.4053 [20.0000]	102.0% { 95.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 294454	(10.70 , N/A) (N/A , 0.00 , N/A)	790.5	N/A	19.9876 [20.0000]	99.9% { 91.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1511323	(6.39 , N/A) (N/A , -0.01 , N/A)	585.6	N/A	7.7879 [8.0000]	97.3% { 94.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

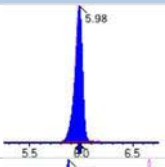
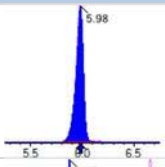
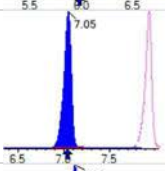
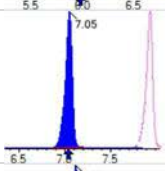
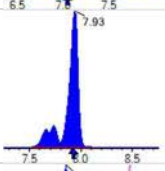
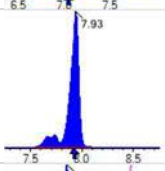
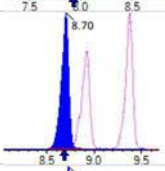
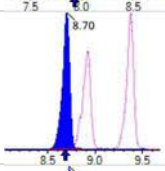
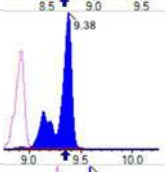
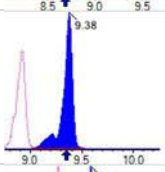
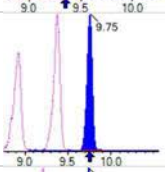
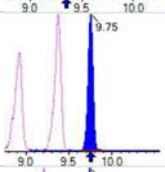
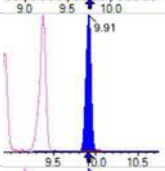
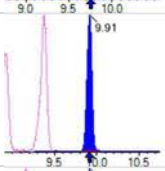
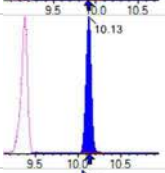
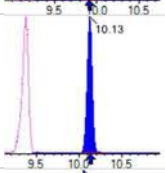
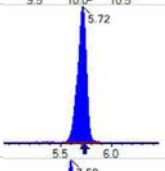
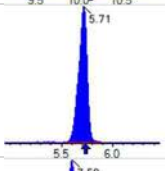
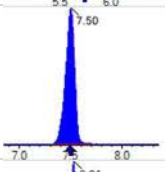
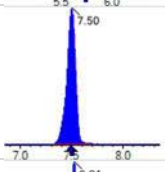
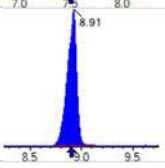
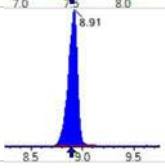
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 38432778	(3.57 , 1.00) (0.00 , N/A , 0.0)	473.9	N/A 0.0 0.0	204.5174 [200.0000]	102.3%			
PFPeA	(263.0 / 219.0) 26489104 (263.0 / 69.0) 272171	(4.92 , 1.00) (0.00 , N/A , 0.0)	560.8 443.1	0.0103 94.6 94.6	99.6541 [100.0000]	99.7%			
PFHxA	(313.0 / 269.0) 17087554 (313.0 / 119.0) 1580166	(6.04 , 1.00) (0.00 , N/A , 0.1)	483.8 501.8	0.0925 94.2 94.2	54.4490 [50.0000]	108.9%			
PFHpA	(363.0 / 319.0) 17034498 (363.0 / 169.0) 4819720	(7.00 , 1.00) (0.00 , N/A , -0.2)	481.2 499.3	0.2829 99.4 99.4	52.8168 [50.0000]	105.6%			
PFOA	(413.0 / 369.0) 20522353 (413.0 / 169.0) 7023861	(7.83 , 1.00) (0.00 , N/A , 0.0)	554.9 560.8	0.3423 107.2 107.2	47.6892 [50.0000]	95.4%			
PFNA	(463.0 / 419.0) 17678743 (463.0 / 169.0) 3859569	(8.57 , 1.00) (0.00 , N/A , 0.2)	481.8 462.5	0.2183 97.3 97.3	51.3865 [50.0000]	102.8%			
PFDA	(513.0 / 469.0) 21757449 (513.0 / 169.0) 2098616	(9.24 , 1.00) (0.00 , N/A , -0.3)	509.8 464.4	0.0965 87.8 87.8	47.3525 [50.0000]	94.7%			
PFUnA	(563.0 / 519.0) 18595582 (563.0 / 169.0) 2079058	(9.70 , 1.00) (0.00 , N/A , 0.0)	440.2 622.2	0.1118 106.9 106.9	47.1176 [50.0000]	94.2%			
PFDoA	(613.0 / 569.0) 24735678 (613.0 / 169.0) 3231582	(9.89 , 1.00) (0.00 , N/A , -0.1)	846.2 723.9	0.1306 101.5 101.5	46.9075 [50.0000]	93.8%			
PFTrDA	(663.0 / 619.0) 21147017 (663.0 / 169.0) 4876149	(10.03 , 1.01) (N/A , 0.00 , 0.0)	742.1 446.0	0.2306 114.3 114.3	40.6946 [50.0000]	81.4%			
PFTeDA	(713.0 / 669.0) 18505308 (713.0 / 169.0) 3876642	(10.14 , 1.00) (0.00 , N/A , 0.0)	791.7 846.7	0.2095 107.2 107.2	47.1223 [50.0000]	94.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

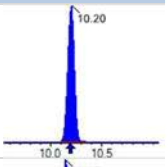
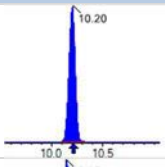
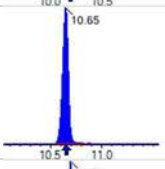
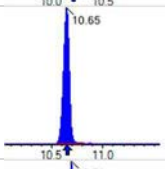
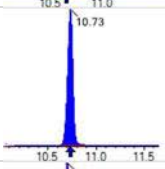
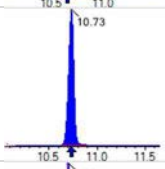
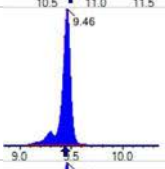
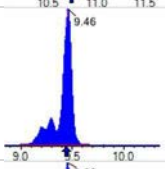
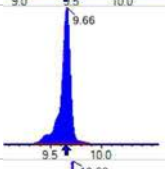
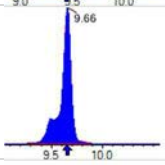
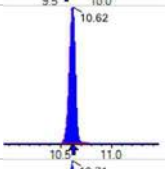
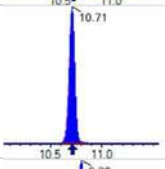
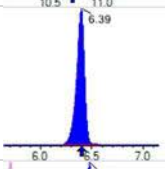
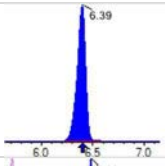
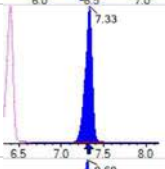
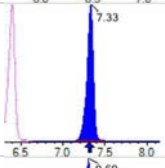
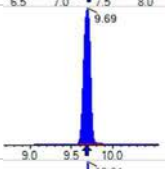
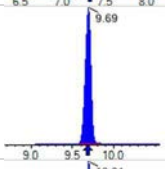
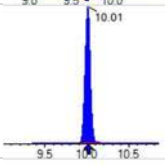
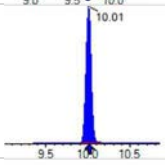
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 25619798 (299.0 / 99.0) 16873654	(5.98 , 1.00) (0.00 , N/A , 0.0)	525.8 545.4	0.6586 101.0 101.0	44.6949 [44.2367]	101.0%			
PFPeS	(349.0 / 80.0) 45345739 (349.0 / 99.0) 17073832	(7.05 , 0.89) (N/A , 0.01 , -0.1)	530.0 634.2	0.3765 101.9 101.9	45.5541 [46.9191]	97.1%			
PFHxS	(399.0 / 80.0) 43620135 (399.0 / 99.0) 15017236	(7.93 , 1.00) (0.00 , N/A , 0.0)	630.4 918.7	0.3443 104.3 104.3	44.8583 [45.5491]	98.5%			
PFHpS	(449.0 / 80.0) 40475469 (449.0 / 99.0) 12252721	(8.70 , 0.93) (N/A , 0.02 , 0.0)	604.0 589.5	0.3027 110.1 110.1	46.8140 [47.5703]	98.4%			
PFOS	(499.0 / 80.0) 46546981 (499.0 / 99.0) 10519414	(9.38 , 1.00) (0.00 , N/A , 0.0)	830.7 1810.6	0.2260 99.5 99.5	45.4859 [46.3746]	98.1%			
PFNS	(549.0 / 80.0) 41325312 (549.0 / 99.0) 11743295	(9.75 , 1.04) (N/A , 0.01 , 0.1)	679.2 814.9	0.2842 122.0 122.0	39.4061 [47.9943]	82.1%			
PFDS	(599.0 / 80.0) 46995456 (599.0 / 99.0) 12810810	(9.91 , 1.06) (N/A , 0.00 , 0.0)	717.9 923.4	0.2726 119.4 119.4	40.5446 [48.1553]	84.2%			
PFDoS	(699.0 / 80.0) 21317962 (699.0 / 99.0) 4756077	(10.13 , 1.08) (N/A , 0.00 , 0.0)	1257.3 1381.6	0.2231 107.6 107.6	43.2983 [48.4781]	89.3%			
4:2FTS	(327.0 / 307.0) 74031925 (327.0 / 81.0) 47699345	(5.72 , 1.00) (0.00 , N/A , 0.0)	521.6 491.5	0.6443 102.4 102.4	147.6780 [186.9055]	79.0%			
6:2FTS	(427.0 / 407.0) 59365393 (427.0 / 81.0) 43991825	(7.50 , 1.00) (-0.01 , N/A , 0.0)	539.1 612.7	0.7410 96.7 96.7	161.1132 [189.8085]	84.9%			
8:2FTS	(527.0 / 507.0) 55670103 (527.0 / 81.0) 39851986	(8.91 , 1.00) (0.00 , N/A , 0.1)	419.0 394.5	0.7159 94.4 94.4	142.2110 [191.6577]	74.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

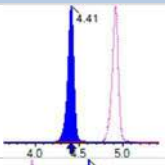
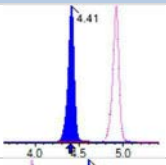
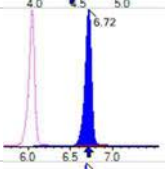
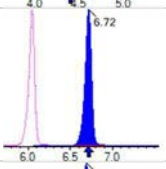
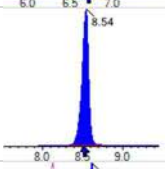
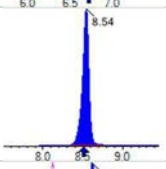
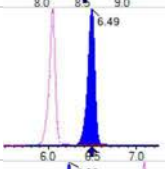
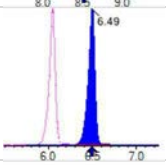
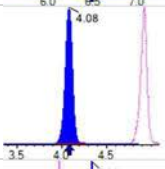
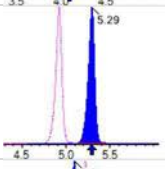
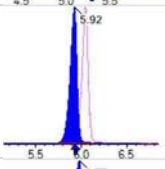
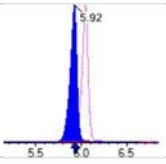
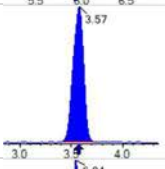
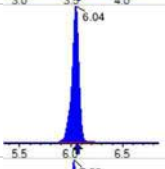
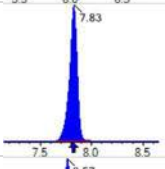
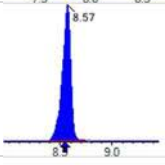
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 46754283 (498.0 / 478.0) 1240537	(10.20 , 1.00) (0.00 , N/A , 0.0)	943.5 845.5	0.0265 140.7 140.7	43.2430 [50.0000]	86.5%			
NMeFOSA	(512.0 / 219.0) 33461375 (512.0 / 169.0) 24168953	(10.65 , 1.00) (0.00 , N/A , 0.0)	805.3 826.6	0.7223 101.2 101.2	149.4682 [200.0000]	74.7%			
NEtFOSA	(526.0 / 219.0) 32655791 (526.0 / 169.0) 33776520	(10.73 , 1.00) (0.00 , N/A , 0.0)	1166.5 1169.6	1.0343 97.8 97.8	180.8744 [200.0000]	90.4%			
NMeFOSAA	(570.0 / 419.0) 11894792 (570.0 / 483.0) 5559292	(9.46 , 1.00) (0.01 , N/A , 0.2)	676.8 398.2	0.4674 91.9 91.9	50.6799 [50.0000]	101.4%			
NEtFOSAA	(584.0 / 419.0) 7587816 (584.0 / 526.0) 4756064	(9.66 , 1.00) (0.01 , N/A , 0.3)	817.3 487.7	0.6268 100.8 100.8	51.2289 [50.0000]	102.5%			
NMeFOSE	(616.0 / 59.0) 6865084	(10.62 , 1.00) (0.01 , N/A , 0.0)	598.4	N/A 0.0 0.0	206.5695 [200.0000]	103.3%			
NEtFOSE	(630.0 / 59.0) 1389369	(10.71 , 1.00) (0.00 , N/A , 0.0)	605.7	N/A 0.0 0.0	202.5120 [200.0000]	101.3%			
HFPO-DA	(285.0 / 169.0) 11605288 (285.0 / 185.0) 29802942	(6.39 , 1.00) (0.00 , N/A , 0.1)	585.9 554.1	2.5680 95.7 95.7	102.9408 [100.0000]	102.9%			
ADONA	(377.0 / 85.0) 50495361 (377.0 / 251.0) 6746417	(7.33 , 1.15) (N/A , 0.01 , 0.1)	674.6 643.7	0.1336 114.8 114.8	85.6885 [94.2700]	90.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 92960754 (533.0 / 353.0) 42759603	(9.69 , 1.52) (N/A , 0.00 , -0.2)	453.2 535.0	0.4600 148.1 148.1	92.8009 [93.3254]	99.4%			
11Cl-PF3OUDS	(631.0 / 451.0) 59506157 (633.0 / 453.0) 21260473	(10.01 , 1.57) (N/A , 0.00 , 0.1)	870.4 668.9	0.3573 104.0 104.0	75.6433 [94.3208]	80.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

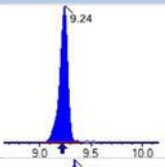
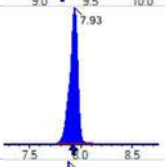
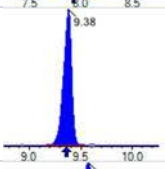
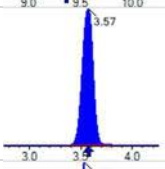
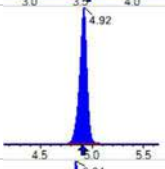
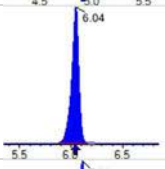
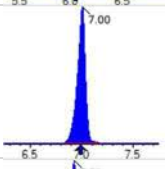
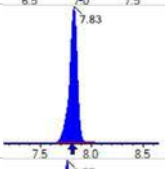
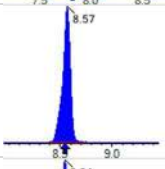
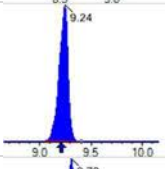
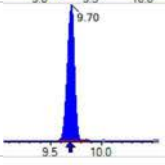
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1677859 (241.0 / 117.0) 2528167	(4.41 , 0.90) (N/A , 0.01 , 0.0)	500.6 450.6	1.5068 102.4 102.4	219.9187 [200.0000]	110.0%			
5:3FTCA	(341.0 / 236.7) 10778038 (341.0 / 217.0) 18135212	(6.72 , 1.11) (N/A , 0.01 , 0.0)	448.8 471.4	1.6826 100.7 100.7	225.6913 [200.0000]	112.8%			
7:3FTCA	(441.0 / 317.0) 15590127 (441.0 / 337.0) 13554549	(8.54 , 1.41) (N/A , 0.02 , 0.0)	457.9 479.3	0.8694 100.9 100.9	216.9160 [200.0000]	108.5%			
PFEESA	(315.0 / 135.0) 28104594 (315.0 / 83.0) 8886057	(6.49 , 1.07) (N/A , 0.00 , -0.3)	596.1 578.1	0.3162 103.4 103.4	90.8946 [89.2459]	101.8%			
PFMPA	(229.0 / 85.0) 8263727	(4.08 , 0.83) (N/A , 0.00 , 0.0)	776.4	N/A 0.0 0.0	103.9747 [100.0000]	104.0%			
PFMBA	(279.0 / 85.0) 20049566	(5.29 , 1.08) (N/A , 0.00 , 0.0)	656.3	N/A 0.0 0.0	99.8632 [100.0000]	99.9%			
NFDHA	(295.0 / 201.0) 14287362 (295.0 / 85.0) 12905070	(5.92 , 0.98) (N/A , 0.00 , -0.1)	492.9 514.2	0.9033 98.2 98.2	109.4597 [100.0000]	109.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 217338	(3.57 , N/A) (N/A , 0.00 , N/A)	479.0	N/A	0.8580 [1.0000]	85.8% { 84.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 361129	(6.04 , N/A) (N/A , -0.01 , N/A)	481.6	N/A	0.9769 [1.0000]	97.7% { 98.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 402671	(7.83 , N/A) (N/A , 0.02 , N/A)	647.1	N/A	0.9167 [1.0000]	91.7% { 86.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 369841	(8.57 , N/A) (N/A , 0.03 , N/A)	510.1	N/A	0.9120 [1.0000]	91.2% { 85.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

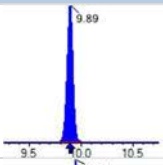
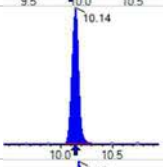
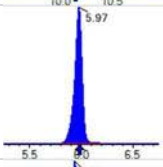
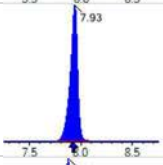
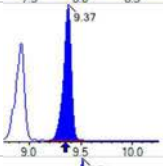
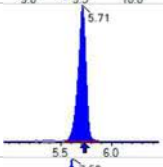
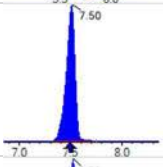
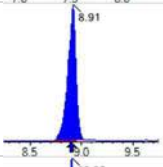
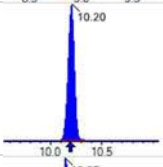
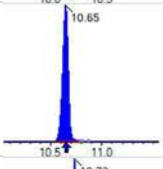
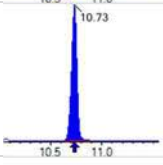
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 454149	(9.24 , N/A) (N/A , 0.02 , N/A)	374.3	N/A	1.0514 [1.0000]	105.1% { 106.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 735221	(7.93 , N/A) (N/A , 0.02 , N/A)	515.5	N/A	0.9953 [1.0000]	99.5% { 98.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 666166	(9.38 , N/A) (N/A , 0.02 , N/A)	370.9	N/A	0.8640 [1.0000]	86.4% { 81.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1643478	(3.57 , N/A) (N/A , 0.00 , N/A)	509.0	N/A	7.6969 [8.0000]	96.2% { 80.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1094456	(4.92 , N/A) (N/A , 0.01 , N/A)	519.2	N/A	3.7030 [4.0000]	92.6% { 89.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 636905	(6.04 , N/A) (N/A , 0.00 , N/A)	464.2	N/A	1.7260 [2.0000]	86.3% { 78.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 638794	(7.00 , N/A) (N/A , 0.01 , N/A)	412.1	N/A	1.8211 [2.0000]	91.1% { 88.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 826030	(7.83 , N/A) (N/A , 0.02 , N/A)	574.7	N/A	2.0134 [2.0000]	100.7% { 89.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 358336	(8.57 , N/A) (N/A , 0.03 , N/A)	468.7	N/A	0.9762 [1.0000]	97.6% { 86.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 448173	(9.24 , N/A) (N/A , 0.03 , N/A)	513.0	N/A	0.8758 [1.0000]	87.6% { 101.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 434236	(9.70 , N/A) (N/A , 0.01 , N/A)	289.5	N/A	0.6863 [1.0000]	68.6% { 66.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

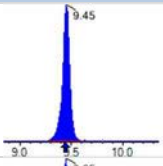
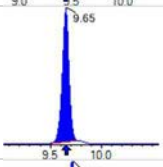
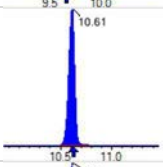
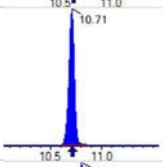
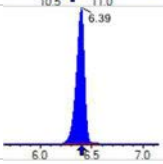
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 563288	(9.89 , N/A) (N/A , 0.00 , N/A)	747.2	N/A	0.9272 [1.0000]	92.7% { 91.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 412251	(10.14 , N/A) (N/A , 0.00 , N/A)	688.4	N/A	0.8477 [1.0000]	84.8% { 89.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1757345	(5.97 , N/A) (N/A , -0.01 , N/A)	558.8	N/A	1.7979 [2.0000]	89.9% { 88.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1163569	(7.93 , N/A) (N/A , 0.02 , N/A)	707.1	N/A	1.8996 [2.0000]	95.0% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1682742	(9.37 , N/A) (N/A , 0.02 , N/A)	49.3	N/A	2.1279 [2.0000]	106.4% { 88.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 623896	(5.71 , N/A) (N/A , -0.01 , N/A)	484.0	N/A	3.2701 [4.0000]	81.8% { 86.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 964692	(7.50 , N/A) (N/A , 0.02 , N/A)	551.4	N/A	3.4280 [4.0000]	85.7% { 83.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1073591	(8.91 , N/A) (N/A , 0.02 , N/A)	401.5	N/A	4.0715 [4.0000]	101.8% { 111.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2029630	(10.20 , N/A) (N/A , 0.00 , N/A)	958.2	N/A	1.9384 [2.0000]	96.9% { 80.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 471951	(10.65 , N/A) (N/A , 0.00 , N/A)	549.0	N/A	2.5103 [2.0000]	125.5% { 109.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 362493	(10.73 , N/A) (N/A , 0.00 , N/A)	786.4	N/A	2.0453 [2.0000]	102.3% { 82.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-CAL8
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (8)
Acquired: 2023/01/09 - 16:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1045047	(9.45 , N/A) (N/A , 0.02 , N/A)	442.9	N/A	4.2166 [4.0000]	105.4% { 89.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 619537	(9.65 , N/A) (N/A , 0.00 , N/A)	84.8	N/A	3.1793 [4.0000]	79.5% { 72.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 518634	(10.61 , N/A) (N/A , 0.00 , N/A)	811.6	N/A	17.9780 [20.0000]	89.9% { 76.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 244716	(10.71 , N/A) (N/A , 0.00 , N/A)	733.7	N/A	18.4062 [20.0000]	92.0% { 75.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1421951	(6.39 , N/A) (N/A , 0.00 , N/A)	570.3	N/A	7.3430 [8.0000]	91.8% { 88.9% }			

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2302005
Laboratory ID: SC00101-SCV1
Sequence: SC00101
Standard ID: 22L0452

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	8.00	8.18	2.2	30.00
PFPEA	4.00	3.99	-0.2	30.00
PFHXA	2.00	2.02	1.1	30.00
PFHPA	2.00	2.06	2.9	30.00
PFOA	2.00	2.03	1.3	30.00
PFNA	2.00	2.27	13.5	30.00
PFDA	2.00	2.01	0.6	30.00
PFUnA	2.00	1.93	-3.4	30.00
PFDOA	2.00	2.12	5.8	30.00
PFTRDA	2.00	2.26	12.8	30.00
PFTEDA	2.00	2.04	2.0	30.00
PFBS	1.77	1.76	-0.5	30.00
PFPES	1.88	2.06	9.4	30.00
PFHXS	1.83	1.83	-0.02	30.00
PFHPS	1.91	1.81	-5.1	30.00
PFOS	1.86	1.75	-6.0	30.00
PFNS	1.92	2.00	4.2	30.00
PFDS	1.93	2.18	12.9	30.00
PFDOS	1.94	2.05	5.7	30.00
4:2FTS	7.50	8.16	8.8	30.00
6:2FTS	7.60	7.37	-3.1	30.00
8:2FTS	7.68	8.52	11.0	30.00
PFOSA	2.00	2.04	2.0	30.00
NMeFOSA	8.00	7.88	-1.5	30.00
NEtFOSA	8.00	7.81	-2.4	30.00
NMeFOSAA	2.00	1.82	-8.8	30.00
NEtFOSAA	2.00	2.22	11.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2302005
Laboratory ID: SC00101-SCV1
Sequence: SC00101
Standard ID: 22L0452

NMeFOSE	8.00	7.50	-6.2	30.00
NEtFOSE	8.00	7.11	-11.1	30.00
HFPO-DA	4.00	3.98	-0.4	30.00
ADONA	3.78	3.74	-1.1	30.00
PFEESA	3.56	3.51	-1.5	30.00
PFMPA	4.00	3.82	-4.6	30.00
PFMBA	4.00	3.65	-8.9	30.00
NFDHA	4.00	4.19	4.8	30.00
9CL-PF3ONS	3.74	3.78	1.1	30.00
11CL-PF3OUDS	3.78	3.85	1.8	30.00
3:3FTCA	8.00	7.43	-7.1	30.00
5:3FTCA	8.00	7.40	-7.5	30.00
7:3FTCA	8.00	7.50	-6.2	30.00
13C4-PFBA	8.00	8.05	0.7	30.00
13C5-PFPEA	4.00	4.07	1.6	30.00
13C5-PFHXA	2.00	1.99	-0.7	30.00
13C4-PFHPA	2.00	1.90	-5.1	30.00
13C8-PFOA	2.00	2.10	5.1	30.00
13C9-PFNA	1.00	1.03	2.7	30.00
13C6-PFDA	1.00	1.00	0.4	30.00
13C7-PFUnA	1.00	0.968	-3.2	30.00
13C2-PFDOA	1.00	0.997	-0.3	30.00
13C2-PFTEDA	1.00	1.01	1.4	30.00
13C3-PFBS	2.00	2.06	2.8	30.00
13C3-PFHXS	2.00	1.96	-2.1	30.00
13C8-PFOS	2.00	1.96	-2.2	30.00
13C2-4:2FTS	4.00	3.99	-0.3	30.00
13C2-6:2FTS	4.00	4.08	2.1	30.00
13C2-8:2FTS	4.00	4.04	1.0	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2302005
Laboratory ID: SC00101-SCV1
Sequence: SC00101
Standard ID: 22L0452

13C8-PFOSA	2.00	1.95	-2.3	30.00
D5-NETFOSA	2.00	2.04	1.9	30.00
D3-NMEFOSA	2.00	1.96	-2.0	30.00
D3-NMEFOSAA	4.00	3.94	-1.5	30.00
D5-NETFOSAA	4.00	4.01	0.2	30.00
D7-NMEFOSE	20.0	19.7	-1.6	30.00
D9-NETFOSE	20.0	21.4	7.0	30.00
13C3-HFPO-DA	8.00	8.16	2.0	30.00

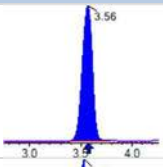
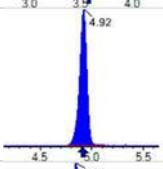
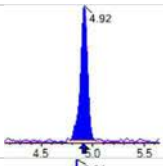
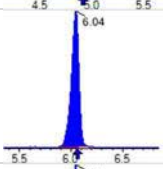
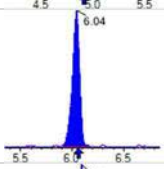
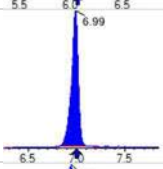
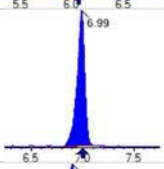
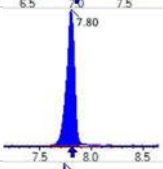
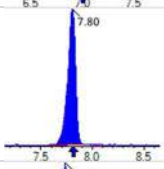
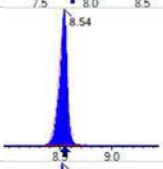
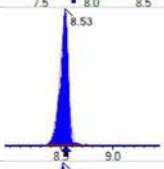
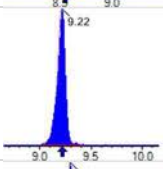
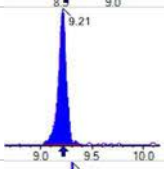
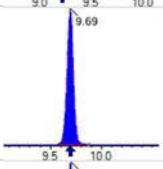
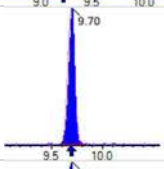
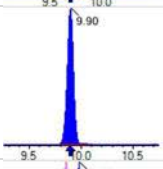
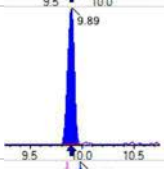
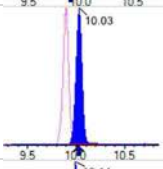
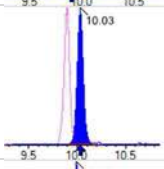
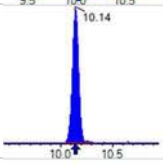
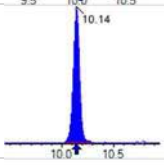
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

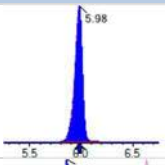
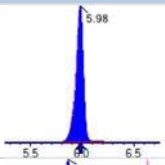
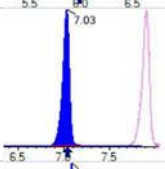
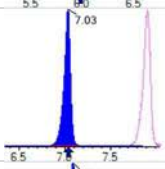
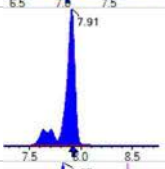
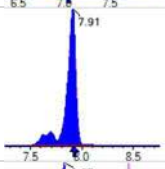
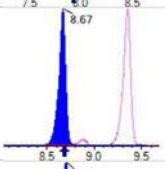
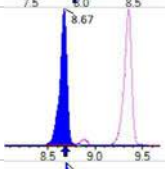
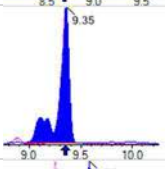
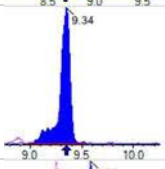
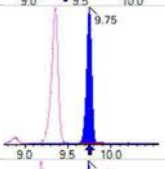
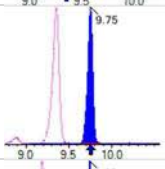
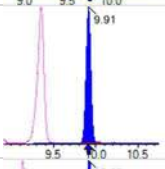
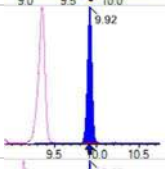
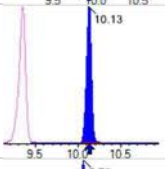
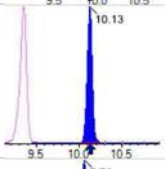
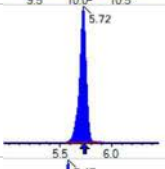
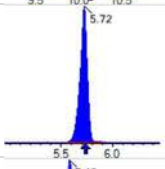
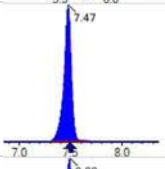
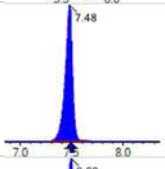
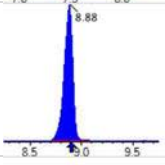
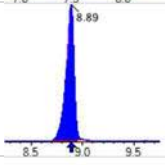
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1946051	(3.56 , 1.00) (0.00 , N/A , 0.0)	454.3	N/A 0.0 0.0	8.1779 [8.0000]	102.2%			
PFPeA	(263.0 / 219.0) 1209665 (263.0 / 69.0) 12730	(4.92 , 1.00) (0.00 , N/A , 0.1)	564.7 146.8	0.0105 96.9 96.9	3.9915 [4.0000]	99.8%			
PFHxA	(313.0 / 269.0) 758653 (313.0 / 119.0) 74329	(6.04 , 1.00) (0.00 , N/A , 0.1)	432.4 253.2	0.0980 99.8 99.8	2.0228 [2.0000]	101.1%			
PFHpA	(363.0 / 319.0) 718480 (363.0 / 169.0) 208782	(6.99 , 1.00) (0.00 , N/A , -0.1)	443.1 410.5	0.2906 102.1 102.1	2.0577 [2.0000]	102.9%			
PFOA	(413.0 / 369.0) 969628 (413.0 / 169.0) 320395	(7.80 , 1.00) (0.00 , N/A , -0.1)	408.9 431.7	0.3304 103.5 103.5	2.0252 [2.0000]	101.3%			
PFNA	(463.0 / 419.0) 806903 (463.0 / 169.0) 167023	(8.54 , 1.00) (0.01 , N/A , 0.0)	459.3 353.7	0.2070 92.3 92.3	2.2703 [2.0000]	113.5%			
PFDA	(513.0 / 469.0) 1031261 (513.0 / 169.0) 102533	(9.22 , 1.00) (0.01 , N/A , 0.3)	399.1 169.4	0.0994 90.5 90.5	2.0114 [2.0000]	100.6%			
PFUnA	(563.0 / 519.0) 1046153 (563.0 / 169.0) 119926	(9.69 , 1.00) (0.00 , N/A , -0.5)	473.3 291.4	0.1146 109.6 109.6	1.9312 [2.0000]	96.6%			
PFDoA	(613.0 / 569.0) 1167559 (613.0 / 169.0) 146123	(9.90 , 1.00) (0.00 , N/A , 0.2)	551.6 194.0	0.1252 97.3 97.3	2.1152 [2.0000]	105.8%			
PFTrDA	(663.0 / 619.0) 1227488 (663.0 / 169.0) 220871	(10.03 , 1.01) (N/A , 0.01 , -0.1)	458.6 267.3	0.1799 89.2 89.2	2.2567 [2.0000]	112.8%			
PFTeDA	(713.0 / 669.0) 933304 (713.0 / 169.0) 165837	(10.14 , 1.00) (0.00 , N/A , 0.0)	568.3 461.3	0.1777 90.9 90.9	2.0408 [2.0000]	102.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

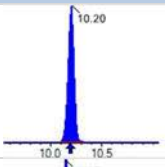
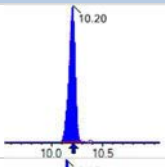
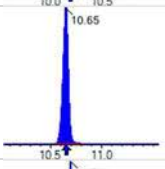
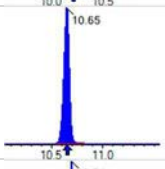
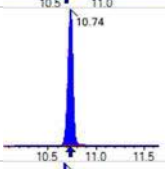
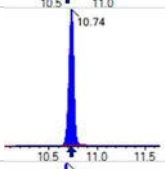
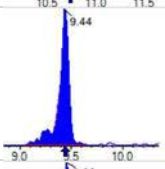
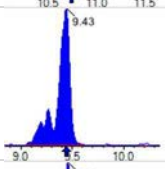
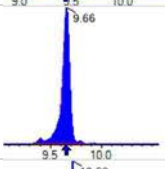
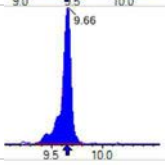
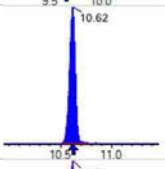
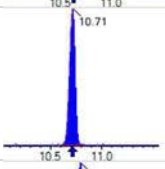
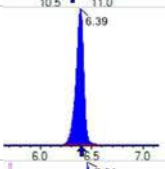
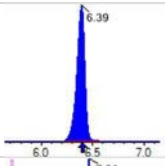
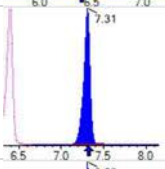
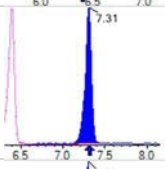
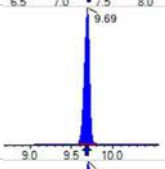
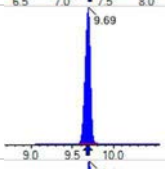
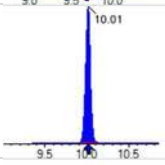
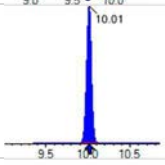
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1155870 (299.0 / 99.0) 740542	(5.98 , 1.00) (0.00 , N/A , -0.1)	464.4 481.3	0.6407 98.2 98.2	1.7611 [1.7695]	99.5%			
PFPeS	(349.0 / 80.0) 2113954 (349.0 / 99.0) 743655	(7.03 , 0.89) (N/A , -0.01 , -0.2)	564.6 642.2	0.3518 95.2 95.2	2.0575 [1.8768]	109.6%			
PFHxS	(399.0 / 80.0) 1836239 (399.0 / 99.0) 588746	(7.91 , 1.00) (0.00 , N/A , 0.1)	743.5 662.9	0.3206 97.2 97.2	1.8296 [1.8220]	100.4%			
PFHpS	(449.0 / 80.0) 1711164 (449.0 / 99.0) 490586	(8.67 , 0.93) (N/A , -0.01 , -0.1)	581.5 370.7	0.2867 104.3 104.3	1.8126 [1.9028]	95.3%			
PFOS	(499.0 / 80.0) 2008126 (499.0 / 99.0) 404588	(9.35 , 1.00) (0.00 , N/A , 0.5)	311.5 534.9	0.2015 88.7 88.7	1.7478 [1.8550]	94.2%			
PFNS	(549.0 / 80.0) 2290601 (549.0 / 99.0) 530507	(9.75 , 1.04) (N/A , 0.00 , -0.1)	428.9 524.0	0.2316 99.4 99.4	2.0005 [1.9198]	104.2%			
PFDS	(599.0 / 80.0) 2757022 (599.0 / 99.0) 626459	(9.91 , 1.06) (N/A , 0.00 , -0.2)	953.6 527.6	0.2272 99.5 99.5	2.1785 [1.9262]	113.1%			
PFDoS	(699.0 / 80.0) 1101903 (699.0 / 99.0) 228847	(10.13 , 1.08) (N/A , 0.00 , 0.2)	823.2 392.0	0.2077 100.2 100.2	2.0497 [1.9391]	105.7%			
4:2FTS	(327.0 / 307.0) 4997715 (327.0 / 81.0) 2819504	(5.72 , 1.00) (0.00 , N/A , 0.1)	627.3 643.7	0.5642 89.7 89.7	8.1596 [7.4762]	109.1%			
6:2FTS	(427.0 / 407.0) 3237942 (427.0 / 81.0) 2704459	(7.47 , 1.00) (0.00 , N/A , -0.2)	668.5 658.1	0.8352 109.0 109.0	7.3659 [7.5923]	97.0%			
8:2FTS	(527.0 / 507.0) 3314893 (527.0 / 81.0) 1987319	(8.88 , 1.00) (0.00 , N/A , -0.6)	348.8 406.1	0.5995 79.0 79.0	8.5220 [7.6663]	111.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

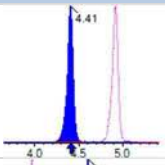
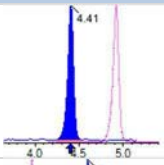
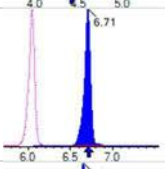
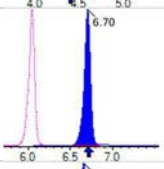
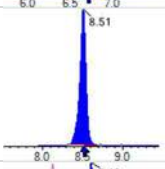
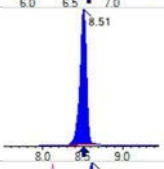
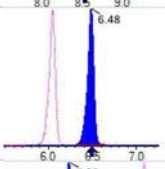
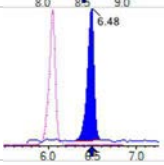
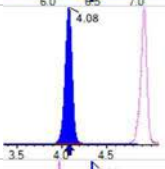
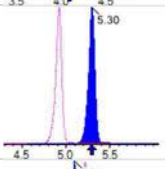
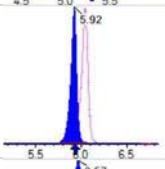
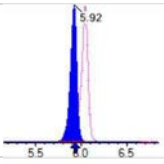
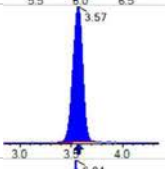
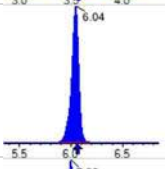
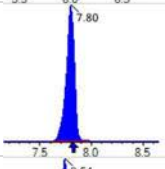
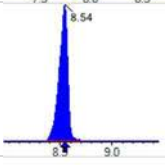
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2639068 (498.0 / 478.0) 61145	(10.20 , 1.00) (0.00 , N/A , -0.2)	1032.4 6600.1	0.0232 122.9 122.9	2.0395 [2.0000]	102.0%			
NMeFOSA	(512.0 / 219.0) 1635317 (512.0 / 169.0) 1139868	(10.65 , 1.00) (0.00 , N/A , 0.0)	813.1 680.4	0.6970 97.7 97.7	7.8802 [8.0000]	98.5%			
NEtFOSA	(526.0 / 219.0) 1668821 (526.0 / 169.0) 1801983	(10.74 , 1.00) (0.00 , N/A , 0.0)	972.3 1168.6	1.0798 102.1 102.1	7.8101 [8.0000]	97.6%			
NMeFOSAA	(570.0 / 419.0) 475397 (570.0 / 483.0) 287144	(9.44 , 1.00) (0.00 , N/A , 0.6)	243.9 290.8	0.6040 118.8 118.8	1.8249 [2.0000]	91.2%			
NEtFOSAA	(584.0 / 419.0) 492227 (584.0 / 526.0) 280029	(9.66 , 1.00) (0.00 , N/A , 0.1)	637.3 459.8	0.5689 91.5 91.5	2.2192 [2.0000]	111.0%			
NMeFOSE	(616.0 / 59.0) 323954	(10.62 , 1.00) (0.00 , N/A , 0.0)	618.1	N/A 0.0 0.0	7.5032 [8.0000]	93.8%			
NEtFOSE	(630.0 / 59.0) 67382	(10.71 , 1.00) (0.01 , N/A , 0.0)	412.5	N/A 0.0 0.0	7.1145 [8.0000]	88.9%			
HFPO-DA	(285.0 / 169.0) 518252 (285.0 / 185.0) 1385503	(6.39 , 1.00) (0.00 , N/A , 0.0)	613.8 529.9	2.6734 99.7 99.7	3.9829 [4.0000]	99.6%			
ADONA	(377.0 / 85.0) 2541992 (377.0 / 251.0) 286992	(7.31 , 1.14) (N/A , -0.01 , 0.0)	599.8 364.3	0.1129 97.0 97.0	3.7374 [3.7708]	99.1%			
9Cl-Pf3ONS	(531.0 / 351.0) 7384200 (533.0 / 353.0) 2138987	(9.69 , 1.52) (N/A , 0.00 , 0.1)	565.4 619.5	0.2897 93.3 93.3	3.7808 [3.7330]	101.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 3492361 (633.0 / 453.0) 1236984	(10.01 , 1.57) (N/A , 0.00 , 0.0)	734.2 740.2	0.3542 103.1 103.1	3.8464 [3.7728]	101.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

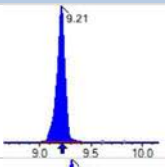
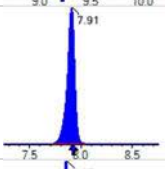
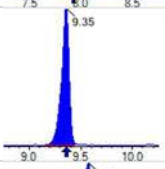
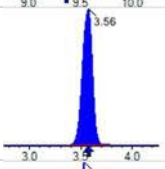
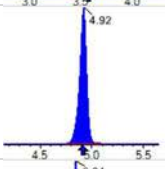
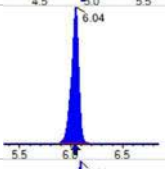
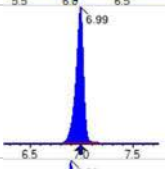
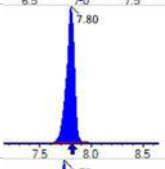
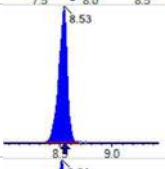
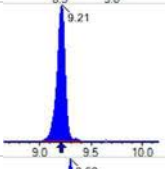
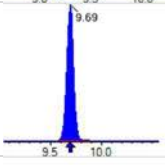
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 64664 (241.0 / 117.0) 100687	(4.41 , 0.90) (N/A , 0.00 , 0.0)	528.4 253.0	1.5571 105.9 105.9	7.4337 [8.0000]	92.9%			
5:3FTCA	(341.0 / 236.7) 422302 (341.0 / 217.0) 681800	(6.71 , 1.11) (N/A , 0.00 , 0.1)	353.0 441.7	1.6145 96.7 96.7	7.3993 [8.0000]	92.5%			
7:3FTCA	(441.0 / 317.0) 644304 (441.0 / 337.0) 555781	(8.51 , 1.41) (N/A , -0.01 , 0.0)	336.9 331.0	0.8626 100.1 100.1	7.5011 [8.0000]	93.8%			
PFEESA	(315.0 / 135.0) 1295510 (315.0 / 83.0) 396146	(6.48 , 1.07) (N/A , -0.01 , 0.0)	581.7 186.4	0.3058 100.0 100.0	3.5059 [3.5698]	98.2%			
PFMPA	(229.0 / 85.0) 345711	(4.08 , 0.83) (N/A , 0.00 , 0.0)	773.0	N/A 0.0 0.0	3.8151 [4.0000]	95.4%			
PFMBA	(279.0 / 85.0) 834564	(5.30 , 1.08) (N/A , 0.01 , 0.0)	570.4	N/A 0.0 0.0	3.6459 [4.0000]	91.1%			
NFDHA	(295.0 / 201.0) 654112 (295.0 / 85.0) 622547	(5.92 , 0.98) (N/A , 0.00 , 0.1)	626.2 705.9	0.9517 103.5 103.5	4.1932 [4.0000]	104.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 263071	(3.57 , N/A) (N/A , 0.00 , N/A)	423.3	N/A	1.0386 [1.0000]	103.9% { 101.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 374979	(6.04 , N/A) (N/A , -0.01 , N/A)	473.4	N/A	1.0144 [1.0000]	101.4% { 101.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 429239	(7.80 , N/A) (N/A , -0.01 , N/A)	497.5	N/A	0.9772 [1.0000]	97.7% { 91.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 363341	(8.54 , N/A) (N/A , 0.00 , N/A)	397.1	N/A	0.8959 [1.0000]	89.6% { 83.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

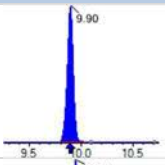
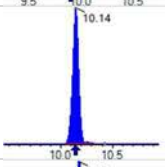
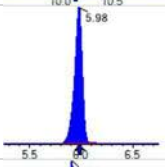
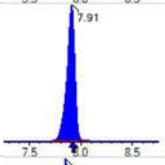
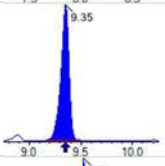
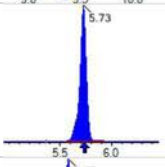
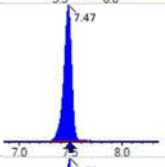
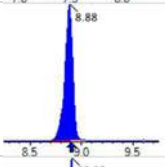
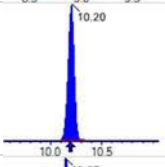
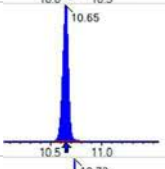
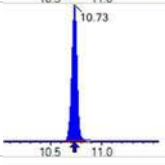
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 442101	(9.21 , N/A) (N/A , 0.00 , N/A)	372.3	N/A	1.0235 [1.0000]	102.4% { 103.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 736442	(7.91 , N/A) (N/A , -0.01 , N/A)	595.1	N/A	0.9969 [1.0000]	99.7% { 98.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 791000	(9.35 , N/A) (N/A , 0.00 , N/A)	378.7	N/A	1.0259 [1.0000]	102.6% { 96.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2081152	(3.56 , N/A) (N/A , 0.00 , N/A)	579.8	N/A	8.0523 [8.0000]	100.7% { 101.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1247841	(4.92 , N/A) (N/A , 0.01 , N/A)	575.7	N/A	4.0660 [4.0000]	101.6% { 101.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 761167	(6.04 , N/A) (N/A , 0.00 , N/A)	595.3	N/A	1.9865 [2.0000]	99.3% { 93.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 691573	(6.99 , N/A) (N/A , 0.00 , N/A)	423.3	N/A	1.8988 [2.0000]	94.9% { 96.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 919038	(7.80 , N/A) (N/A , -0.01 , N/A)	553.5	N/A	2.1014 [2.0000]	105.1% { 99.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 370195	(8.53 , N/A) (N/A , 0.00 , N/A)	532.8	N/A	1.0266 [1.0000]	102.7% { 89.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 500093	(9.21 , N/A) (N/A , 0.00 , N/A)	244.0	N/A	1.0039 [1.0000]	100.4% { 113.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 596018	(9.69 , N/A) (N/A , 0.00 , N/A)	443.1	N/A	0.9677 [1.0000]	96.8% { 91.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

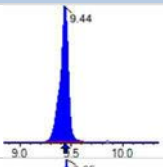
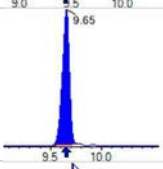
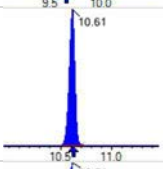
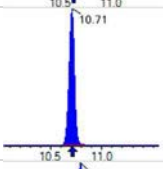
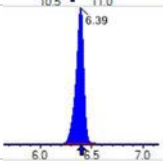
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 589618	(9.90 , N/A) (N/A , 0.00 , N/A)	286.5	N/A	0.9970 [1.0000]	99.7% { 95.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 480072	(10.14 , N/A) (N/A , 0.00 , N/A)	1373.0	N/A	1.0141 [1.0000]	101.4% { 103.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2012191	(5.98 , N/A) (N/A , -0.01 , N/A)	535.1	N/A	2.0552 [2.0000]	102.8% { 101.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1200970	(7.91 , N/A) (N/A , -0.01 , N/A)	610.3	N/A	1.9574 [2.0000]	97.9% { 99.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1837328	(9.35 , N/A) (N/A , 0.00 , N/A)	213.3	N/A	1.9567 [2.0000]	97.8% { 96.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 762278	(5.73 , N/A) (N/A , 0.01 , N/A)	623.9	N/A	3.9888 [4.0000]	99.7% { 105.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1150873	(7.47 , N/A) (N/A , -0.01 , N/A)	593.5	N/A	4.0828 [4.0000]	102.1% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1066794	(8.88 , N/A) (N/A , -0.01 , N/A)	403.5	N/A	4.0391 [4.0000]	101.0% { 111.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2429092	(10.20 , N/A) (N/A , 0.00 , N/A)	1033.2	N/A	1.9538 [2.0000]	97.7% { 96.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 437490	(10.65 , N/A) (N/A , 0.00 , N/A)	704.1	N/A	1.9598 [2.0000]	98.0% { 101.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 429014	(10.73 , N/A) (N/A , 0.00 , N/A)	922.0	N/A	2.0386 [2.0000]	101.9% { 98.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-SCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (10)
Acquired: 2023/01/09 - 16:59

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1159943	(9.44 , N/A) (N/A , 0.01 , N/A)	316.7	N/A	3.9416 [4.0000]	98.5% { 99.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 927760	(9.65 , N/A) (N/A , 0.01 , N/A)	84.1	N/A	4.0097 [4.0000]	100.2% { 108.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 673783	(10.61 , N/A) (N/A , 0.00 , N/A)	629.3	N/A	19.6702 [20.0000]	98.4% { 99.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 337832	(10.71 , N/A) (N/A , 0.00 , N/A)	1115.3	N/A	21.3997 [20.0000]	107.0% { 104.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1641201	(6.39 , N/A) (N/A , 0.00 , N/A)	681.4	N/A	8.1622 [8.0000]	102.0% { 102.6% }			

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2302005
Laboratory ID: SC00089-LCV1
Sequence: SC00089
Standard ID: 22L0444

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.384	-3.9	30.00
PFPEA	0.200	0.193	-3.7	30.00
PFHXA	0.100	0.101	0.7	30.00
PFHPA	0.100	0.0970	-3.0	30.00
PFOA	0.100	0.108	7.5	30.00
PFNA	0.100	0.100	0.4	30.00
PFDA	0.100	0.0795	-20.5	30.00
PFUnA	0.100	0.104	4.1	30.00
PFDOA	0.100	0.116	15.5	30.00
PFTRDA	0.100	0.0985	-1.5	30.00
PFTEDA	0.100	0.116	15.7	30.00
PFBS	0.0885	0.0820	-7.3	30.00
PFPES	0.0940	0.0882	-6.2	30.00
PFHXS	0.0915	0.0885	-3.3	30.00
PFHPS	0.0955	0.0909	-4.8	30.00
PFOS	0.0930	0.146	57.2 *	30.00
PFNS	0.0960	0.105	9.6	30.00
PFDS	0.0965	0.112	15.6	30.00
PFDOS	0.0970	0.136	40.4 *	30.00
4:2FTS	0.375	0.346	-7.9	30.00
6:2FTS	0.380	0.317	-16.7	30.00
8:2FTS	0.384	0.433	12.8	30.00
PFOSA	0.100	0.0969	-3.1	30.00
NMeFOSA	0.400	0.409	2.2	30.00
NEtFOSA	0.400	0.365	-8.6	30.00
NMeFOSAA	0.100	0.110	10.2	30.00
NEtFOSAA	0.100	0.0913	-8.7	30.00
NMeFOSE	0.400	0.299	-25.2	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2302005
Laboratory ID: SC00089-LCV1
Sequence: SC00089
Standard ID: 22L0444

NEtFOSE	0.400	0.416	4.1	30.00
HFPO-DA	0.200	0.215	7.6	30.00
ADONA	0.189	0.150	-20.5	30.00
PFEESA	0.178	0.158	-11.1	30.00
PFMPA	0.200	0.177	-11.6	30.00
PFMBA	0.200	0.203	1.4	30.00
NFDHA	0.200	0.210	4.8	30.00
9CL-PF3ONS	0.187	0.184	-1.5	30.00
11CL-PF3OUDS	0.189	0.198	4.6	30.00
3:3FTCA	0.400	0.438	9.4	30.00
5:3FTCA	0.400	0.412	3.1	30.00
7:3FTCA	0.400	0.376	-6.0	30.00

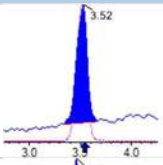
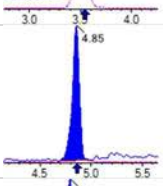
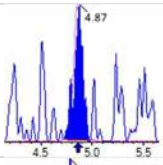
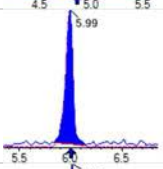
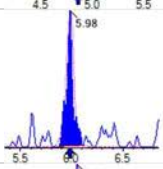
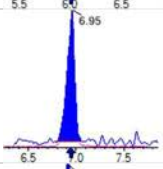
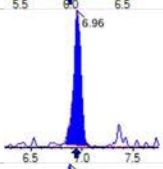
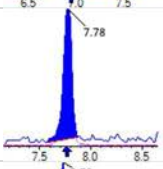
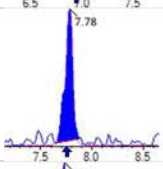
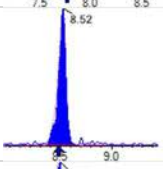
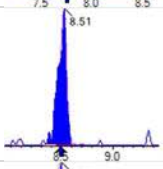
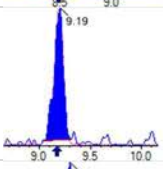
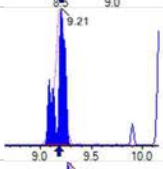
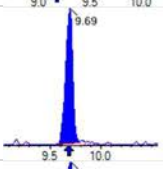
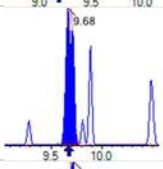
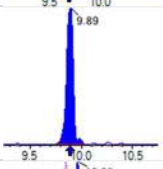
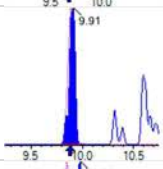
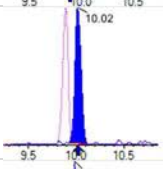
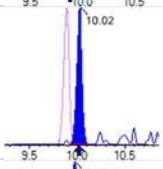
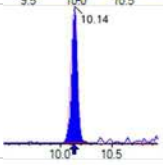
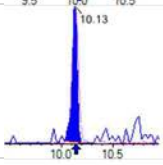
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

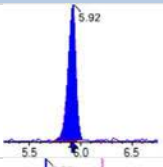
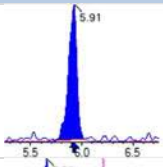
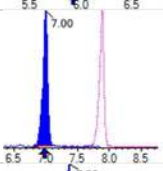
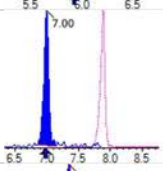
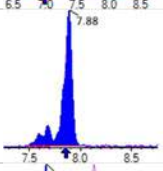
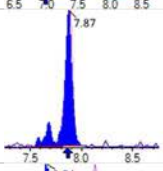
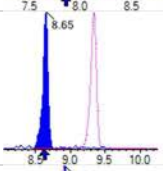
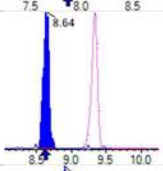
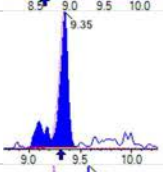
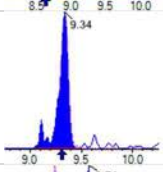
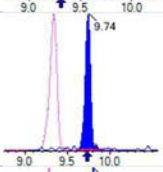
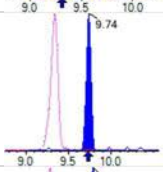
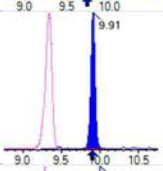
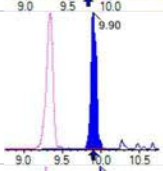
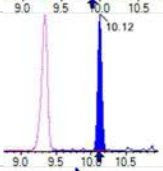
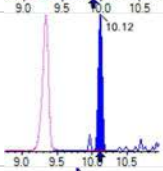
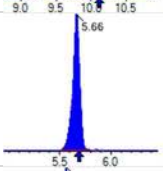
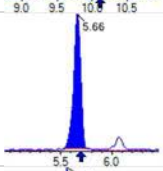
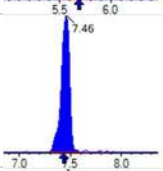
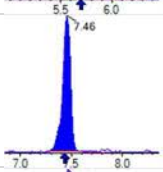
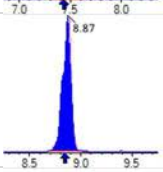
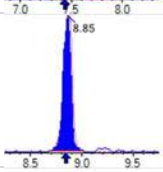
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 71806	(3.52 , 1.00) (0.00 , N/A , 0.0)	114.2	N/A 0.0 0.0	0.3843 [0.4000]	96.1%			
PFPeA	(263.0 / 219.0) 47831 (263.0 / 69.0) 647	(4.85 , 1.00) (0.00 , N/A , -1.2)	136.6 25.3	0.0135 124.6 128.2	0.1925 [0.2000]	96.3%			
PFHxA	(313.0 / 269.0) 34680 (313.0 / 119.0) 3129	(5.99 , 1.00) (0.00 , N/A , 0.4)	110.1 29.6	0.0902 91.9 98.5	0.1007 [0.1000]	100.7%			
PFHpA	(363.0 / 319.0) 32515 (363.0 / 169.0) 10324	(6.95 , 1.00) (-0.01 , N/A , -0.4)	77.9 65.4	0.3175 111.6 113.5	0.0970 [0.1000]	97.0%			
PFOA	(413.0 / 369.0) 41954 (413.0 / 169.0) 13008	(7.78 , 1.00) (-0.01 , N/A , -0.4)	82.9 51.8	0.3100 97.1 107.0	0.1075 [0.1000]	107.5%			
PFNA	(463.0 / 419.0) 33351 (463.0 / 169.0) 6771	(8.52 , 1.00) (0.00 , N/A , 0.4)	124.4 90.2	0.2030 90.5 102.2	0.1004 [0.1000]	100.4%			
PFDA	(513.0 / 469.0) 36149 (513.0 / 169.0) 4193	(9.19 , 1.00) (0.00 , N/A , -1.3)	57.7 74.5	0.1160 105.6 109.7	0.0795 [0.1000]	79.5%			
PFUnA	(563.0 / 519.0) 56612 (563.0 / 169.0) 3502	(9.69 , 1.00) (0.00 , N/A , 0.4)	111.8 23.6	0.0619 59.1 59.4	0.1041 [0.1000]	104.1%			
PFDoA	(613.0 / 569.0) 58004 (613.0 / 169.0) 4318	(9.89 , 1.00) (0.00 , N/A , -1.0)	198.3 23.1	0.0744 57.9 53.9	0.1155 [0.1000]	115.5%			
PFTrDA	(663.0 / 619.0) 48738 (663.0 / 169.0) 15981	(10.02 , 1.01) (N/A , 0.00 , -0.4)	145.3 46.6	0.3279 162.6 164.5	0.0985 [0.1000]	98.5%			IR2,
PFTeDA	(713.0 / 669.0) 44534 (713.0 / 169.0) 8724	(10.14 , 1.00) (0.00 , N/A , 0.5)	103.8 41.7	0.1959 100.2 106.6	0.1157 [0.1000]	115.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

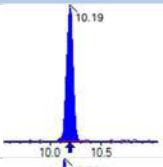
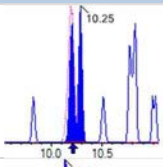
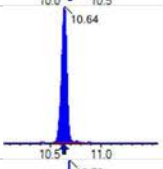
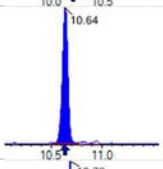
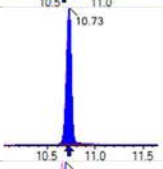
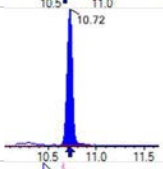
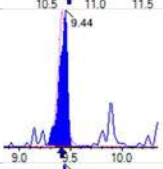
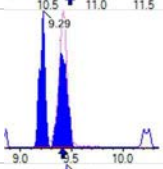
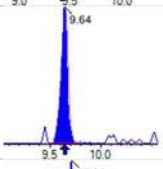
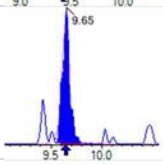
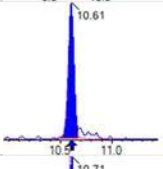
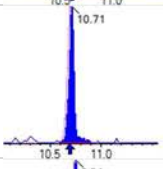
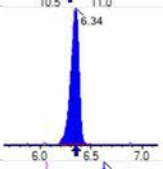
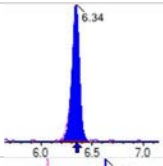
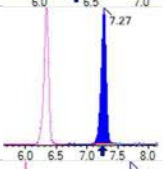
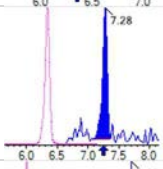
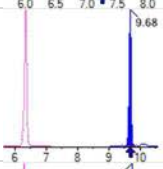
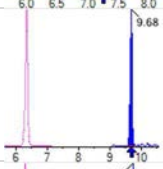
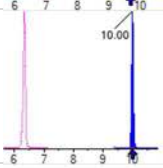
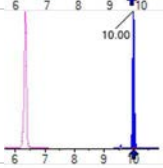
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 46993 (299.0 / 99.0) 30677	(5.92 , 1.00) (0.00 , N/A , 0.1)	185.3 83.9	0.6528 100.1 112.4	0.0820 [0.0885]	92.7%			
PFPeS	(349.0 / 80.0) 78894 (349.0 / 99.0) 27758	(7.00 , 0.89) (N/A , 0.01 , 0.1)	243.4 98.8	0.3518 95.2 103.8	0.0882 [0.0938]	94.0%			
PFHxS	(399.0 / 80.0) 77346 (399.0 / 99.0) 26266	(7.88 , 1.00) (0.00 , N/A , 0.7)	237.3 143.3	0.3396 102.9 104.0	0.0885 [0.0911]	97.2%			
PFHpS	(449.0 / 80.0) 71285 (449.0 / 99.0) 25071	(8.65 , 0.93) (N/A , 0.02 , 0.1)	166.2 206.7	0.3517 128.0 132.8	0.0909 [0.0951]	95.6%			
PFOS	(499.0 / 80.0) 183142 (499.0 / 99.0) 42836	(9.35 , 1.00) (0.01 , N/A , 0.6)	98.6 301.1	0.2339 102.9 110.9	0.1462 [0.0927]	157.6%			QC,
PFNS	(549.0 / 80.0) 100073 (549.0 / 99.0) 23793	(9.74 , 1.04) (N/A , 0.01 , 0.1)	112.4 182.7	0.2378 102.1 92.3	0.1052 [0.0960]	109.6%			
PFDS	(599.0 / 80.0) 117206 (599.0 / 99.0) 29844	(9.91 , 1.06) (N/A , 0.01 , 0.2)	294.6 90.5	0.2546 111.5 119.7	0.1115 [0.0963]	115.8%			
PFDoS	(699.0 / 80.0) 60823 (699.0 / 99.0) 18176	(10.12 , 1.08) (N/A , 0.01 , 0.4)	187.6 64.4	0.2988 144.1 156.2	0.1362 [0.0970]	140.5%			QC,IR2,
4:2FTS	(327.0 / 307.0) 185883 (327.0 / 81.0) 110719	(5.66 , 1.00) (0.00 , N/A , 0.1)	472.0 168.9	0.5956 94.7 88.4	0.3455 [0.3738]	92.4%			
6:2FTS	(427.0 / 407.0) 118447 (427.0 / 81.0) 89065	(7.46 , 1.00) (0.00 , N/A , -0.2)	345.2 276.2	0.7519 98.2 110.5	0.3165 [0.3796]	83.4%			
8:2FTS	(527.0 / 507.0) 123155 (527.0 / 81.0) 77548	(8.87 , 1.00) (-0.01 , N/A , 0.7)	343.9 147.3	0.6297 83.0 94.5	0.4330 [0.3833]	113.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

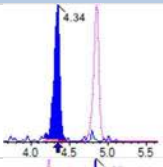
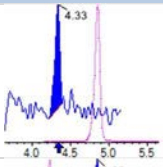
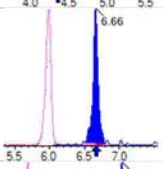
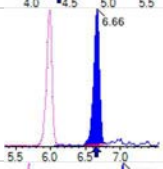
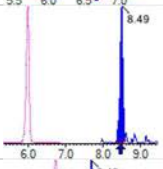
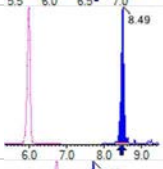
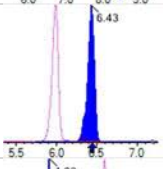
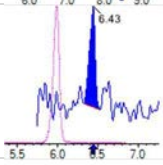
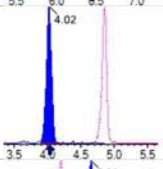
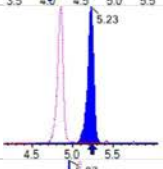
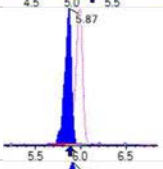
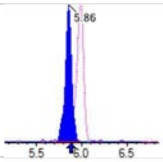
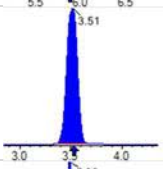
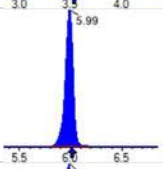
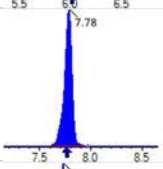
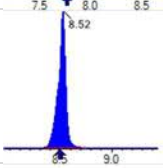
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 112772 (498.0 / 478.0) 1469	(10.19 , 1.00) (0.00 , N/A , -3.2)	281.1 79.6	0.0130 69.1 66.4	0.0969 [0.1000]	96.9%			
NMeFOSA	(512.0 / 219.0) 78322 (512.0 / 169.0) 51134	(10.64 , 1.00) (0.00 , N/A , 0.1)	416.5 362.3	0.6529 91.5 92.5	0.4089 [0.4000]	102.2%			
NEtFOSA	(526.0 / 219.0) 75189 (526.0 / 169.0) 80317	(10.73 , 1.00) (0.00 , N/A , 0.1)	494.1 295.7	1.0682 101.0 102.6	0.3655 [0.4000]	91.4%			
NMeFOSAA	(570.0 / 419.0) 25334 (570.0 / 483.0) 7628	(9.44 , 1.00) (0.02 , N/A , 9.0)	65.8 1667.3	0.3011 59.2 53.7	0.1102 [0.1000]	110.2%			
NEtFOSAA	(584.0 / 419.0) 18375 (584.0 / 526.0) 10984	(9.64 , 1.00) (0.00 , N/A , -0.5)	26180.0 124.5	0.5978 96.1 102.6	0.0913 [0.1000]	91.3%			
NMeFOSE	(616.0 / 59.0) 17368	(10.61 , 1.00) (0.00 , N/A , 0.0)	122.9	N/A 0.0 0.0	0.2992 [0.4000]	74.8%			
NEtFOSE	(630.0 / 59.0) 5163	(10.71 , 1.00) (0.01 , N/A , 0.0)	114.3	N/A 0.0 0.0	0.4165 [0.4000]	104.1%			
HFPO-DA	(285.0 / 169.0) 26980 (285.0 / 185.0) 64717	(6.34 , 1.00) (0.01 , N/A , 0.3)	328.4 277.8	2.3987 89.4 86.1	0.2152 [0.2000]	107.6%			
ADONA	(377.0 / 85.0) 98517 (377.0 / 251.0) 14225	(7.27 , 1.15) (N/A , 0.00 , -0.3)	337.0 45.1	0.1444 124.1 119.3	0.1503 [0.1885]	79.7%			
9Cl-Pf3ONS	(531.0 / 351.0) 317233 (533.0 / 353.0) 122476	(9.68 , 1.53) (N/A , 0.02 , -0.1)	180.6 187.9	0.3861 124.3 121.5	0.1841 [0.1867]	98.7%			
11Cl-PF3OUDS	(631.0 / 451.0) 173017 (633.0 / 453.0) 46872	(10.00 , 1.58) (N/A , 0.00 , -0.1)	516.4 1050.8	0.2709 78.9 77.7	0.1977 [0.1886]	104.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

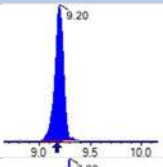
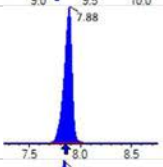
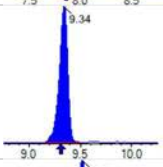
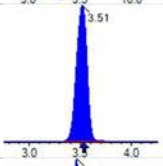
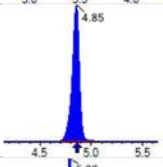
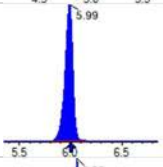
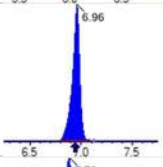
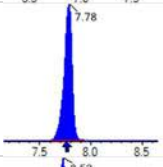
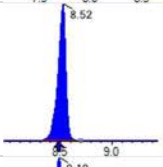
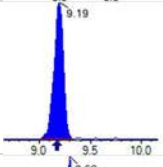
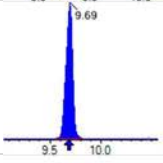
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3121 (241.0 / 117.0) 4422	(4.34 , 0.89) (N/A , 0.00 , 0.5)	81.6 26.0	1.4168 96.3 102.6	0.4377 [0.4000]	109.4%			
5:3FTCA	(341.0 / 236.7) 21624 (341.0 / 217.0) 34423	(6.66 , 1.11) (N/A , 0.00 , -0.2)	125.7 126.9	1.5919 95.3 101.1	0.4125 [0.4000]	103.1%			
7:3FTCA	(441.0 / 317.0) 29663 (441.0 / 337.0) 22836	(8.49 , 1.42) (N/A , 0.02 , -0.1)	87.3 143.6	0.7698 89.3 88.9	0.3760 [0.4000]	94.0%			
PFEESA	(315.0 / 135.0) 53729 (315.0 / 83.0) 15286	(6.43 , 1.07) (N/A , 0.00 , -0.1)	534.3 19.3	0.2845 93.1 93.3	0.1583 [0.1785]	88.7%			
PFMPA	(229.0 / 85.0) 13139	(4.02 , 0.83) (N/A , -0.01 , 0.0)	241.9	N/A 0.0 0.0	0.1769 [0.2000]	88.4%			
PFMBA	(279.0 / 85.0) 38059	(5.23 , 1.08) (N/A , 0.00 , 0.0)	362.8	N/A 0.0 0.0	0.2028 [0.2000]	101.4%			
NFDHA	(295.0 / 201.0) 30033 (295.0 / 85.0) 26062	(5.87 , 0.98) (N/A , 0.01 , 0.7)	291.5 281.6	0.8678 94.4 86.8	0.2096 [0.2000]	104.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 198015	(3.51 , N/A) (N/A , -0.01 , N/A)	395.8	N/A	0.7818 [1.0000]	78.2% { 98.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 319461	(5.99 , N/A) (N/A , 0.00 , N/A)	421.7	N/A	0.8642 [1.0000]	86.4% { 95.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 368479	(7.78 , N/A) (N/A , 0.02 , N/A)	398.1	N/A	0.8388 [1.0000]	83.9% { 96.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 319835	(8.52 , N/A) (N/A , 0.03 , N/A)	482.2	N/A	0.7887 [1.0000]	78.9% { 107.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

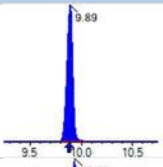
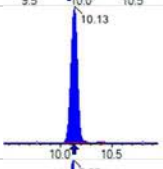
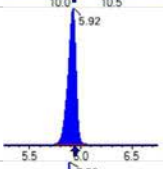
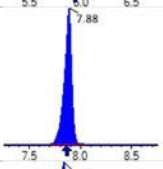
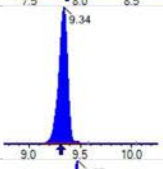
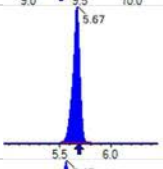
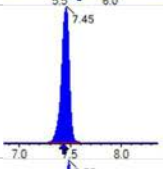
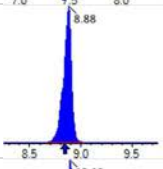
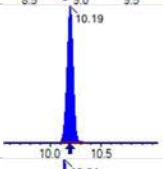
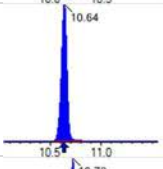
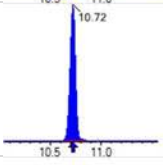
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 354609	(9.20 , N/A) (N/A , 0.03 , N/A)	267.0	N/A	0.8210 [1.0000]	82.1% { 99.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 583839	(7.88 , N/A) (N/A , 0.01 , N/A)	545.1	N/A	0.7903 [1.0000]	79.0% { 92.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 579666	(9.34 , N/A) (N/A , 0.04 , N/A)	360.3	N/A	0.7518 [1.0000]	75.2% { 85.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1633954	(3.51 , N/A) (N/A , -0.01 , N/A)	534.1	N/A	8.3991 [8.0000]	105.0% { 103.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1022878	(4.85 , N/A) (N/A , 0.00 , N/A)	520.8	N/A	3.9122 [4.0000]	97.8% { 100.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 699189	(5.99 , N/A) (N/A , 0.00 , N/A)	456.7	N/A	2.1419 [2.0000]	107.1% { 106.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 663879	(6.96 , N/A) (N/A , 0.01 , N/A)	512.4	N/A	2.1395 [2.0000]	107.0% { 105.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 748864	(7.78 , N/A) (N/A , 0.02 , N/A)	539.8	N/A	1.9947 [2.0000]	99.7% { 100.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 345822	(8.52 , N/A) (N/A , 0.03 , N/A)	470.1	N/A	1.0894 [1.0000]	108.9% { 109.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 443628	(9.19 , N/A) (N/A , 0.02 , N/A)	450.5	N/A	1.1103 [1.0000]	111.0% { 109.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 598262	(9.69 , N/A) (N/A , 0.02 , N/A)	433.6	N/A	1.2110 [1.0000]	121.1% { 110.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

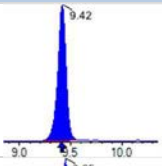
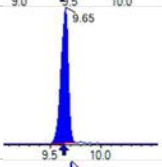
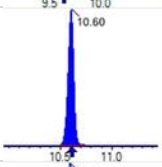
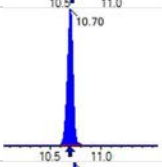
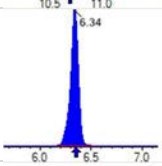
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 536326	(9.89 , N/A) (N/A , 0.01 , N/A)	490.5	N/A	1.1306 [1.0000]	113.1% { 105.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 404235	(10.13 , N/A) (N/A , 0.00 , N/A)	647.4	N/A	1.0646 [1.0000]	106.5% { 99.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1756881	(5.92 , N/A) (N/A , 0.01 , N/A)	440.4	N/A	2.2635 [2.0000]	113.2% { 108.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1045608	(7.88 , N/A) (N/A , 0.02 , N/A)	611.2	N/A	2.1496 [2.0000]	107.5% { 106.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1525881	(9.34 , N/A) (N/A , 0.03 , N/A)	358.8	N/A	2.2175 [2.0000]	110.9% { 100.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 669561	(5.67 , N/A) (N/A , 0.01 , N/A)	575.7	N/A	4.4194 [4.0000]	110.5% { 109.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 979712	(7.45 , N/A) (N/A , 0.02 , N/A)	639.6	N/A	4.3840 [4.0000]	109.6% { 109.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 779970	(8.88 , N/A) (N/A , 0.03 , N/A)	337.8	N/A	3.7250 [4.0000]	93.1% { 97.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2184617	(10.19 , N/A) (N/A , 0.00 , N/A)	943.6	N/A	2.3978 [2.0000]	119.9% { 108.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 403802	(10.64 , N/A) (N/A , 0.00 , N/A)	804.2	N/A	2.4684 [2.0000]	123.4% { 103.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 413057	(10.72 , N/A) (N/A , 0.00 , N/A)	717.0	N/A	2.6783 [2.0000]	133.9% { 111.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (3)
Acquired: 2023/01/10 - 14:21

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1023697	(9.42 , N/A) (N/A , 0.03 , N/A)	310.2	N/A	4.7469 [4.0000]	118.7% { 119.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 842151	(9.65 , N/A) (N/A , 0.02 , N/A)	75.6	N/A	4.9667 [4.0000]	124.2% { 105.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 905721	(10.60 , N/A) (N/A , 0.00 , N/A)	1261.1	N/A	36.0811 [20.0000]	180.4% { 112.6% }			S2,
D9_NEtFOSE_EIS	(639.0 / 58.9) 442152	(10.70 , N/A) (N/A , 0.00 , N/A)	717.7	N/A	38.2189 [20.0000]	191.1% { 106.5% }			S2,
13C3_HFPODA_EIS	(287.0 / 169.0) 1581676	(6.34 , N/A) (N/A , 0.00 , N/A)	589.1	N/A	9.2332 [8.0000]	115.4% { 104.2% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV1	PFBA	20.0	20.6	103	ng/mL	+/- 30.00%
	PFPEA	10.0	10.1	101	ng/mL	+/- 30.00%
	PFHXA	5.00	5.24	105	ng/mL	+/- 30.00%
	PFHPA	5.00	5.29	106	ng/mL	+/- 30.00%
	PFOA	5.00	5.45	109	ng/mL	+/- 30.00%
	PFNA	5.00	5.47	109	ng/mL	+/- 30.00%
	PFDA	5.00	5.03	101	ng/mL	+/- 30.00%
	PFUnA	5.00	5.04	101	ng/mL	+/- 30.00%
	PFDOA	5.00	5.44	109	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.39	108	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.90	98.0	ng/mL	+/- 30.00%
	PFBS	4.42	4.60	104	ng/mL	+/- 30.00%
	PFPES	4.70	5.66	120	ng/mL	+/- 30.00%
	PFHXS	4.58	4.81	105	ng/mL	+/- 30.00%
	PFHPS	4.78	4.88	102	ng/mL	+/- 30.00%
	PFOS	4.65	4.99	107	ng/mL	+/- 30.00%
	PFNS	4.80	5.04	105	ng/mL	+/- 30.00%
	PFDS	4.82	6.09	126	ng/mL	+/- 30.00%
	PFDOS	**4.85**	**6.71**	**138**	**ng/mL**	+/- 30.00%
	4:2FTS	18.8	19.7	105	ng/mL	+/- 30.00%
	6:2FTS	19.0	20.1	106	ng/mL	+/- 30.00%
	8:2FTS	19.2	21.2	110	ng/mL	+/- 30.00%
	PFOSA	5.00	5.51	110	ng/mL	+/- 30.00%
	NMeFOSA	20.0	22.3	111	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.3	107	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.42	108	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.24	105	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.9	99.5	ng/mL	+/- 30.00%
	NEtFOSE	20.0	21.0	105	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.4	104	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

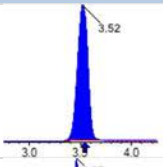
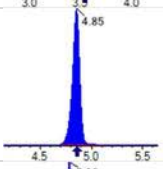
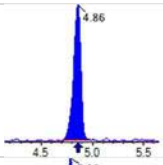
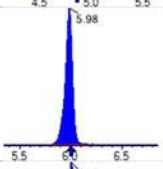
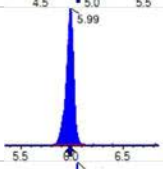
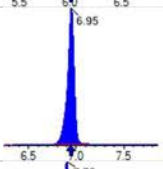
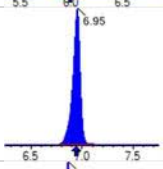
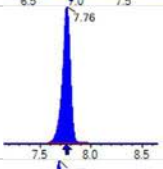
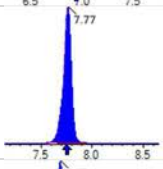
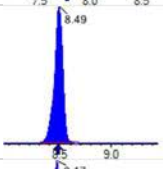
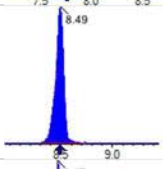
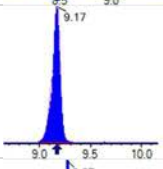
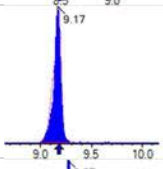
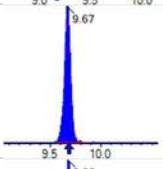
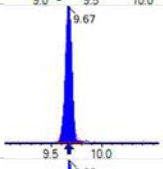
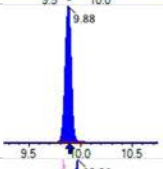
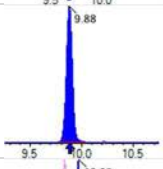
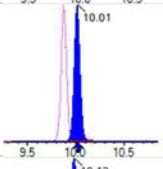
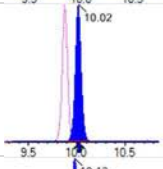
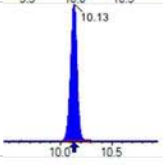
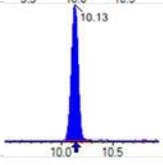
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV1	ADONA	9.45	9.22	97.6	ng/mL	+/- 30.00%
	PFEESA	8.90	9.01	101	ng/mL	+/- 30.00%
	PFMPA	10.0	9.75	97.5	ng/mL	+/- 30.00%
	PFMBA	10.0	11.2	112	ng/mL	+/- 30.00%
	NFDHA	10.0	10.8	108	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.24	98.8	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	10.6	112	ng/mL	+/- 30.00%
	3:3FTCA	20.0	21.9	109	ng/mL	+/- 30.00%
	5:3FTCA	20.0	21.4	107	ng/mL	+/- 30.00%
	7:3FTCA	20.0	19.4	96.8	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

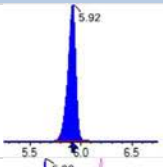
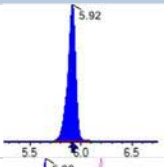
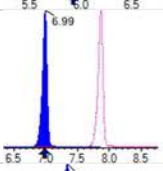
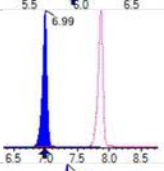
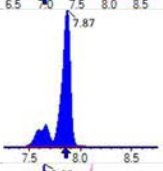
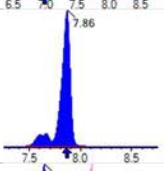
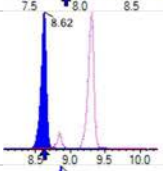
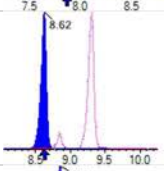
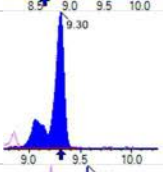
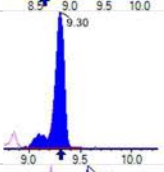
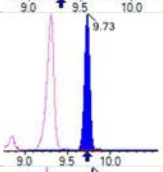
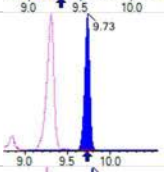
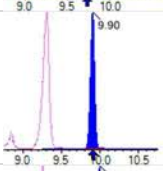
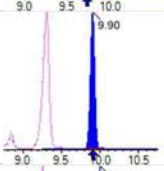
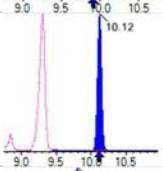
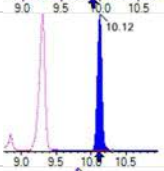
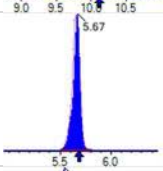
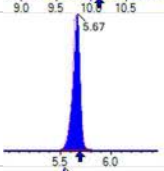
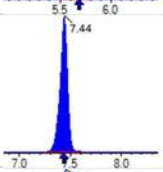
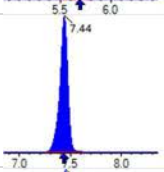
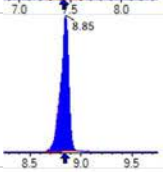
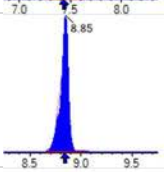
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3706025	(3.52 , 1.00) (0.00 , N/A , 0.0)	491.8	N/A 0.0 0.0	20.5760 [20.0000]	102.9%			
PFPeA	(263.0 / 219.0) 2502086 (263.0 / 69.0) 26418	(4.85 , 1.00) (0.00 , N/A , -0.1)	496.6 205.1	0.0106 97.3 100.0	10.1175 [10.0000]	101.2%			
PFHxA	(313.0 / 269.0) 1702961 (313.0 / 119.0) 155916	(5.98 , 1.00) (0.00 , N/A , -0.2)	482.9 391.9	0.0916 93.3 100.0	5.2441 [5.0000]	104.9%			
PFHpA	(363.0 / 319.0) 1687936 (363.0 / 169.0) 472070	(6.95 , 1.00) (0.00 , N/A , 0.0)	500.9 483.3	0.2797 98.3 100.0	5.2927 [5.0000]	105.9%			
PFOA	(413.0 / 369.0) 2107190 (413.0 / 169.0) 610712	(7.76 , 1.00) (0.00 , N/A , -0.1)	553.2 442.2	0.2898 90.8 100.0	5.4512 [5.0000]	109.0%			
PFNA	(463.0 / 419.0) 1657867 (463.0 / 169.0) 329388	(8.49 , 1.00) (0.00 , N/A , -0.1)	492.9 343.1	0.1987 88.6 100.0	5.4695 [5.0000]	109.4%			
PFDA	(513.0 / 469.0) 2087891 (513.0 / 169.0) 220833	(9.17 , 1.00) (0.00 , N/A , 0.0)	410.9 467.4	0.1058 96.3 100.0	5.0346 [5.0000]	100.7%			
PFUnA	(563.0 / 519.0) 2470055 (563.0 / 169.0) 257136	(9.67 , 1.00) (0.00 , N/A , 0.0)	462.5 278.7	0.1041 99.5 100.0	5.0377 [5.0000]	100.8%			
PFDoA	(613.0 / 569.0) 2587857 (613.0 / 169.0) 357489	(9.88 , 1.00) (0.00 , N/A , -0.1)	497.2 526.6	0.1381 107.4 100.0	5.4355 [5.0000]	108.7%			
PFTrDA	(663.0 / 619.0) 2528865 (663.0 / 169.0) 504021	(10.01 , 1.01) (N/A , 0.00 , -0.1)	570.0 497.6	0.1993 98.8 100.0	5.3901 [5.0000]	107.8%			
PFTeDA	(713.0 / 669.0) 1903546 (713.0 / 169.0) 349913	(10.13 , 1.00) (0.00 , N/A , 0.1)	594.8 343.3	0.1838 94.0 100.0	4.9013 [5.0000]	98.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

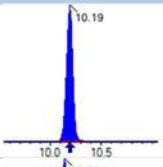
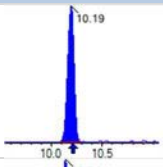
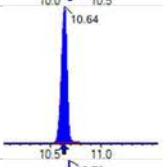
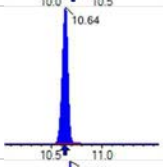
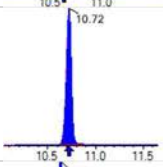
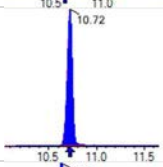
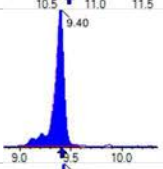
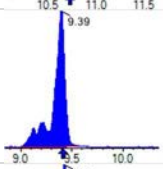
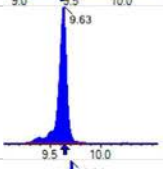
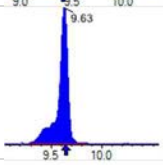
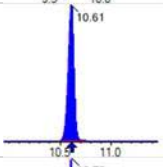
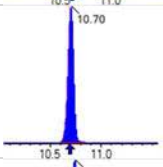
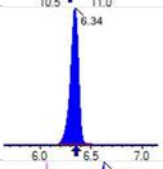
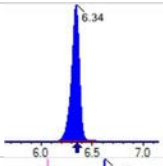
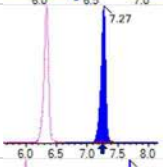
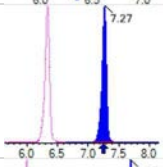
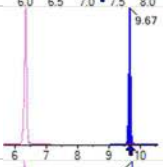
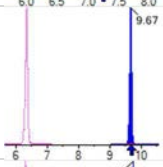
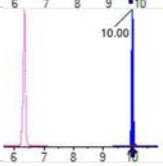
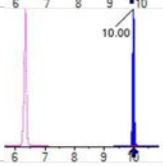
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2441709 (299.0 / 99.0) 1418640	(5.92 , 1.00) (0.00 , N/A , 0.0)	614.3 543.9	0.5810 89.1 100.0	4.6020 [4.4237]	104.0%			
PFPeS	(349.0 / 80.0) 4755529 (349.0 / 99.0) 1611306	(6.99 , 0.89) (N/A , 0.00 , 0.0)	610.7 581.1	0.3388 91.7 100.0	5.6615 [4.6919]	120.7%			
PFHxS	(399.0 / 80.0) 3944263 (399.0 / 99.0) 1288145	(7.87 , 1.00) (0.00 , N/A , 0.2)	661.5 790.8	0.3266 99.0 100.0	4.8068 [4.5549]	105.5%			
PFHpS	(449.0 / 80.0) 3820947 (449.0 / 99.0) 1012007	(8.62 , 0.93) (N/A , 0.00 , 0.0)	524.6 430.8	0.2649 96.4 100.0	4.8819 [4.7570]	102.6%			
PFOS	(499.0 / 80.0) 4666021 (499.0 / 99.0) 983748	(9.30 , 1.00) (0.00 , N/A , 0.1)	524.8 968.1	0.2108 92.8 100.0	4.9912 [4.6375]	107.6%			
PFNS	(549.0 / 80.0) 4782207 (549.0 / 99.0) 1232329	(9.73 , 1.05) (N/A , 0.00 , -0.1)	548.1 702.1	0.2577 110.6 100.0	5.0374 [4.7994]	105.0%			
PFDS	(599.0 / 80.0) 6393070 (599.0 / 99.0) 1360011	(9.90 , 1.06) (N/A , 0.00 , 0.0)	654.4 539.0	0.2127 93.2 100.0	6.0929 [4.8155]	126.5%			
PFDoS	(699.0 / 80.0) 2989896 (699.0 / 99.0) 571935	(10.12 , 1.09) (N/A , 0.00 , -0.1)	1223.5 591.6	0.1913 92.3 100.0	6.7083 [4.8478]	138.4%			QC,
4:2FTS	(327.0 / 307.0) 9748125 (327.0 / 81.0) 6570303	(5.67 , 1.00) (0.01 , N/A , 0.0)	738.2 653.7	0.6740 107.1 100.0	19.7420 [18.6906]	105.6%			
6:2FTS	(427.0 / 407.0) 6882656 (427.0 / 81.0) 4685329	(7.44 , 1.00) (0.00 , N/A , 0.0)	672.4 604.4	0.6807 88.9 100.0	20.0726 [18.9808]	105.8%			
8:2FTS	(527.0 / 507.0) 6205897 (527.0 / 81.0) 4133481	(8.85 , 1.00) (0.00 , N/A , 0.1)	469.4 467.2	0.6661 87.8 100.0	21.1802 [19.1658]	110.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

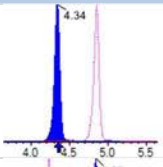
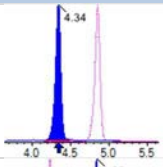
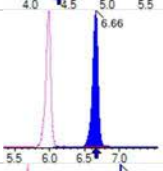
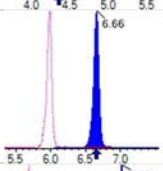
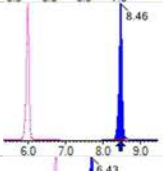
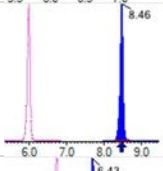
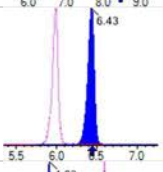
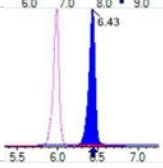
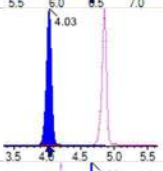
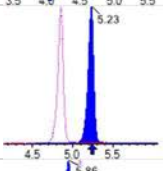
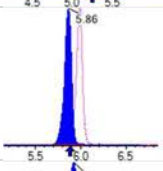
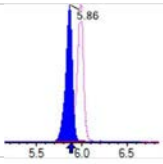
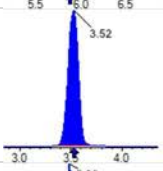
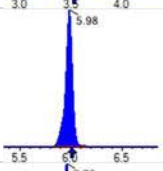
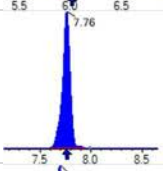
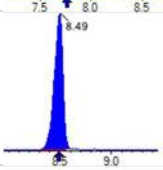
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 5916738 (498.0 / 478.0) 116116	(10.19 , 1.00) (0.00 , N/A , -0.2)	1475.5 257.5	0.0196 104.1 100.0	5.5071 [5.0000]	110.1%			
NMeFOSA	(512.0 / 219.0) 4118240 (512.0 / 169.0) 2907341	(10.64 , 1.00) (0.00 , N/A , 0.1)	893.3 945.7	0.7060 99.0 100.0	22.2912 [20.0000]	111.5%			
NEtFOSA	(526.0 / 219.0) 3921913 (526.0 / 169.0) 4084924	(10.72 , 1.00) (0.00 , N/A , 0.0)	1124.5 1134.4	1.0416 98.5 100.0	21.3173 [20.0000]	106.6%			
NMeFOSAA	(570.0 / 419.0) 1040187 (570.0 / 483.0) 583342	(9.40 , 1.00) (0.01 , N/A , 0.2)	406.1 341.0	0.5608 110.3 100.0	5.4173 [5.0000]	108.3%			
NEtFOSAA	(584.0 / 419.0) 995705 (584.0 / 526.0) 580158	(9.63 , 1.00) (0.00 , N/A , 0.0)	621.9 524.4	0.5827 93.7 100.0	5.2362 [5.0000]	104.7%			
NMeFOSE	(616.0 / 59.0) 1025561	(10.61 , 1.00) (0.01 , N/A , 0.0)	925.4	N/A 0.0 0.0	19.8958 [20.0000]	99.5%			
NEtFOSE	(630.0 / 59.0) 243839	(10.70 , 1.00) (0.01 , N/A , 0.0)	870.5	N/A 0.0 0.0	20.9516 [20.0000]	104.8%			
HFPO-DA	(285.0 / 169.0) 1246442 (285.0 / 185.0) 3474014	(6.34 , 1.00) (0.00 , N/A , 0.0)	533.8 550.7	2.7871 103.9 100.0	10.3538 [10.0000]	103.5%			
ADONA	(377.0 / 85.0) 5803738 (377.0 / 251.0) 702363	(7.27 , 1.15) (N/A , 0.00 , 0.1)	642.5 617.3	0.1210 104.0 100.0	9.2230 [9.4270]	97.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 16323535 (533.0 / 353.0) 5184936	(9.67 , 1.52) (N/A , 0.00 , -0.1)	543.0 445.1	0.3176 102.3 100.0	9.2392 [9.3325]	99.0%			
11Cl-PF3OUDS	(631.0 / 451.0) 8891461 (633.0 / 453.0) 3101533	(10.00 , 1.58) (N/A , 0.00 , 0.0)	565.2 945.6	0.3488 101.6 100.0	10.5846 [9.4321]	112.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

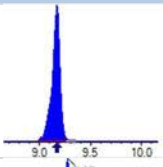
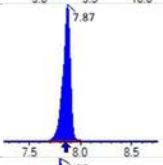
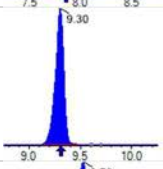
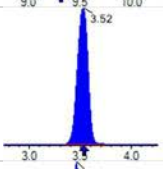
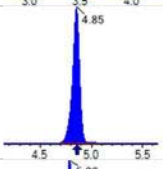
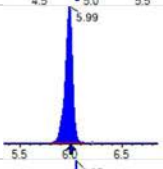
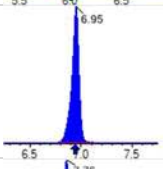
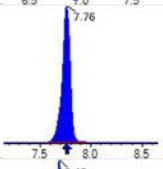
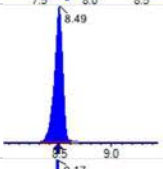
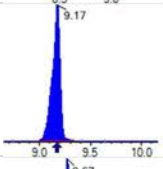
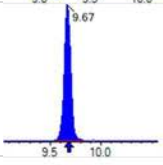
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 155309 (241.0 / 117.0) 214435	(4.34 , 0.89) (N/A , 0.00 , 0.0)	424.8 314.1	1.3807 93.9 100.0	21.8800 [20.0000]	109.4%			
5:3FTCA	(341.0 / 236.7) 1059942 (341.0 / 217.0) 1668780	(6.66 , 1.11) (N/A , 0.00 , 0.1)	469.6 427.8	1.5744 94.3 100.0	21.4492 [20.0000]	107.2%			
7:3FTCA	(441.0 / 317.0) 1439428 (441.0 / 337.0) 1246026	(8.46 , 1.41) (N/A , 0.00 , 0.0)	389.8 364.5	0.8656 100.4 100.0	19.3546 [20.0000]	96.8%			
PFEESA	(315.0 / 135.0) 2882444 (315.0 / 83.0) 878754	(6.43 , 1.07) (N/A , 0.00 , 0.0)	675.7 368.6	0.3049 99.7 100.0	9.0090 [8.9246]	100.9%			
PFMPA	(229.0 / 85.0) 721208	(4.03 , 0.83) (N/A , 0.00 , 0.0)	752.8	N/A 0.0 0.0	9.7534 [10.0000]	97.5%			
PFMBA	(279.0 / 85.0) 2098175	(5.23 , 1.08) (N/A , 0.00 , 0.0)	543.4	N/A 0.0 0.0	11.2327 [10.0000]	112.3%			
NFDHA	(295.0 / 201.0) 1453060 (295.0 / 85.0) 1452370	(5.86 , 0.98) (N/A , 0.00 , -0.1)	602.4 537.1	0.9995 108.7 100.0	10.7582 [10.0000]	107.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 201627	(3.52 , N/A) (N/A , 0.00 , N/A)	361.2	N/A	0.7960 [1.0000]	79.6% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 335415	(5.98 , N/A) (N/A , 0.00 , N/A)	586.4	N/A	0.9074 [1.0000]	90.7% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 382919	(7.76 , N/A) (N/A , 0.00 , N/A)	374.5	N/A	0.8717 [1.0000]	87.2% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 297702	(8.49 , N/A) (N/A , 0.00 , N/A)	394.4	N/A	0.7341 [1.0000]	73.4% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

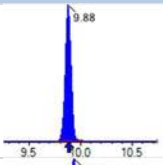
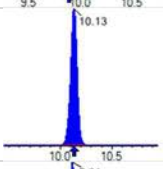
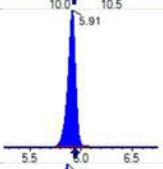
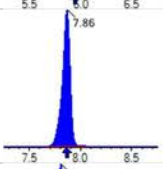
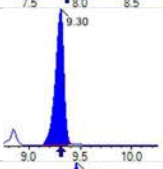
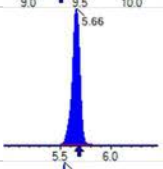
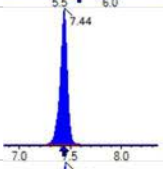
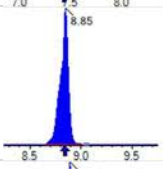
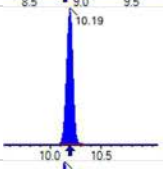
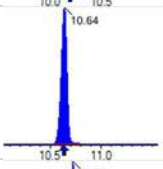
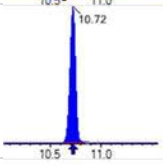
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 356497	(9.17 , N/A) (N/A , 0.00 , N/A)	299.4	N/A	0.8253 [1.0000]	82.5% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 628406	(7.87 , N/A) (N/A , 0.00 , N/A)	575.7	N/A	0.8507 [1.0000]	85.1% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 680731	(9.30 , N/A) (N/A , 0.00 , N/A)	362.3	N/A	0.8829 [1.0000]	88.3% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1575212	(3.52 , N/A) (N/A , 0.00 , N/A)	582.1	N/A	7.9521 [8.0000]	99.4% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1018253	(4.85 , N/A) (N/A , 0.00 , N/A)	534.5	N/A	3.7092 [4.0000]	92.7% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 659054	(5.99 , N/A) (N/A , 0.00 , N/A)	494.4	N/A	1.9229 [2.0000]	96.1% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 631660	(6.95 , N/A) (N/A , 0.00 , N/A)	512.8	N/A	1.9388 [2.0000]	96.9% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 742000	(7.76 , N/A) (N/A , 0.00 , N/A)	460.4	N/A	1.9018 [2.0000]	95.1% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 315709	(8.49 , N/A) (N/A , 0.00 , N/A)	436.6	N/A	1.0685 [1.0000]	106.8% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 404503	(9.17 , N/A) (N/A , 0.00 , N/A)	346.5	N/A	1.0070 [1.0000]	100.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 539481	(9.67 , N/A) (N/A , 0.00 , N/A)	379.3	N/A	1.0862 [1.0000]	108.6% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

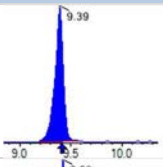
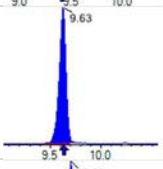
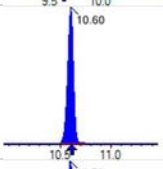
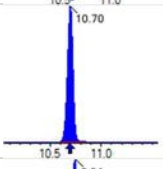
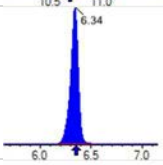
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 508565	(9.88 , N/A) (N/A , 0.00 , N/A)	366.8	N/A	1.0664 [1.0000]	106.6% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 407705	(10.13 , N/A) (N/A , 0.00 , N/A)	749.3	N/A	1.0680 [1.0000]	106.8% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1626639	(5.91 , N/A) (N/A , 0.00 , N/A)	541.6	N/A	1.9471 [2.0000]	97.4% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 981870	(7.86 , N/A) (N/A , 0.00 , N/A)	627.4	N/A	1.8754 [2.0000]	93.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1523292	(9.30 , N/A) (N/A , 0.00 , N/A)	129.9	N/A	1.8851 [2.0000]	94.3% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 614524	(5.66 , N/A) (N/A , 0.00 , N/A)	477.7	N/A	3.7685 [4.0000]	94.2% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 897716	(7.44 , N/A) (N/A , 0.00 , N/A)	603.3	N/A	3.7322 [4.0000]	93.3% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 803571	(8.85 , N/A) (N/A , 0.00 , N/A)	319.7	N/A	3.5655 [4.0000]	89.1% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2016829	(10.19 , N/A) (N/A , 0.00 , N/A)	952.8	N/A	1.8850 [2.0000]	94.2% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 389476	(10.64 , N/A) (N/A , 0.00 , N/A)	661.9	N/A	2.0273 [2.0000]	101.4% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 369388	(10.72 , N/A) (N/A , 0.00 , N/A)	635.2	N/A	2.0396 [2.0000]	102.0% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (4)
Acquired: 2023/01/10 - 14:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 854948	(9.39 , N/A) (N/A , 0.00 , N/A)	261.5	N/A	3.3758 [4.0000]	84.4% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 795383	(9.63 , N/A) (N/A , 0.00 , N/A)	85.7	N/A	3.9944 [4.0000]	99.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 804419	(10.60 , N/A) (N/A , 0.00 , N/A)	770.7	N/A	27.2879 [20.0000]	136.4% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 415129	(10.70 , N/A) (N/A , 0.00 , N/A)	835.9	N/A	30.5556 [20.0000]	152.8% { 100.0% }			S2,
13C3_HFPODA_EIS	(287.0 / 169.0) 1518415	(6.34 , N/A) (N/A , 0.00 , N/A)	649.8	N/A	8.4423 [8.0000]	105.5% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV2	PFBA	20.0	21.1	106	ng/mL	+/- 30.00%
	PFPEA	10.0	10.8	108	ng/mL	+/- 30.00%
	PFHXA	5.00	4.71	94.2	ng/mL	+/- 30.00%
	PFHPA	5.00	5.01	100	ng/mL	+/- 30.00%
	PFOA	5.00	5.03	101	ng/mL	+/- 30.00%
	PFNA	5.00	5.29	106	ng/mL	+/- 30.00%
	PFDA	5.00	4.68	93.5	ng/mL	+/- 30.00%
	PFUnA	5.00	5.05	101	ng/mL	+/- 30.00%
	PFDOA	5.00	5.10	102	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.93	98.7	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.94	119	ng/mL	+/- 30.00%
	PFBS	4.42	4.41	99.7	ng/mL	+/- 30.00%
	PFPES	4.70	5.39	115	ng/mL	+/- 30.00%
	PFHXS	4.58	5.07	111	ng/mL	+/- 30.00%
	PFHPS	4.78	4.85	101	ng/mL	+/- 30.00%
	PFOS	4.65	4.64	99.8	ng/mL	+/- 30.00%
	PFNS	4.80	5.04	105	ng/mL	+/- 30.00%
	PFDS	4.82	5.99	124	ng/mL	+/- 30.00%
	PFDOS	4.85	5.82	120	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.5	103	ng/mL	+/- 30.00%
	6:2FTS	19.0	20.0	105	ng/mL	+/- 30.00%
	8:2FTS	19.2	22.6	117	ng/mL	+/- 30.00%
	PFOSA	5.00	5.01	100	ng/mL	+/- 30.00%
	NMeFOSA	20.0	22.0	110	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.9	105	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.56	91.1	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.65	113	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.6	98.2	ng/mL	+/- 30.00%
	NEtFOSE	20.0	21.3	106	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.6	106	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

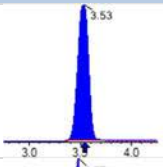
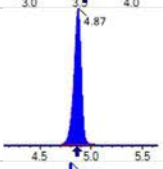
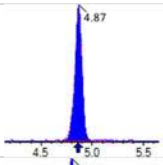
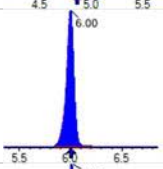
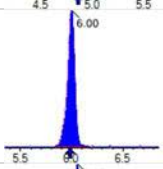
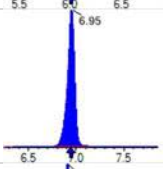
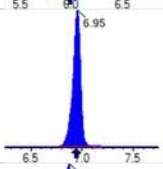
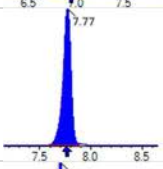
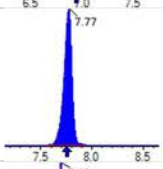
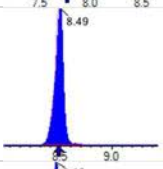
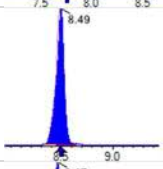
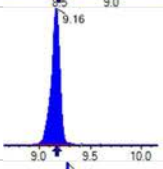
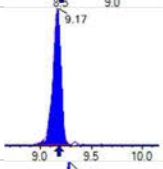
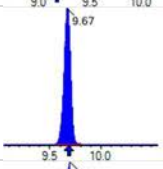
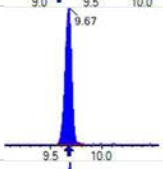
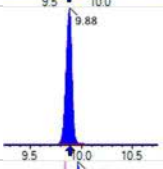
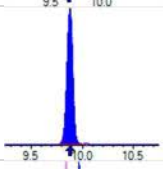
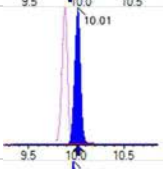
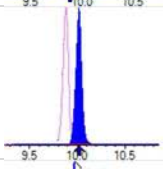
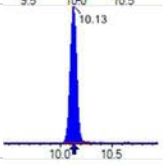
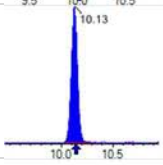
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV2	ADONA	9.45	9.64	102	ng/mL	+/- 30.00%
	PFEESA	8.90	8.97	101	ng/mL	+/- 30.00%
	PFMPA	10.0	10.3	103	ng/mL	+/- 30.00%
	PFMBA	10.0	11.4	114	ng/mL	+/- 30.00%
	NFDHA	10.0	10.9	109	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.67	103	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	11.5	122	ng/mL	+/- 30.00%
	3:3FTCA	20.0	22.6	113	ng/mL	+/- 30.00%
	5:3FTCA	20.0	20.8	104	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.5	92.3	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

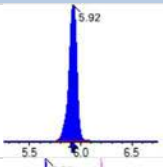
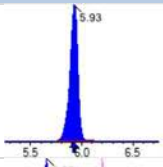
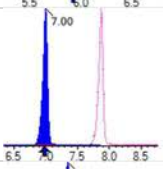
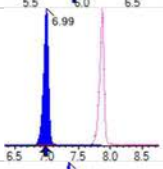
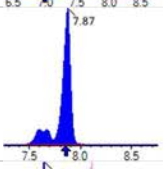
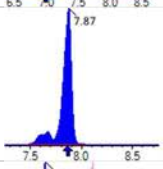
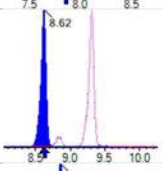
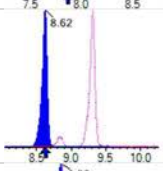
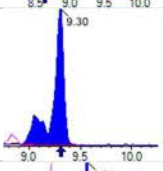
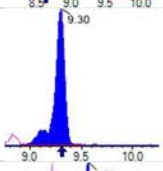
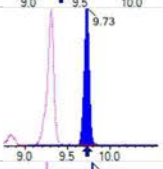
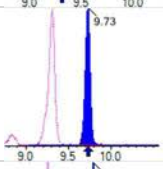
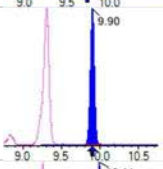
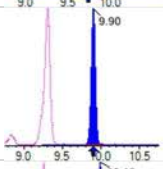
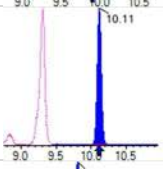
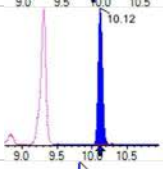
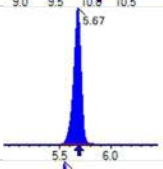
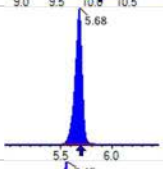
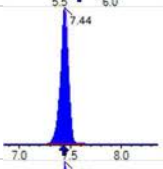
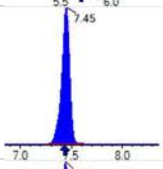
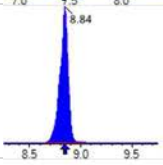
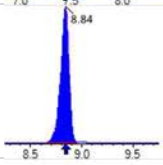
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3811283	(3.53 , 1.00) (0.00 , N/A , 0.0)	559.1	N/A 0.0 0.0	21.1472 [20.0000]	105.7%			
PFPeA	(263.0 / 219.0) 2527389 (263.0 / 69.0) 29143	(4.87 , 1.00) (0.00 , N/A , 0.2)	468.8 280.4	0.0115 106.2 109.2	10.7526 [10.0000]	107.5%			
PFHxA	(313.0 / 269.0) 1565428 (313.0 / 119.0) 152901	(6.00 , 1.00) (0.00 , N/A , -0.1)	459.0 344.6	0.0977 99.5 106.7	4.7079 [5.0000]	94.2%			
PFHpA	(363.0 / 319.0) 1592912 (363.0 / 169.0) 487956	(6.95 , 1.00) (0.00 , N/A , 0.0)	467.3 451.3	0.3063 107.6 109.5	5.0082 [5.0000]	100.2%			
PFOA	(413.0 / 369.0) 1942925 (413.0 / 169.0) 616640	(7.77 , 1.00) (0.00 , N/A , 0.0)	421.3 405.5	0.3174 99.4 109.5	5.0307 [5.0000]	100.6%			
PFNA	(463.0 / 419.0) 1595316 (463.0 / 169.0) 310750	(8.49 , 1.00) (0.01 , N/A , 0.1)	521.3 452.7	0.1948 86.9 98.0	5.2935 [5.0000]	105.9%			
PFDA	(513.0 / 469.0) 2064296 (513.0 / 169.0) 196322	(9.16 , 1.00) (0.01 , N/A , -0.1)	360.3 216.7	0.0951 86.6 89.9	4.6753 [5.0000]	93.5%			
PFUnA	(563.0 / 519.0) 2874666 (563.0 / 169.0) 271580	(9.67 , 1.00) (0.00 , N/A , 0.0)	648.7 303.0	0.0945 90.3 90.8	5.0465 [5.0000]	100.9%			
PFDoA	(613.0 / 569.0) 2724857 (613.0 / 169.0) 347976	(9.88 , 1.00) (0.00 , N/A , 0.2)	701.4 502.9	0.1277 99.3 92.4	5.0954 [5.0000]	101.9%			
PFTrDA	(663.0 / 619.0) 2599981 (663.0 / 169.0) 455437	(10.01 , 1.01) (N/A , 0.00 , -0.1)	697.6 608.1	0.1752 86.9 87.9	4.9337 [5.0000]	98.7%			
PFTeDA	(713.0 / 669.0) 2127354 (713.0 / 169.0) 426544	(10.13 , 1.00) (0.00 , N/A , 0.1)	815.3 469.3	0.2005 102.6 109.1	5.9442 [5.0000]	118.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

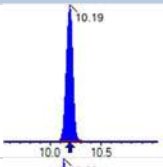
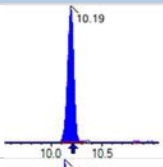
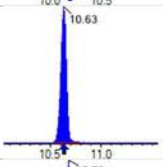
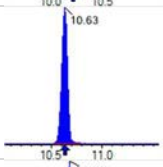
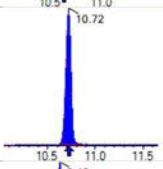
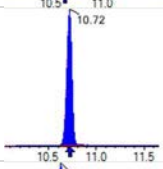
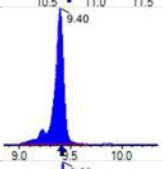
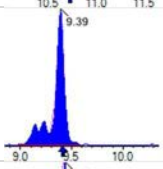
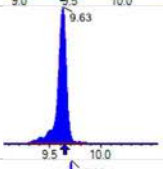
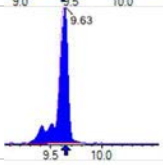
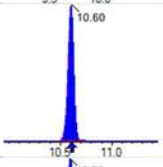
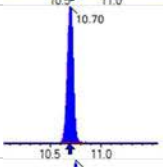
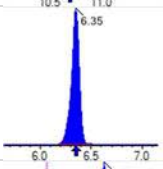
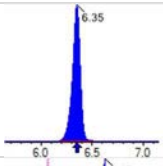
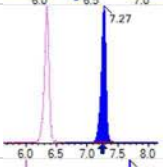
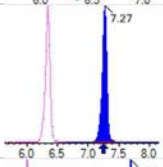
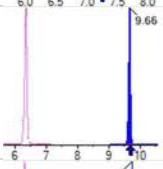
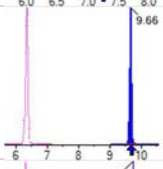
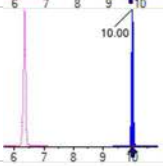
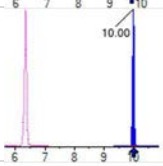
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2448814 (299.0 / 99.0) 1542110	(5.92 , 1.00) (0.00 , N/A , 0.0)	586.0 522.0	0.6297 96.6 108.4	4.4058 [4.4237]	99.6%			
PFPeS	(349.0 / 80.0) 4676139 (349.0 / 99.0) 1553597	(7.00 , 0.89) (N/A , 0.01 , 0.2)	643.9 575.9	0.3322 89.9 98.1	5.3856 [4.6919]	114.8%			
PFHxS	(399.0 / 80.0) 4302029 (399.0 / 99.0) 1384301	(7.87 , 1.00) (0.00 , N/A , 0.1)	856.3 886.2	0.3218 97.5 98.5	5.0721 [4.5549]	111.4%			
PFHpS	(449.0 / 80.0) 4045765 (449.0 / 99.0) 1026732	(8.62 , 0.93) (N/A , 0.00 , -0.2)	552.4 580.1	0.2538 92.3 95.8	4.8464 [4.7570]	101.9%			
PFOS	(499.0 / 80.0) 4631035 (499.0 / 99.0) 1005512	(9.30 , 1.00) (0.00 , N/A , 0.4)	515.3 1417.0	0.2171 95.6 103.0	4.6409 [4.6375]	100.1%			
PFNS	(549.0 / 80.0) 5104854 (549.0 / 99.0) 1279432	(9.73 , 1.05) (N/A , 0.00 , 0.0)	526.9 550.1	0.2506 107.6 97.3	5.0415 [4.7994]	105.0%			
PFDS	(599.0 / 80.0) 6698750 (599.0 / 99.0) 1420648	(9.90 , 1.06) (N/A , 0.00 , 0.0)	853.9 714.0	0.2121 92.9 99.7	5.9855 [4.8155]	124.3%			
PFDoS	(699.0 / 80.0) 2768783 (699.0 / 99.0) 625703	(10.11 , 1.09) (N/A , 0.00 , 0.0)	1037.7 428.9	0.2260 109.0 118.1	5.8243 [4.8478]	120.1%			
4:2FTS	(327.0 / 307.0) 9350755 (327.0 / 81.0) 6299835	(5.67 , 1.00) (0.00 , N/A , -0.1)	605.1 628.6	0.6737 107.1 100.0	19.4567 [18.6906]	104.1%			
6:2FTS	(427.0 / 407.0) 5830595 (427.0 / 81.0) 4841878	(7.44 , 1.00) (-0.01 , N/A , -0.2)	579.5 657.6	0.8304 108.4 122.0	20.0286 [18.9808]	105.5%			
8:2FTS	(527.0 / 507.0) 5990205 (527.0 / 81.0) 3953462	(8.84 , 1.00) (0.00 , N/A , 0.2)	499.8 487.4	0.6600 87.0 99.1	22.5581 [19.1658]	117.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

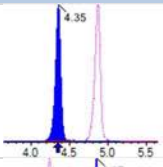
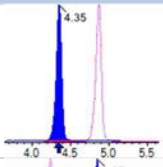
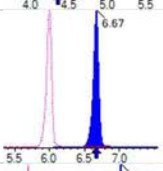
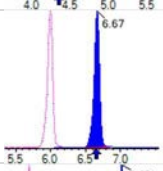
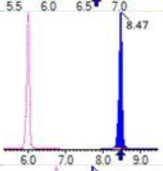
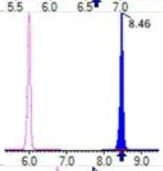
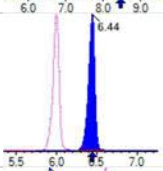
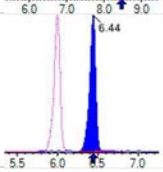
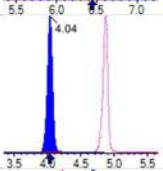
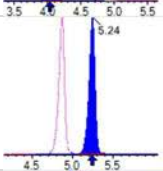
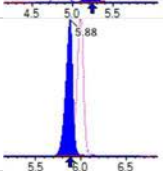
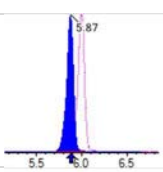
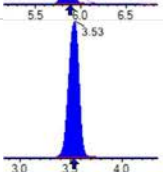
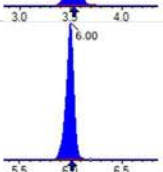
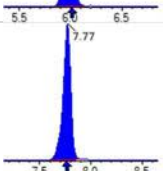
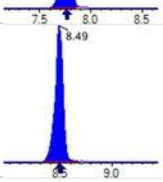
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 5868764 (498.0 / 478.0) 138211	(10.19 , 1.00) (0.00 , N/A , -0.1)	1351.9 385.1	0.0236 124.9 120.0	5.0123 [5.0000]	100.2%			
NMeFOSA	(512.0 / 219.0) 4023160 (512.0 / 169.0) 2700647	(10.63 , 1.00) (0.00 , N/A , 0.1)	1023.0 992.2	0.6713 94.1 95.1	21.9675 [20.0000]	109.8%			
NEtFOSA	(526.0 / 219.0) 3899768 (526.0 / 169.0) 4152586	(10.72 , 1.00) (0.00 , N/A , 0.1)	1351.8 1383.3	1.0648 100.7 102.2	20.9144 [20.0000]	104.6%			
NMeFOSAA	(570.0 / 419.0) 1174737 (570.0 / 483.0) 643465	(9.40 , 1.00) (0.01 , N/A , 0.4)	371.7 295.1	0.5478 107.7 97.7	4.5556 [5.0000]	91.1%			
NEtFOSAA	(584.0 / 419.0) 1065302 (584.0 / 526.0) 621837	(9.63 , 1.00) (0.00 , N/A , -0.4)	596.3 424.1	0.5837 93.9 100.2	5.6516 [5.0000]	113.0%			
NMeFOSE	(616.0 / 59.0) 1058856	(10.60 , 1.00) (0.00 , N/A , 0.0)	727.8	N/A 0.0 0.0	19.6388 [20.0000]	98.2%			
NEtFOSE	(630.0 / 59.0) 238208	(10.70 , 1.00) (0.01 , N/A , 0.0)	1257.1	N/A 0.0 0.0	21.2969 [20.0000]	106.5%			
HFPO-DA	(285.0 / 169.0) 1249434 (285.0 / 185.0) 3645832	(6.35 , 1.00) (0.00 , N/A , 0.0)	596.9 635.3	2.9180 108.8 104.7	10.5865 [10.0000]	105.9%			
ADONA	(377.0 / 85.0) 5950067 (377.0 / 251.0) 714834	(7.27 , 1.15) (N/A , 0.00 , 0.1)	687.0 489.7	0.1201 103.2 99.3	9.6450 [9.4270]	102.3%			
9Cl-Pf3ONS	(531.0 / 351.0) 16716491 (533.0 / 353.0) 5140813	(9.66 , 1.52) (N/A , 0.00 , -0.2)	604.3 486.7	0.3075 99.0 96.8	9.6700 [9.3325]	103.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 9500220 (633.0 / 453.0) 2897677	(10.00 , 1.58) (N/A , 0.00 , 0.0)	713.0 535.8	0.3050 88.8 87.4	11.5359 [9.4321]	122.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

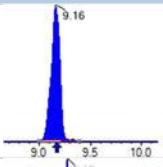
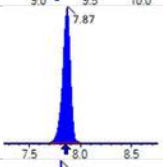
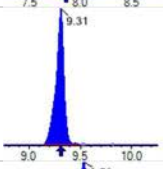
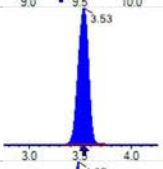
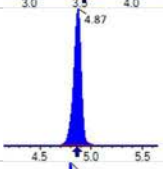
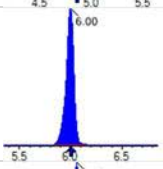
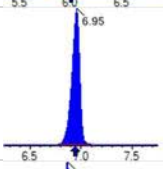
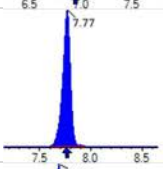
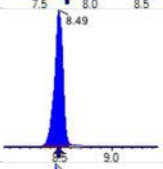
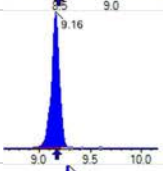
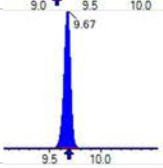
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 152311 (241.0 / 117.0) 225212	(4.35 , 0.89) (N/A , 0.01 , 0.1)	465.9 362.9	1.4786 100.5 107.1	22.5762 [20.0000]	112.9%			
5:3FTCA	(341.0 / 236.7) 1050644 (341.0 / 217.0) 1659249	(6.67 , 1.11) (N/A , 0.01 , 0.1)	467.5 409.2	1.5793 94.6 100.3	20.7640 [20.0000]	103.8%			
7:3FTCA	(441.0 / 317.0) 1405941 (441.0 / 337.0) 1215662	(8.47 , 1.41) (N/A , 0.00 , 0.1)	441.8 412.1	0.8647 100.3 99.9	18.4624 [20.0000]	92.3%			
PFEESA	(315.0 / 135.0) 2938996 (315.0 / 83.0) 949584	(6.44 , 1.07) (N/A , 0.01 , 0.0)	536.8 408.3	0.3231 105.7 106.0	8.9710 [8.9246]	100.5%			
PFMPA	(229.0 / 85.0) 726677	(4.04 , 0.83) (N/A , 0.01 , 0.0)	783.1	N/A 0.0 0.0	10.3396 [10.0000]	103.4%			
PFMBA	(279.0 / 85.0) 2018726	(5.24 , 1.08) (N/A , 0.01 , 0.0)	624.8	N/A 0.0 0.0	11.3708 [10.0000]	113.7%			
NFDHA	(295.0 / 201.0) 1511809 (295.0 / 85.0) 1436881	(5.88 , 0.98) (N/A , 0.02 , 0.1)	555.8 487.5	0.9504 103.3 95.1	10.9315 [10.0000]	109.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 211317	(3.53 , N/A) (N/A , 0.01 , N/A)	478.8	N/A	0.8343 [1.0000]	83.4% { 104.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 315573	(6.00 , N/A) (N/A , 0.01 , N/A)	579.4	N/A	0.8537 [1.0000]	85.4% { 94.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 366524	(7.77 , N/A) (N/A , 0.01 , N/A)	511.2	N/A	0.8344 [1.0000]	83.4% { 95.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 320593	(8.49 , N/A) (N/A , 0.00 , N/A)	426.0	N/A	0.7905 [1.0000]	79.1% { 107.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

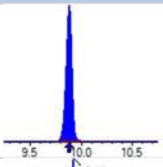
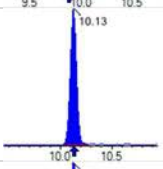
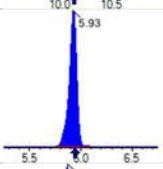
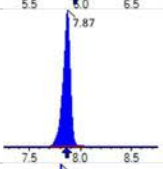
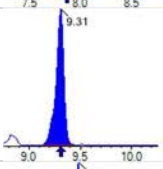
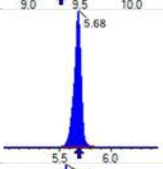
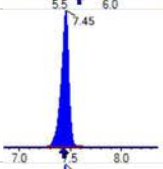
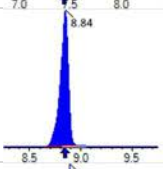
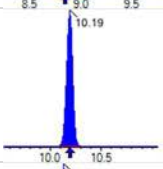
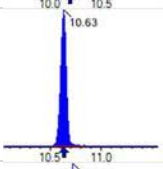
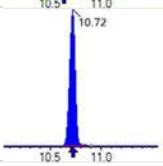
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 354054	(9.16 , N/A) (N/A , -0.01 , N/A)	294.1	N/A	0.8197 [1.0000]	82.0% { 99.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 657596	(7.87 , N/A) (N/A , 0.00 , N/A)	579.8	N/A	0.8902 [1.0000]	89.0% { 104.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 628339	(9.31 , N/A) (N/A , 0.01 , N/A)	353.3	N/A	0.8149 [1.0000]	81.5% { 92.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1576196	(3.53 , N/A) (N/A , 0.01 , N/A)	564.3	N/A	7.5922 [8.0000]	94.9% { 100.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 967802	(4.87 , N/A) (N/A , 0.01 , N/A)	460.5	N/A	3.7471 [4.0000]	93.7% { 95.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 674830	(6.00 , N/A) (N/A , 0.01 , N/A)	464.9	N/A	2.0927 [2.0000]	104.6% { 102.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 629955	(6.95 , N/A) (N/A , 0.00 , N/A)	509.1	N/A	2.0552 [2.0000]	102.8% { 99.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 741340	(7.77 , N/A) (N/A , 0.00 , N/A)	403.2	N/A	1.9851 [2.0000]	99.3% { 99.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 313899	(8.49 , N/A) (N/A , 0.00 , N/A)	411.5	N/A	0.9865 [1.0000]	98.7% { 99.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 430670	(9.16 , N/A) (N/A , -0.01 , N/A)	308.7	N/A	1.0795 [1.0000]	108.0% { 106.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 626755	(9.67 , N/A) (N/A , 0.00 , N/A)	672.3	N/A	1.2706 [1.0000]	127.1% { 116.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

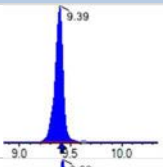
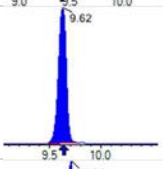
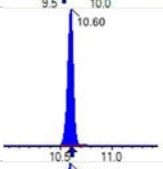
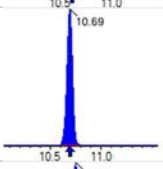
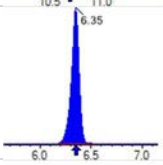
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 571235	(9.88 , N/A) (N/A , 0.00 , N/A)	465.8	N/A	1.2061 [1.0000]	120.6% { 112.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 375700	(10.13 , N/A) (N/A , 0.00 , N/A)	806.9	N/A	0.9910 [1.0000]	99.1% { 92.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1704022	(5.93 , N/A) (N/A , 0.01 , N/A)	560.0	N/A	1.9492 [2.0000]	97.5% { 104.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1014924	(7.87 , N/A) (N/A , 0.01 , N/A)	597.6	N/A	1.8525 [2.0000]	92.6% { 103.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1624752	(9.31 , N/A) (N/A , 0.00 , N/A)	138.3	N/A	2.1783 [2.0000]	108.9% { 106.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 598116	(5.68 , N/A) (N/A , 0.02 , N/A)	519.4	N/A	3.5051 [4.0000]	87.6% { 97.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 762166	(7.45 , N/A) (N/A , 0.01 , N/A)	715.2	N/A	3.0280 [4.0000]	75.7% { 84.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 728264	(8.84 , N/A) (N/A , 0.00 , N/A)	431.2	N/A	3.0879 [4.0000]	77.2% { 90.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2197978	(10.19 , N/A) (N/A , 0.00 , N/A)	1380.0	N/A	2.2256 [2.0000]	111.3% { 109.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 386089	(10.63 , N/A) (N/A , -0.01 , N/A)	863.5	N/A	2.1773 [2.0000]	108.9% { 99.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 374378	(10.72 , N/A) (N/A , 0.00 , N/A)	866.4	N/A	2.2395 [2.0000]	112.0% { 101.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (17)
Acquired: 2023/01/10 - 18:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1148190	(9.39 , N/A) (N/A , 0.00 , N/A)	323.5	N/A	4.9117 [4.0000]	122.8% { 134.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 788432	(9.62 , N/A) (N/A , 0.00 , N/A)	86.5	N/A	4.2897 [4.0000]	107.2% { 99.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 841400	(10.60 , N/A) (N/A , 0.00 , N/A)	659.1	N/A	30.9223 [20.0000]	154.6% { 104.6% }			S2,
D9_NEtFOSE_EIS	(639.0 / 58.9) 398966	(10.69 , N/A) (N/A , -0.01 , N/A)	784.6	N/A	31.8146 [20.0000]	159.1% { 96.1% }			S2,
13C3_HFPODA_EIS	(287.0 / 169.0) 1488596	(6.35 , N/A) (N/A , 0.01 , N/A)	641.9	N/A	8.7969 [8.0000]	110.0% { 98.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV3	PFBA	20.0	20.7	103	ng/mL	+/- 30.00%
	PFPEA	10.0	10.0	100	ng/mL	+/- 30.00%
	PFHXA	5.00	4.90	98.1	ng/mL	+/- 30.00%
	PFHPA	5.00	5.29	106	ng/mL	+/- 30.00%
	PFOA	5.00	5.06	101	ng/mL	+/- 30.00%
	PFNA	5.00	5.24	105	ng/mL	+/- 30.00%
	PFDA	5.00	5.07	101	ng/mL	+/- 30.00%
	PFUnA	5.00	5.51	110	ng/mL	+/- 30.00%
	PFDOA	5.00	5.16	103	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.58	112	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.54	111	ng/mL	+/- 30.00%
	PFBS	4.42	4.47	101	ng/mL	+/- 30.00%
	PFPES	4.70	6.05	129	ng/mL	+/- 30.00%
	PFHXS	4.58	5.16	113	ng/mL	+/- 30.00%
	PFHPS	4.78	5.07	106	ng/mL	+/- 30.00%
	PFOS	4.65	4.85	104	ng/mL	+/- 30.00%
	PFNS	4.80	5.58	116	ng/mL	+/- 30.00%
	PFDS	4.82	5.97	124	ng/mL	+/- 30.00%
	PFDOS	**4.85**	**7.62**	**157**	**ng/mL**	+/- 30.00%
	4:2FTS	18.8	20.9	111	ng/mL	+/- 30.00%
	6:2FTS	19.0	20.1	106	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.6	102	ng/mL	+/- 30.00%
	PFOSA	5.00	5.68	114	ng/mL	+/- 30.00%
	NMeFOSA	20.0	22.0	110	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.4	102	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.04	101	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.86	97.3	ng/mL	+/- 30.00%
	NMeFOSE	20.0	20.9	104	ng/mL	+/- 30.00%
	NEtFOSE	20.0	22.1	111	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.0	100	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

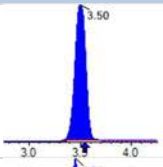
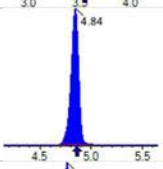
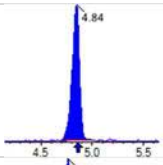
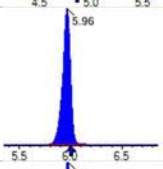
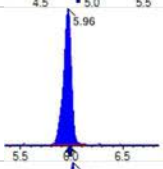
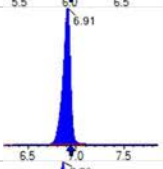
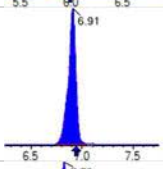
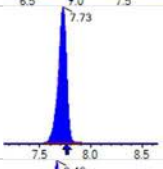
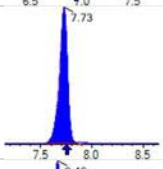
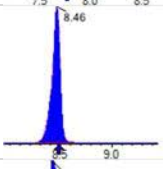
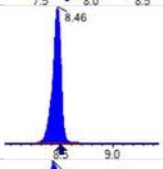
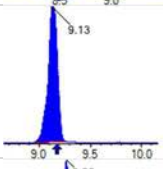
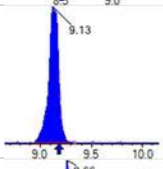
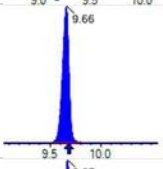
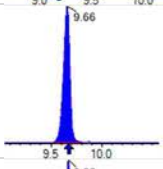
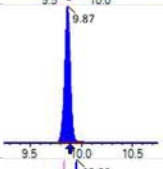
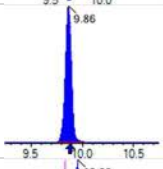
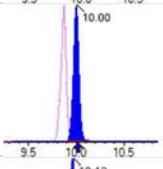
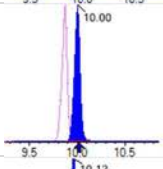
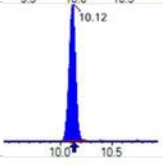
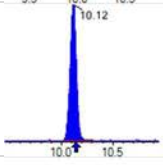
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV3	ADONA	9.45	9.59	101	ng/mL	+/- 30.00%
	PFEESA	8.90	8.98	101	ng/mL	+/- 30.00%
	PFMPA	10.0	9.08	90.8	ng/mL	+/- 30.00%
	PFMBA	10.0	10.9	109	ng/mL	+/- 30.00%
	NFDHA	10.0	11.7	117	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.75	93.6	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	11.4	121	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.9	99.4	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.7	98.3	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.3	86.6	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

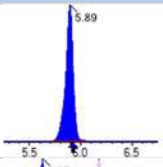
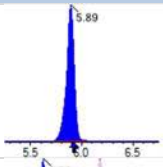
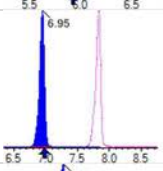
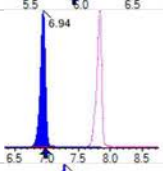
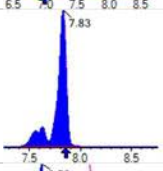
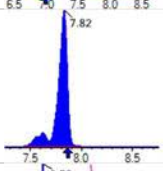
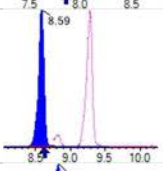
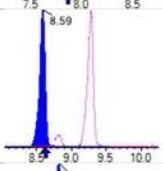
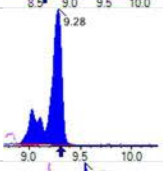
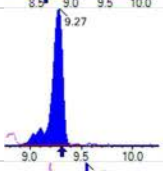
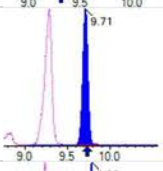
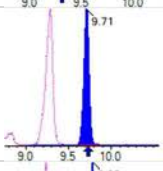
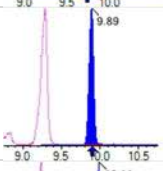
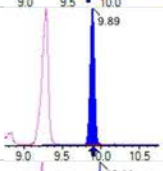
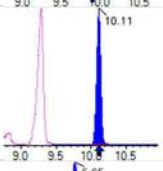
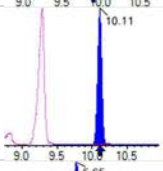
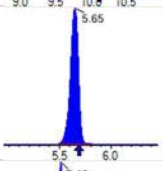
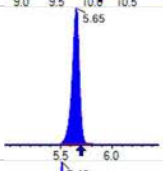
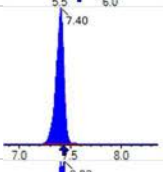
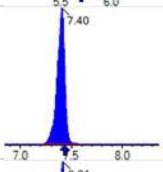
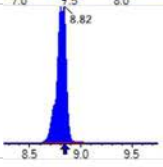
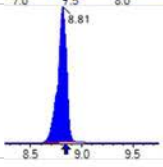
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3921134	(3.50 , 1.00) (0.00 , N/A , 0.0)	436.2	N/A 0.0 0.0	20.6695 [20.0000]	103.3%			
PFPeA	(263.0 / 219.0) 2792405 (263.0 / 69.0) 30432	(4.84 , 1.00) (0.00 , N/A , 0.0)	579.4 267.7	0.0109 100.4 103.2	10.0027 [10.0000]	100.0%			
PFHxA	(313.0 / 269.0) 1769083 (313.0 / 119.0) 175344	(5.96 , 1.00) (0.00 , N/A , 0.1)	437.9 442.6	0.0991 101.0 108.3	4.9045 [5.0000]	98.1%			
PFHpA	(363.0 / 319.0) 1662914 (363.0 / 169.0) 546066	(6.91 , 1.00) (0.00 , N/A , 0.0)	490.2 454.5	0.3284 115.4 117.4	5.2853 [5.0000]	105.7%			
PFOA	(413.0 / 369.0) 2041294 (413.0 / 169.0) 651270	(7.73 , 1.00) (0.00 , N/A , 0.0)	524.3 516.2	0.3190 99.9 110.1	5.0594 [5.0000]	101.2%			
PFNA	(463.0 / 419.0) 1642996 (463.0 / 169.0) 323792	(8.46 , 1.00) (0.00 , N/A , 0.2)	521.1 369.8	0.1971 87.9 99.2	5.2380 [5.0000]	104.8%			
PFDA	(513.0 / 469.0) 2186475 (513.0 / 169.0) 228579	(9.13 , 1.00) (0.00 , N/A , 0.0)	328.9 155.1	0.1045 95.2 98.8	5.0682 [5.0000]	101.4%			
PFUnA	(563.0 / 519.0) 2948557 (563.0 / 169.0) 301070	(9.66 , 1.00) (0.00 , N/A , 0.0)	590.2 462.3	0.1021 97.6 98.1	5.5142 [5.0000]	110.3%			
PFDoA	(613.0 / 569.0) 2889035 (613.0 / 169.0) 346402	(9.87 , 1.00) (0.00 , N/A , 0.1)	544.4 412.9	0.1199 93.2 86.8	5.1625 [5.0000]	103.3%			
PFTrDA	(663.0 / 619.0) 3078027 (663.0 / 169.0) 538023	(10.00 , 1.01) (N/A , -0.01 , -0.1)	938.3 485.5	0.1748 86.7 87.7	5.5815 [5.0000]	111.6%			
PFTeDA	(713.0 / 669.0) 2133329 (713.0 / 169.0) 407237	(10.12 , 1.00) (0.00 , N/A , 0.1)	1009.4 310.9	0.1909 97.6 103.8	5.5387 [5.0000]	110.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

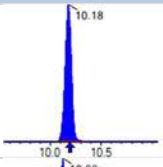
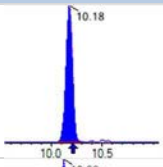
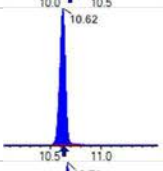
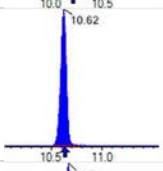
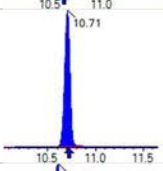
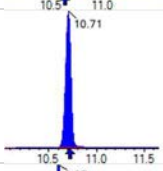
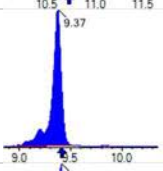
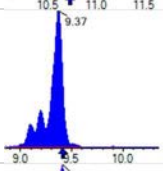
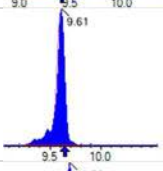
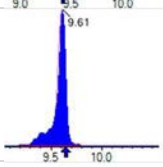
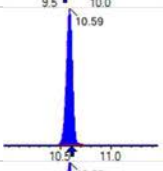
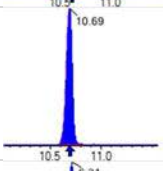
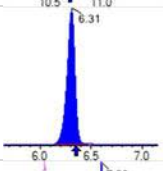
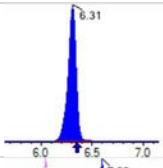
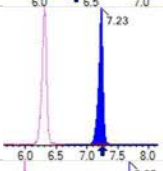
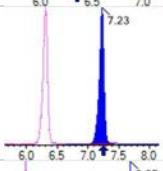
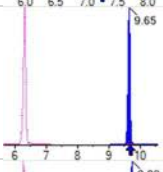
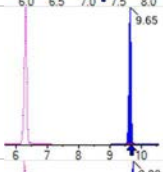
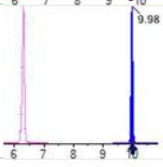
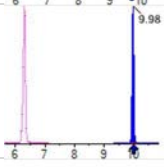
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2810611 (299.0 / 99.0) 1837214	(5.89 , 1.00) (0.00 , N/A , 0.0)	533.4 538.6	0.6537 100.2 112.5	4.4739 [4.4237]	101.1%			
PFPeS	(349.0 / 80.0) 5084935 (349.0 / 99.0) 1819587	(6.95 , 0.89) (N/A , -0.04 , 0.1)	517.5 574.3	0.3578 96.8 105.6	6.0516 [4.6919]	129.0%			
PFHxS	(399.0 / 80.0) 4235057 (399.0 / 99.0) 1382520	(7.83 , 1.00) (0.00 , N/A , 0.1)	718.7 817.7	0.3264 98.9 100.0	5.1595 [4.5549]	113.3%			
PFHpS	(449.0 / 80.0) 4084906 (449.0 / 99.0) 1051600	(8.59 , 0.93) (N/A , -0.04 , -0.1)	544.0 484.0	0.2574 93.7 97.2	5.0702 [4.7570]	106.6%			
PFOS	(499.0 / 80.0) 4672042 (499.0 / 99.0) 1080105	(9.28 , 1.00) (0.00 , N/A , 0.3)	482.8 976.4	0.2312 101.7 109.7	4.8536 [4.6375]	104.7%			
PFNS	(549.0 / 80.0) 5452937 (549.0 / 99.0) 1242310	(9.71 , 1.05) (N/A , -0.02 , -0.1)	582.4 515.3	0.2278 97.8 88.4	5.5800 [4.7994]	116.3%			
PFDS	(599.0 / 80.0) 6452803 (599.0 / 99.0) 1490162	(9.89 , 1.07) (N/A , -0.01 , 0.0)	856.9 828.7	0.2309 101.1 108.6	5.9742 [4.8155]	124.1%			
PFDoS	(699.0 / 80.0) 3493975 (699.0 / 99.0) 762641	(10.11 , 1.09) (N/A , -0.01 , 0.0)	35.0 774.4	0.2183 105.3 114.1	7.6156 [4.8478]	157.1%			QC,
4:2FTS	(327.0 / 307.0) 11601337 (327.0 / 81.0) 6964058	(5.65 , 1.00) (0.00 , N/A , -0.2)	631.6 652.4	0.6003 95.4 89.1	20.8954 [18.6906]	111.8%			
6:2FTS	(427.0 / 407.0) 7438018 (427.0 / 81.0) 5738144	(7.40 , 1.00) (0.00 , N/A , 0.0)	699.4 663.2	0.7715 100.7 113.3	20.0725 [18.9808]	105.8%			
8:2FTS	(527.0 / 507.0) 6489927 (527.0 / 81.0) 4295115	(8.82 , 1.00) (0.01 , N/A , 0.1)	341.4 366.8	0.6618 87.2 99.4	19.5843 [19.1658]	102.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

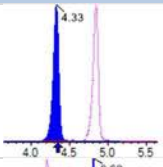
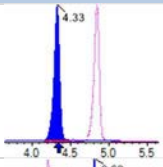
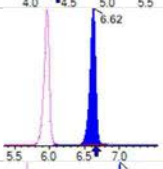
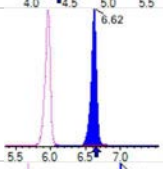
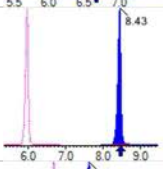
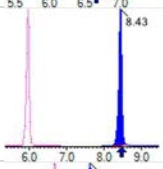
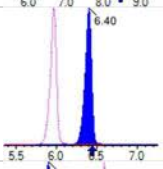
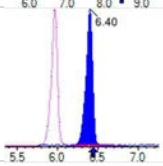
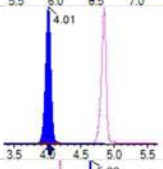
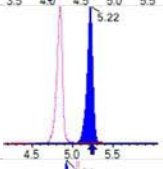
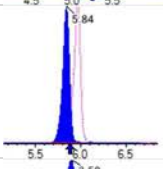
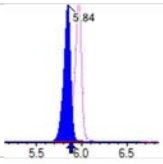
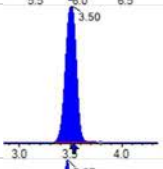
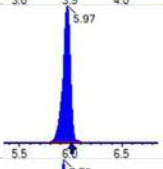
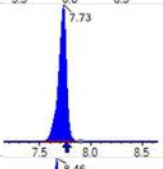
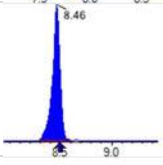
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 6290373 (498.0 / 478.0) 141799	(10.18 , 1.00) (0.00 , N/A , 0.0)	1478.4 302.9	0.0225 119.6 114.9	5.6768 [5.0000]	113.5%			
NMeFOSA	(512.0 / 219.0) 3786366 (512.0 / 169.0) 2657063	(10.62 , 1.00) (0.00 , N/A , 0.1)	953.1 996.5	0.7017 98.4 99.4	21.9668 [20.0000]	109.8%			
NEtFOSA	(526.0 / 219.0) 3725259 (526.0 / 169.0) 4127775	(10.71 , 1.00) (0.00 , N/A , 0.1)	1134.0 1221.5	1.1081 104.8 106.4	20.3578 [20.0000]	101.8%			
NMeFOSAA	(570.0 / 419.0) 1323332 (570.0 / 483.0) 623150	(9.37 , 1.00) (0.00 , N/A , 0.2)	346.3 222.6	0.4709 92.6 84.0	5.0388 [5.0000]	100.8%			
NEtFOSAA	(584.0 / 419.0) 1197190 (584.0 / 526.0) 701327	(9.61 , 1.00) (0.01 , N/A , -0.1)	482.4 458.3	0.5858 94.2 100.5	4.8635 [5.0000]	97.3%			
NMeFOSE	(616.0 / 59.0) 1045185	(10.59 , 1.00) (0.01 , N/A , 0.0)	707.0	N/A 0.0 0.0	20.8696 [20.0000]	104.3%			
NEtFOSE	(630.0 / 59.0) 264172	(10.69 , 1.00) (0.01 , N/A , 0.0)	721.6	N/A 0.0 0.0	22.1378 [20.0000]	110.7%			
HFPO-DA	(285.0 / 169.0) 1300037 (285.0 / 185.0) 3740324	(6.31 , 1.00) (0.00 , N/A , -0.1)	582.1 615.7	2.8771 107.3 103.2	10.0188 [10.0000]	100.2%			
ADONA	(377.0 / 85.0) 6504401 (377.0 / 251.0) 722798	(7.23 , 1.15) (N/A , -0.04 , 0.2)	820.9 559.8	0.1111 95.5 91.8	9.5897 [9.4270]	101.7%			
9Cl-Pf3ONS	(531.0 / 351.0) 16705964 (533.0 / 353.0) 5580100	(9.65 , 1.53) (N/A , -0.02 , 0.0)	448.5 498.2	0.3340 107.6 105.2	8.7535 [9.3325]	93.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 10339366 (633.0 / 453.0) 3370250	(9.98 , 1.58) (N/A , -0.01 , -0.1)	755.7 619.6	0.3260 94.9 93.4	11.4191 [9.4321]	121.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

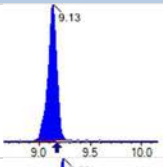
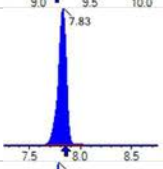
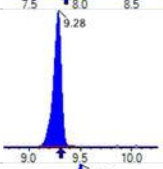
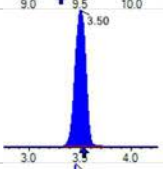
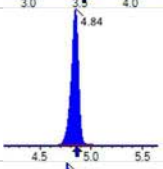
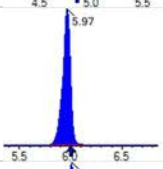
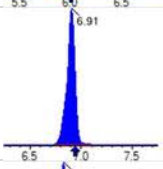
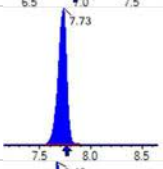
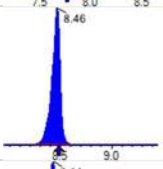
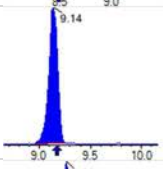
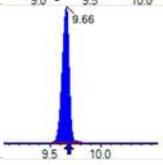
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 159227 (241.0 / 117.0) 220718	(4.33 , 0.89) (N/A , -0.01 , 0.2)	457.9 309.8	1.3862 94.2 100.4	19.8718 [20.0000]	99.4%			
5:3FTCA	(341.0 / 236.7) 1079582 (341.0 / 217.0) 1895661	(6.62 , 1.11) (N/A , -0.04 , 0.0)	476.4 456.2	1.7559 105.1 111.5	19.6683 [20.0000]	98.3%			
7:3FTCA	(441.0 / 317.0) 1430639 (441.0 / 337.0) 1174446	(8.43 , 1.41) (N/A , -0.03 , 0.1)	405.8 453.1	0.8209 95.2 94.8	17.3184 [20.0000]	86.6%			
PFEESA	(315.0 / 135.0) 3192550 (315.0 / 83.0) 961790	(6.40 , 1.07) (N/A , -0.03 , 0.0)	599.2 376.9	0.3013 98.5 98.8	8.9833 [8.9246]	100.7%			
PFMPA	(229.0 / 85.0) 758196	(4.01 , 0.83) (N/A , -0.02 , 0.0)	755.3	N/A 0.0 0.0	9.0833 [10.0000]	90.8%			
PFMBA	(279.0 / 85.0) 2301284	(5.22 , 1.08) (N/A , -0.01 , 0.0)	648.1	N/A 0.0 0.0	10.9140 [10.0000]	109.1%			
NFDHA	(295.0 / 201.0) 1748416 (295.0 / 85.0) 1489653	(5.84 , 0.98) (N/A , -0.02 , -0.1)	554.2 558.3	0.8520 92.6 85.2	11.6542 [10.0000]	116.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 208565	(3.50 , N/A) (N/A , -0.02 , N/A)	371.2	N/A	0.8234 [1.0000]	82.3% { 103.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 374531	(5.97 , N/A) (N/A , -0.02 , N/A)	495.3	N/A	1.0132 [1.0000]	101.3% { 111.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 392253	(7.73 , N/A) (N/A , -0.03 , N/A)	542.1	N/A	0.8930 [1.0000]	89.3% { 102.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 305360	(8.46 , N/A) (N/A , -0.03 , N/A)	456.2	N/A	0.7530 [1.0000]	75.3% { 102.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

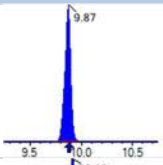
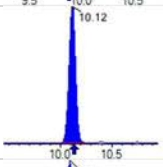
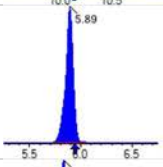
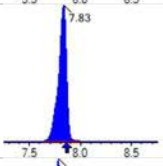
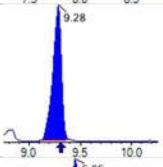
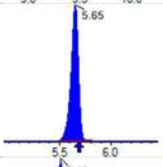
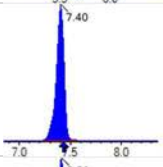
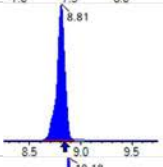
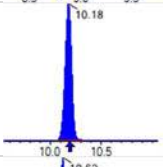
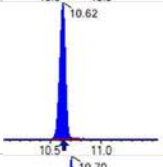
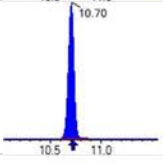
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 380756	(9.13 , N/A) (N/A , -0.04 , N/A)	284.3	N/A	0.8815 [1.0000]	88.1% { 106.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 645721	(7.83 , N/A) (N/A , -0.04 , N/A)	510.8	N/A	0.8741 [1.0000]	87.4% { 102.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 742198	(9.28 , N/A) (N/A , -0.02 , N/A)	364.8	N/A	0.9626 [1.0000]	96.3% { 109.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1659102	(3.50 , N/A) (N/A , -0.02 , N/A)	602.7	N/A	8.0970 [8.0000]	101.2% { 105.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1149440	(4.84 , N/A) (N/A , -0.01 , N/A)	520.6	N/A	3.7498 [4.0000]	93.7% { 112.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 732045	(5.97 , N/A) (N/A , -0.02 , N/A)	484.5	N/A	1.9128 [2.0000]	95.6% { 111.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 623170	(6.91 , N/A) (N/A , -0.04 , N/A)	456.8	N/A	1.7130 [2.0000]	85.7% { 98.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 774453	(7.73 , N/A) (N/A , -0.04 , N/A)	509.6	N/A	1.9378 [2.0000]	96.9% { 104.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 326710	(8.46 , N/A) (N/A , -0.03 , N/A)	466.0	N/A	1.0780 [1.0000]	107.8% { 103.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 420798	(9.14 , N/A) (N/A , -0.03 , N/A)	276.6	N/A	0.9808 [1.0000]	98.1% { 104.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 588334	(9.66 , N/A) (N/A , -0.01 , N/A)	521.2	N/A	1.1091 [1.0000]	110.9% { 109.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

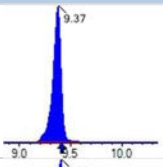
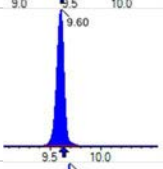
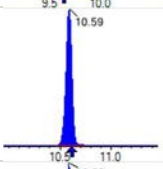
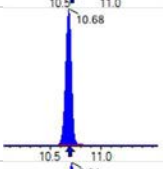
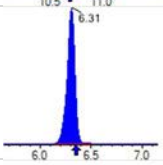
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 597777	(9.87 , N/A) (N/A , -0.01 , N/A)	594.6	N/A	1.1736 [1.0000]	117.4% { 117.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 404334	(10.12 , N/A) (N/A , -0.02 , N/A)	727.8	N/A	0.9917 [1.0000]	99.2% { 99.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1926002	(5.89 , N/A) (N/A , -0.02 , N/A)	518.2	N/A	2.2436 [2.0000]	112.2% { 118.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 982205	(7.83 , N/A) (N/A , -0.03 , N/A)	536.1	N/A	1.8258 [2.0000]	91.3% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1568054	(9.28 , N/A) (N/A , -0.02 , N/A)	126.9	N/A	1.7797 [2.0000]	89.0% { 102.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 690982	(5.65 , N/A) (N/A , -0.01 , N/A)	488.8	N/A	4.1238 [4.0000]	103.1% { 112.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 970156	(7.40 , N/A) (N/A , -0.03 , N/A)	626.6	N/A	3.9252 [4.0000]	98.1% { 108.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 908829	(8.81 , N/A) (N/A , -0.04 , N/A)	392.3	N/A	3.9244 [4.0000]	98.1% { 113.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2080087	(10.18 , N/A) (N/A , -0.01 , N/A)	1329.3	N/A	1.7831 [2.0000]	89.2% { 103.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 363377	(10.62 , N/A) (N/A , -0.01 , N/A)	770.6	N/A	1.7348 [2.0000]	86.7% { 93.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 367404	(10.70 , N/A) (N/A , -0.02 , N/A)	895.8	N/A	1.8606 [2.0000]	93.0% { 99.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (41)
Acquired: 2023/01/10 - 23:35

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) 1169376	(9.37 , N/A) (N/A , -0.02 , N/A)	340.0	N/A	4.2349 [4.0000]	105.9% { 136.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1029632	(9.60 , N/A) (N/A , -0.02 , N/A)	94.5	N/A	4.7426 [4.0000]	118.6% { 129.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 781555	(10.59 , N/A) (N/A , -0.02 , N/A)	991.4	N/A	24.3166 [20.0000]	121.6% { 97.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 425647	(10.68 , N/A) (N/A , -0.02 , N/A)	1118.7	N/A	28.7352 [20.0000]	143.7% { 102.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1636651	(6.31 , N/A) (N/A , -0.03 , N/A)	540.6	N/A	8.1493 [8.0000]	101.9% { 107.8% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV4	PFBA	20.0	21.1	106	ng/mL	+/- 30.00%
	PFPEA	10.0	9.93	99.3	ng/mL	+/- 30.00%
	PFHXA	5.00	4.84	96.9	ng/mL	+/- 30.00%
	PFHPA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFOA	5.00	5.00	99.9	ng/mL	+/- 30.00%
	PFNA	5.00	5.04	101	ng/mL	+/- 30.00%
	PFDA	5.00	5.93	119	ng/mL	+/- 30.00%
	PFUnA	5.00	6.11	122	ng/mL	+/- 30.00%
	PFDOA	5.00	5.16	103	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.08	102	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.92	98.4	ng/mL	+/- 30.00%
	PFBS	4.42	4.38	99.1	ng/mL	+/- 30.00%
	PFPES	4.70	5.21	111	ng/mL	+/- 30.00%
	PFHXS	4.58	4.76	104	ng/mL	+/- 30.00%
	PFHPS	4.78	4.67	97.7	ng/mL	+/- 30.00%
	PFOS	4.65	4.67	100	ng/mL	+/- 30.00%
	PFNS	4.80	5.70	119	ng/mL	+/- 30.00%
	PFDS	4.82	5.44	113	ng/mL	+/- 30.00%
	PFDOS	**4.85**	**6.36**	**131**	**ng/mL**	+/- 30.00%
	4:2FTS	18.8	21.5	114	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.7	104	ng/mL	+/- 30.00%
	8:2FTS	19.2	24.2	126	ng/mL	+/- 30.00%
	PFOSA	5.00	5.81	116	ng/mL	+/- 30.00%
	NMeFOSA	20.0	21.6	108	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.7	104	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.86	97.1	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.07	101	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.6	98.2	ng/mL	+/- 30.00%
	NEtFOSE	20.0	23.0	115	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.8	108	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23A0033
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2302005
Standard ID:	22L0448	Sequence:	SC00089

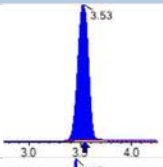
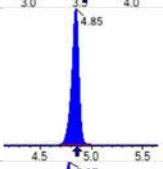
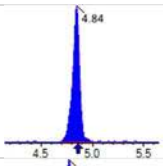
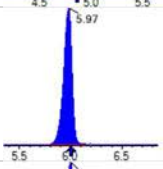
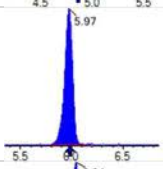
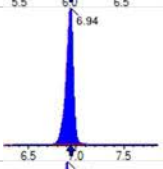
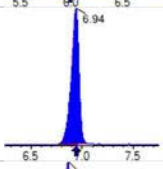
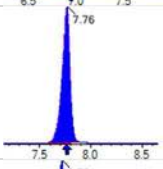
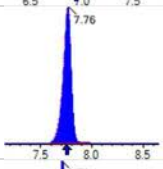
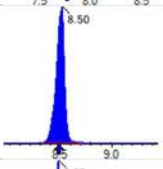
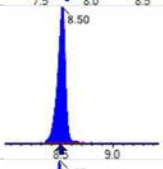
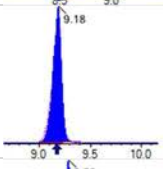
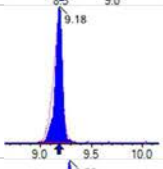
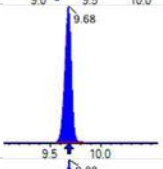
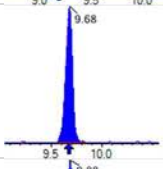
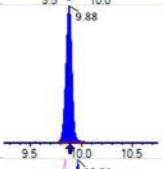
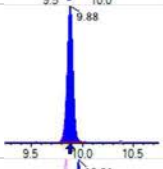
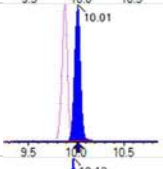
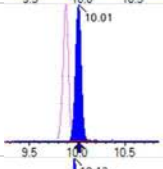
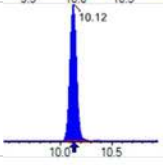
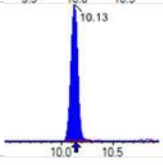
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00089-CCV4	ADONA	9.45	9.80	104	ng/mL	+/- 30.00%
	PFEESA	8.90	9.53	107	ng/mL	+/- 30.00%
	PFMPA	10.0	9.25	92.5	ng/mL	+/- 30.00%
	PFMBA	10.0	10.4	104	ng/mL	+/- 30.00%
	NFDHA	10.0	10.9	109	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.41	101	ng/mL	+/- 30.00%
	11CL-PF3OUDS	**9.45**	**12.7**	**135**	**ng/mL**	+/- 30.00%
	3:3FTCA	20.0	19.8	98.9	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.9	99.6	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.6	88.2	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

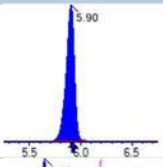
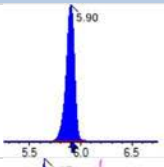
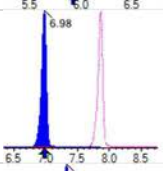
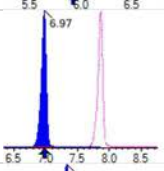
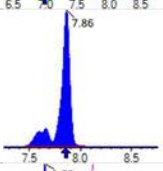
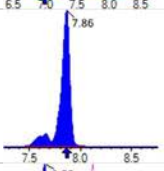
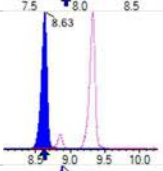
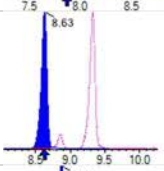
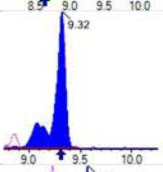
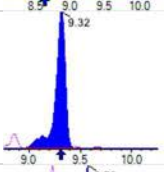
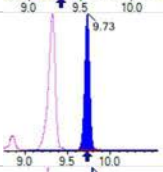
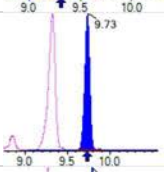
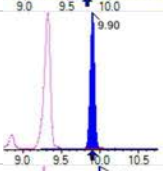
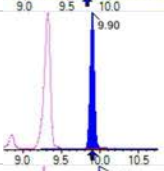
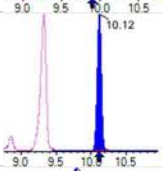
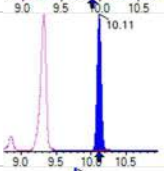
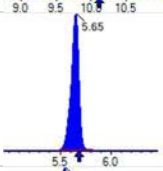
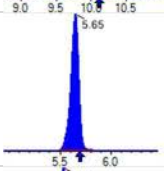
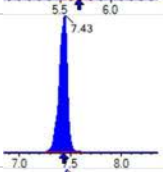
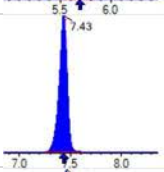
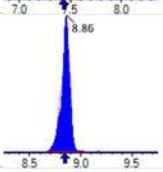
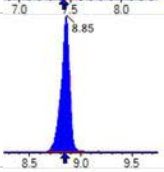
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 3826365	(3.53 , 1.00) (0.00 , N/A , 0.0)	485.8	N/A 0.0 0.0	21.1239 [20.0000]	105.6%			
PFPeA	(263.0 / 219.0) 2676863 (263.0 / 69.0) 31376	(4.85 , 1.00) (0.00 , N/A , 0.1)	517.2 292.0	0.0117 108.0 111.0	9.9343 [10.0000]	99.3%			
PFHxA	(313.0 / 269.0) 1659222 (313.0 / 119.0) 168114	(5.97 , 1.00) (0.00 , N/A , 0.2)	396.4 377.6	0.1013 103.2 110.7	4.8426 [5.0000]	96.9%			
PFHpA	(363.0 / 319.0) 1615027 (363.0 / 169.0) 480169	(6.94 , 1.00) (0.01 , N/A , 0.1)	562.3 397.3	0.2973 104.5 106.3	5.1723 [5.0000]	103.4%			
PFOA	(413.0 / 369.0) 1855409 (413.0 / 169.0) 621801	(7.76 , 1.00) (0.00 , N/A , -0.1)	482.4 573.8	0.3351 105.0 115.6	4.9953 [5.0000]	99.9%			
PFNA	(463.0 / 419.0) 1510678 (463.0 / 169.0) 314998	(8.50 , 1.00) (0.00 , N/A , -0.1)	501.2 394.9	0.2085 93.0 104.9	5.0396 [5.0000]	100.8%			
PFDA	(513.0 / 469.0) 2254880 (513.0 / 169.0) 200975	(9.18 , 1.00) (0.00 , N/A , -0.4)	391.5 371.6	0.0891 81.2 84.3	5.9335 [5.0000]	118.7%			
PFUnA	(563.0 / 519.0) 2791686 (563.0 / 169.0) 214667	(9.68 , 1.00) (0.00 , N/A , 0.0)	555.1 285.3	0.0769 73.5 73.9	6.1069 [5.0000]	122.1%			
PFDoA	(613.0 / 569.0) 2548357 (613.0 / 169.0) 320844	(9.88 , 1.00) (0.00 , N/A , -0.1)	688.6 517.1	0.1259 97.9 91.1	5.1608 [5.0000]	103.2%			
PFTrDA	(663.0 / 619.0) 2473073 (663.0 / 169.0) 520582	(10.01 , 1.01) (N/A , 0.00 , 0.1)	719.8 380.3	0.2105 104.4 105.6	5.0824 [5.0000]	101.6%			
PFTeDA	(713.0 / 669.0) 1893615 (713.0 / 169.0) 363953	(10.12 , 1.00) (0.00 , N/A , -0.2)	608.9 354.5	0.1922 98.3 104.6	4.9193 [5.0000]	98.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

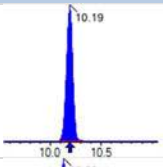
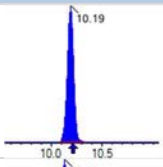
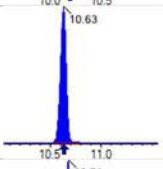
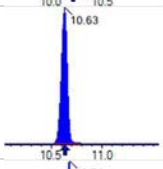
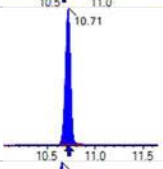
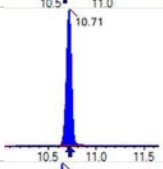
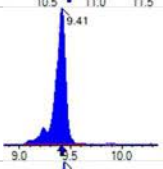
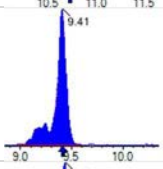
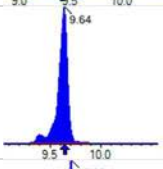
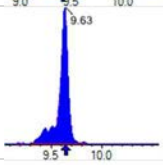
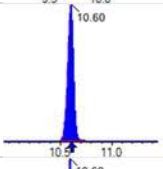
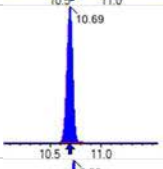
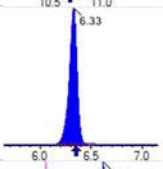
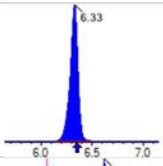
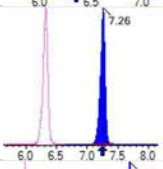
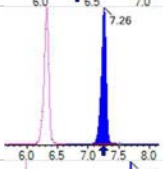
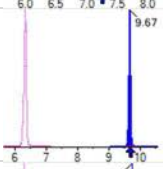
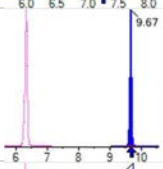
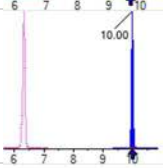
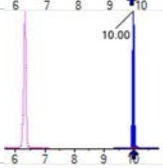
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2576528 (299.0 / 99.0) 1659294	(5.90 , 1.00) (0.00 , N/A , 0.0)	538.2 493.5	0.6440 98.7 110.8	4.3784 [4.4237]	99.0%			
PFPeS	(349.0 / 80.0) 4459517 (349.0 / 99.0) 1685624	(6.98 , 0.89) (N/A , -0.01 , 0.1)	569.6 568.4	0.3780 102.3 111.6	5.2137 [4.6919]	111.1%			
PFHxS	(399.0 / 80.0) 3980252 (399.0 / 99.0) 1358024	(7.86 , 1.00) (0.00 , N/A , 0.1)	671.7 716.2	0.3412 103.4 104.5	4.7635 [4.5549]	104.6%			
PFHpS	(449.0 / 80.0) 3611456 (449.0 / 99.0) 991797	(8.63 , 0.93) (N/A , 0.01 , 0.1)	494.4 509.4	0.2746 99.9 103.7	4.6688 [4.7570]	98.1%			
PFOS	(499.0 / 80.0) 4316923 (499.0 / 99.0) 1047830	(9.32 , 1.00) (0.00 , N/A , 0.2)	588.3 1072.6	0.2427 106.8 115.1	4.6691 [4.6375]	100.7%			
PFNS	(549.0 / 80.0) 5343949 (549.0 / 99.0) 1194254	(9.73 , 1.04) (N/A , 0.00 , -0.1)	545.6 545.8	0.2235 96.0 86.7	5.6957 [4.7994]	118.7%			
PFDS	(599.0 / 80.0) 5636487 (599.0 / 99.0) 1346777	(9.90 , 1.06) (N/A , 0.00 , 0.1)	911.4 459.7	0.2389 104.7 112.3	5.4353 [4.8155]	112.9%			
PFDoS	(699.0 / 80.0) 2802997 (699.0 / 99.0) 637209	(10.12 , 1.09) (N/A , 0.00 , 0.1)	808.8 776.6	0.2273 109.6 118.8	6.3634 [4.8478]	131.3%			QC,
4:2FTS	(327.0 / 307.0) 10169452 (327.0 / 81.0) 5703235	(5.65 , 1.00) (0.00 , N/A , 0.2)	535.2 548.4	0.5608 89.1 83.2	21.4649 [18.6906]	114.8%			
6:2FTS	(427.0 / 407.0) 6663767 (427.0 / 81.0) 4829566	(7.43 , 1.00) (0.00 , N/A , 0.1)	539.5 674.9	0.7248 94.6 106.5	19.6717 [18.9808]	103.6%			
8:2FTS	(527.0 / 507.0) 6257994 (527.0 / 81.0) 3872603	(8.86 , 1.00) (0.00 , N/A , 0.1)	412.9 421.0	0.6188 81.6 92.9	24.2085 [19.1658]	126.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

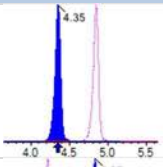
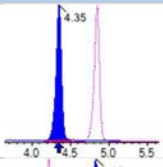
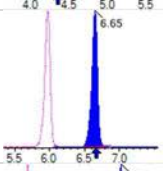
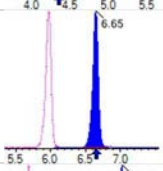
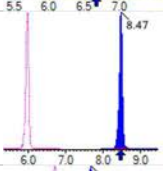
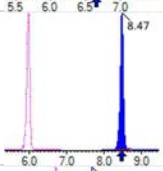
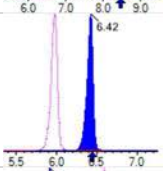
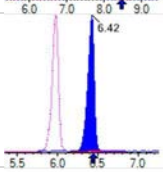
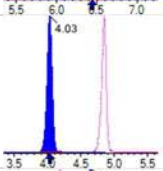
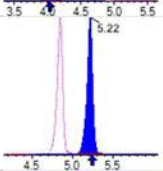
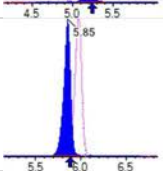
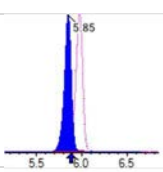
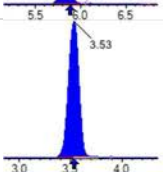
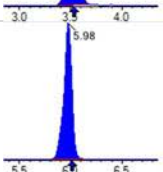
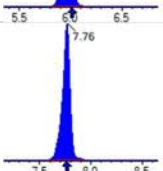
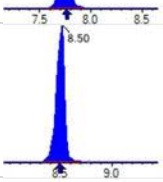
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 5807299 (498.0 / 478.0) 119437	(10.19 , 1.00) (0.00 , N/A , 0.1)	953.6 540.9	0.0206 109.1 104.8	5.8069 [5.0000]	116.1%			
NMeFOSA	(512.0 / 219.0) 3638215 (512.0 / 169.0) 2583977	(10.63 , 1.00) (0.00 , N/A , 0.0)	1015.0 1026.0	0.7102 99.6 100.6	21.5809 [20.0000]	107.9%			
NEtFOSA	(526.0 / 219.0) 3763322 (526.0 / 169.0) 3950480	(10.71 , 1.00) (0.00 , N/A , 0.0)	1106.1 1326.9	1.0497 99.2 100.8	20.7011 [20.0000]	103.5%			
NMeFOSAA	(570.0 / 419.0) 1217908 (570.0 / 483.0) 615642	(9.41 , 1.00) (0.00 , N/A , 0.4)	416.4 304.6	0.5055 99.4 90.1	4.8574 [5.0000]	97.1%			
NEtFOSAA	(584.0 / 419.0) 1042823 (584.0 / 526.0) 698525	(9.64 , 1.00) (0.00 , N/A , 0.1)	510.3 395.1	0.6698 107.7 115.0	5.0669 [5.0000]	101.3%			
NMeFOSE	(616.0 / 59.0) 1002084	(10.60 , 1.00) (0.01 , N/A , 0.0)	1068.7	N/A 0.0 0.0	19.6372 [20.0000]	98.2%			
NEtFOSE	(630.0 / 59.0) 236749	(10.69 , 1.00) (0.01 , N/A , 0.0)	916.7	N/A 0.0 0.0	22.9879 [20.0000]	114.9%			
HFPO-DA	(285.0 / 169.0) 1270396 (285.0 / 185.0) 3615687	(6.33 , 1.00) (0.00 , N/A , 0.1)	521.9 706.0	2.8461 106.1 102.1	10.7922 [10.0000]	107.9%			
ADONA	(377.0 / 85.0) 6032701 (377.0 / 251.0) 715157	(7.26 , 1.15) (N/A , -0.01 , 0.0)	721.8 565.7	0.1185 101.9 98.0	9.8044 [9.4270]	104.0%			
9Cl-Pf3ONS	(531.0 / 351.0) 16241490 (533.0 / 353.0) 4833229	(9.67 , 1.53) (N/A , 0.00 , 0.0)	599.2 482.1	0.2976 95.8 93.7	9.4086 [9.3325]	100.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 10459052 (633.0 / 453.0) 2911005	(10.00 , 1.58) (N/A , 0.00 , -0.1)	655.0 943.4	0.2783 81.0 79.8	12.7332 [9.4321]	135.0%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

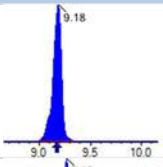
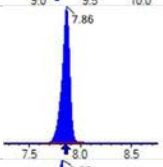
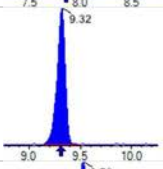
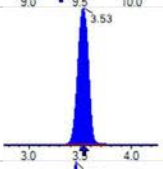
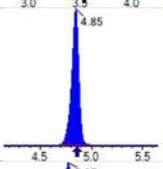
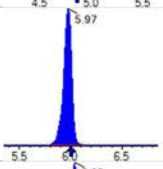
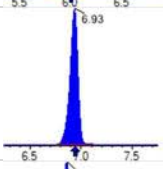
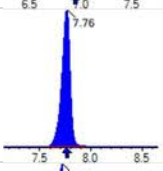
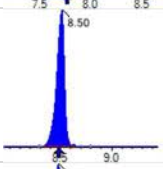
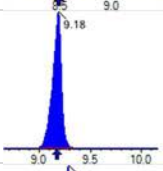
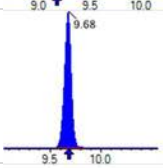
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 152913 (241.0 / 117.0) 216893	(4.35 , 0.90) (N/A , 0.01 , 0.1)	458.1 327.0	1.4184 96.4 102.7	19.7712 [20.0000]	98.9%			
5:3FTCA	(341.0 / 236.7) 1038764 (341.0 / 217.0) 1746049	(6.65 , 1.11) (N/A , -0.01 , 0.2)	455.3 374.2	1.6809 100.6 106.8	19.9230 [20.0000]	99.6%			
7:3FTCA	(441.0 / 317.0) 1383602 (441.0 / 337.0) 1126304	(8.47 , 1.42) (N/A , 0.01 , 0.1)	455.0 490.0	0.8140 94.4 94.0	17.6326 [20.0000]	88.2%			
PFEESA	(315.0 / 135.0) 3216906 (315.0 / 83.0) 923162	(6.42 , 1.07) (N/A , -0.01 , 0.0)	638.4 384.6	0.2870 93.9 94.1	9.5293 [8.9246]	106.8%			
PFMPA	(229.0 / 85.0) 745253	(4.03 , 0.83) (N/A , 0.00 , 0.0)	779.3	N/A 0.0 0.0	9.2499 [10.0000]	92.5%			
PFMBA	(279.0 / 85.0) 2115032	(5.22 , 1.08) (N/A , -0.01 , 0.0)	540.8	N/A 0.0 0.0	10.3920 [10.0000]	103.9%			
NFDHA	(295.0 / 201.0) 1553054 (295.0 / 85.0) 1457077	(5.85 , 0.98) (N/A , -0.01 , 0.3)	532.2 510.2	0.9382 102.0 93.9	10.8981 [10.0000]	109.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 208879	(3.53 , N/A) (N/A , 0.01 , N/A)	408.3	N/A	0.8247 [1.0000]	82.5% { 103.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 337379	(5.98 , N/A) (N/A , -0.01 , N/A)	475.0	N/A	0.9127 [1.0000]	91.3% { 100.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 368015	(7.76 , N/A) (N/A , 0.00 , N/A)	383.6	N/A	0.8378 [1.0000]	83.8% { 96.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 303879	(8.50 , N/A) (N/A , 0.01 , N/A)	397.9	N/A	0.7493 [1.0000]	74.9% { 102.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

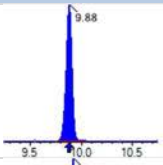
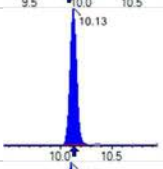
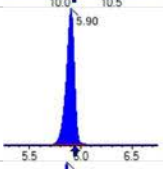
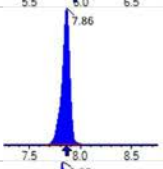
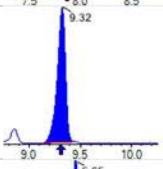
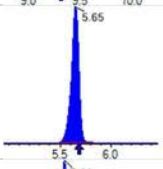
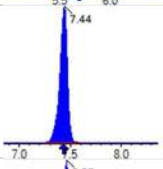
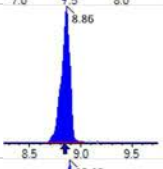
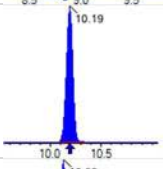
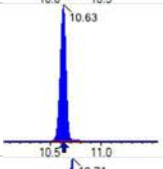
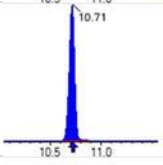
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 362048	(9.18 , N/A) (N/A , 0.01 , N/A)	336.1	N/A	0.8382 [1.0000]	83.8% { 101.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 617942	(7.86 , N/A) (N/A , -0.01 , N/A)	625.9	N/A	0.8365 [1.0000]	83.7% { 98.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 637948	(9.32 , N/A) (N/A , 0.02 , N/A)	320.1	N/A	0.8274 [1.0000]	82.7% { 93.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1584184	(3.53 , N/A) (N/A , 0.00 , N/A)	590.0	N/A	7.7197 [8.0000]	96.5% { 100.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1109475	(4.85 , N/A) (N/A , -0.01 , N/A)	548.7	N/A	4.0180 [4.0000]	100.5% { 109.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 695364	(5.97 , N/A) (N/A , -0.01 , N/A)	432.5	N/A	2.0170 [2.0000]	100.9% { 105.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 618437	(6.93 , N/A) (N/A , -0.02 , N/A)	422.6	N/A	1.8872 [2.0000]	94.4% { 97.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 712962	(7.76 , N/A) (N/A , 0.00 , N/A)	456.2	N/A	1.9014 [2.0000]	95.1% { 96.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 312223	(8.50 , N/A) (N/A , 0.01 , N/A)	354.8	N/A	1.0352 [1.0000]	103.5% { 98.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 370672	(9.18 , N/A) (N/A , 0.01 , N/A)	358.6	N/A	0.9086 [1.0000]	90.9% { 91.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 502972	(9.68 , N/A) (N/A , 0.01 , N/A)	565.0	N/A	0.9972 [1.0000]	99.7% { 93.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

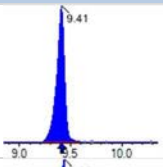
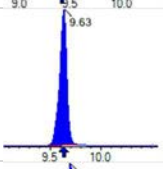
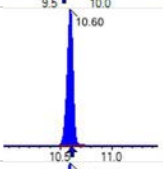
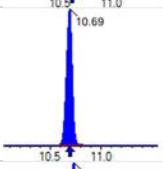
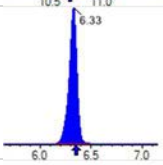
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 527462	(9.88 , N/A) (N/A , 0.00 , N/A)	434.0	N/A	1.0891 [1.0000]	108.9% { 103.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 404091	(10.13 , N/A) (N/A , -0.01 , N/A)	796.3	N/A	1.0423 [1.0000]	104.2% { 99.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1804110	(5.90 , N/A) (N/A , -0.01 , N/A)	497.2	N/A	2.1961 [2.0000]	109.8% { 110.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 999837	(7.86 , N/A) (N/A , 0.00 , N/A)	471.2	N/A	1.9421 [2.0000]	97.1% { 101.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1505488	(9.32 , N/A) (N/A , 0.02 , N/A)	132.7	N/A	1.9880 [2.0000]	99.4% { 98.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 589628	(5.65 , N/A) (N/A , -0.01 , N/A)	458.6	N/A	3.6771 [4.0000]	91.9% { 95.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 886878	(7.44 , N/A) (N/A , 0.00 , N/A)	649.2	N/A	3.7496 [4.0000]	93.7% { 98.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 708954	(8.86 , N/A) (N/A , 0.01 , N/A)	303.4	N/A	3.1989 [4.0000]	80.0% { 88.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1877316	(10.19 , N/A) (N/A , 0.00 , N/A)	1129.2	N/A	1.8723 [2.0000]	93.6% { 93.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 355402	(10.63 , N/A) (N/A , -0.01 , N/A)	813.6	N/A	1.9740 [2.0000]	98.7% { 91.3% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 365002	(10.71 , N/A) (N/A , -0.01 , N/A)	833.9	N/A	2.1505 [2.0000]	107.5% { 98.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (57)
Acquired: 2023/01/11 - 03:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1116404	(9.41 , N/A) (N/A , 0.02 , N/A)	370.1	N/A	4.7038 [4.0000]	117.6% { 130.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 860866	(9.63 , N/A) (N/A , 0.01 , N/A)	78.1	N/A	4.6132 [4.0000]	115.3% { 108.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 796353	(10.60 , N/A) (N/A , -0.01 , N/A)	1028.2	N/A	28.8260 [20.0000]	144.1% { 99.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 367354	(10.69 , N/A) (N/A , -0.01 , N/A)	1187.2	N/A	28.8525 [20.0000]	144.3% { 88.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1484727	(6.33 , N/A) (N/A , -0.01 , N/A)	567.1	N/A	8.2069 [8.0000]	102.6% { 97.8% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00089	Instrument:	Saphira
Calibration:	2302005		

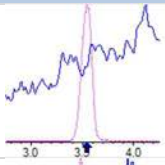
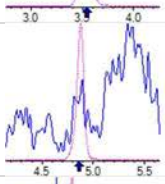
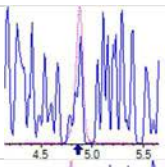
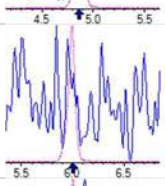
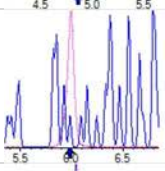
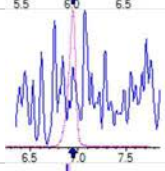
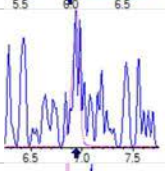
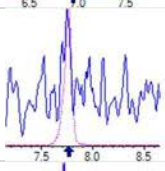
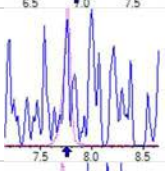
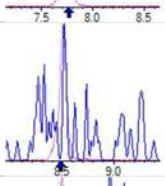
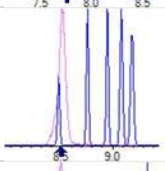
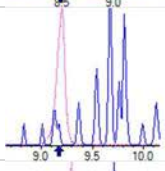
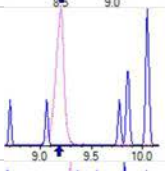
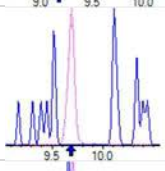
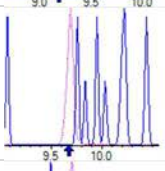
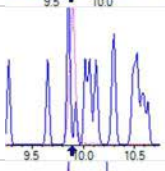
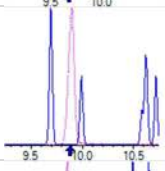
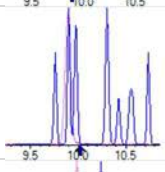
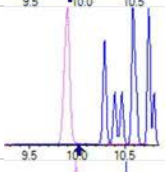
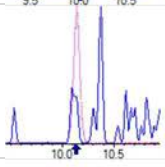
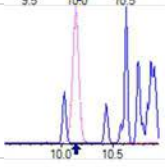
Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.33	ng/mL		
	13C5-PFPEA	3.35	ng/mL		
	13C5-PFHXA	1.92	ng/mL		
	13C4-PFHPA	1.80	ng/mL		
	13C8-PFOA	1.59	ng/mL		
	13C9-PFNA	0.903	ng/mL		
	13C6-PFDA	0.926	ng/mL		
	13C7-PFUnA	1.05	ng/mL		
	13C2-PFDOA	1.08	ng/mL		
	13C2-PFTEDA	1.02	ng/mL		
	13C3-PFBS	1.78	ng/mL		
	13C3-PFHXS	1.75	ng/mL		
	13C8-PFOS	1.67	ng/mL		
	13C2-4:2FTS	3.28	ng/mL		
	13C2-6:2FTS	3.07	ng/mL		
	13C2-8:2FTS	3.34	ng/mL		
	13C8-PFOSA	1.80	ng/mL		
	D5-NETFOSA	1.99	ng/mL		
	D3-NMEFOSA	1.81	ng/mL		
	D3-NMEFOSAA	3.81	ng/mL		
	D5-NETFOSAA	3.59	ng/mL		
	D7-NMEFOSE	25.2	ng/mL		
	D9-NETFOSE	27.0	ng/mL		
	13C3-HFPO-DA	7.78	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

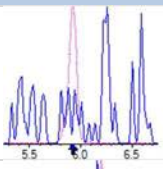
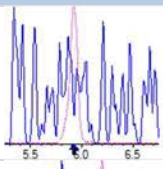
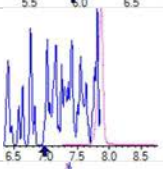
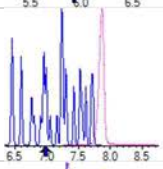
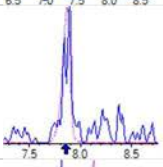
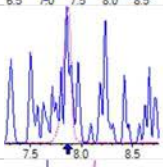
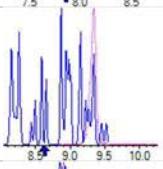
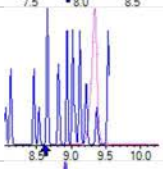
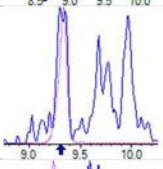
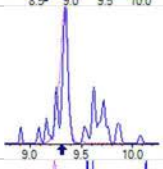
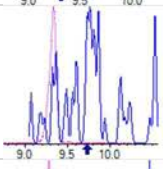
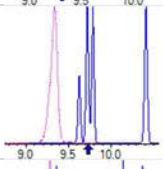
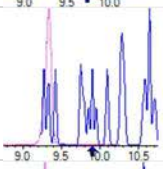
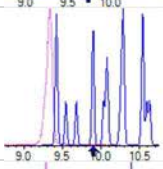
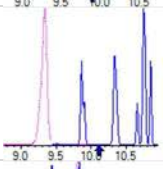
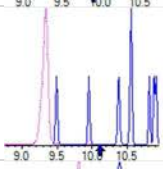
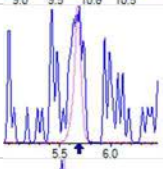
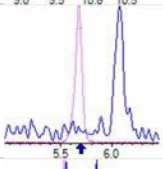
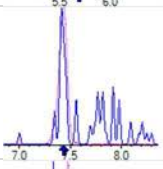
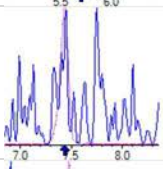
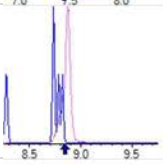
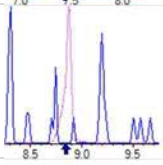
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

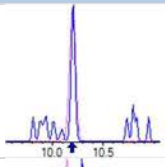
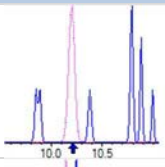
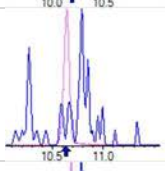
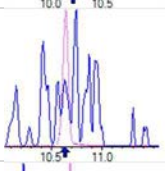
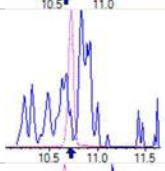
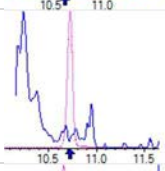
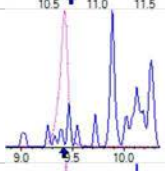
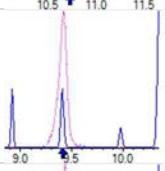
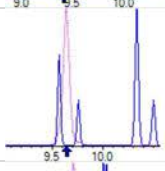
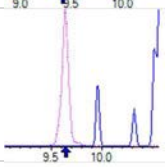
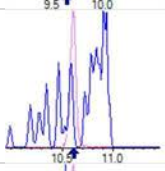
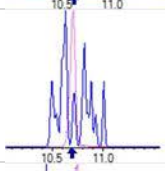
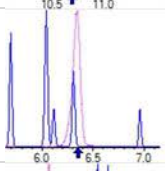
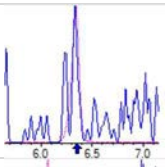
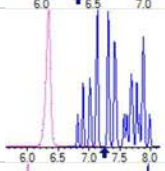
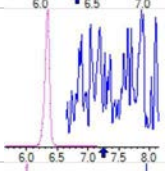
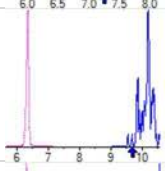
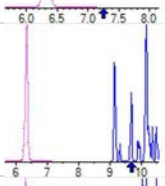
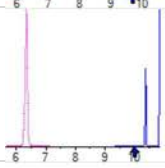
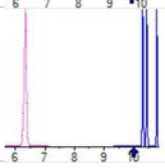
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

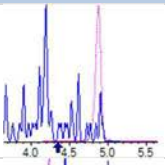
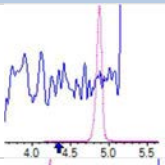
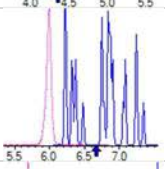
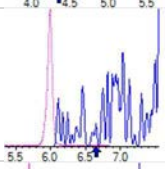
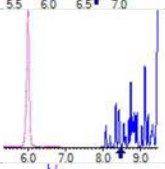
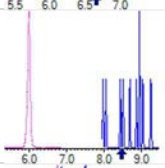
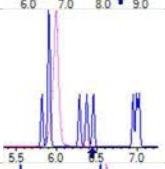
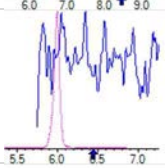
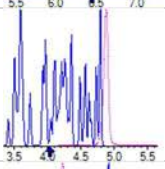
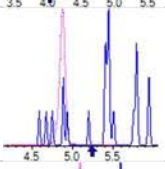
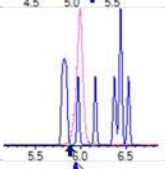
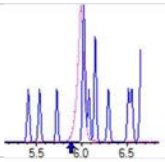
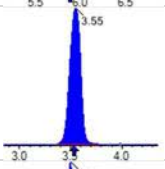
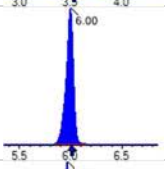
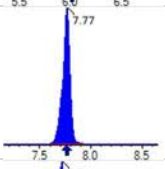
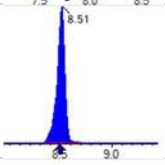
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

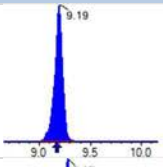
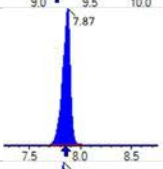
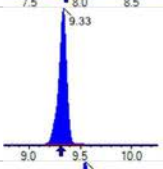
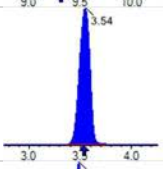
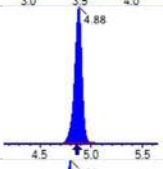
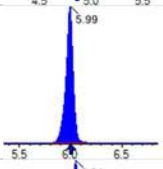
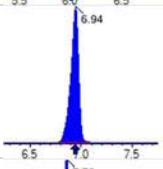
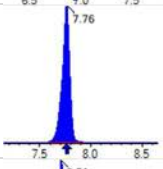
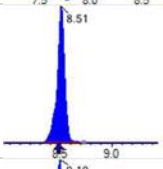
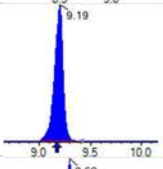
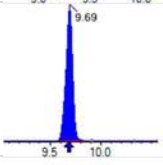
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 200392	(3.55 , N/A) (N/A , 0.02 , N/A)	379.6	N/A	0.7911 [1.0000]	79.1% { 99.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 327115	(6.00 , N/A) (N/A , 0.01 , N/A)	496.5	N/A	0.8849 [1.0000]	88.5% { 97.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 447863	(7.77 , N/A) (N/A , 0.00 , N/A)	516.7	N/A	1.0195 [1.0000]	102.0% { 117.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 350369	(8.51 , N/A) (N/A , 0.02 , N/A)	547.4	N/A	0.8639 [1.0000]	86.4% { 117.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

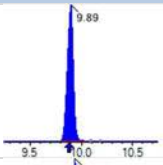
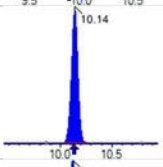
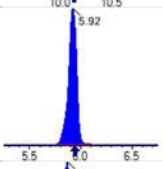
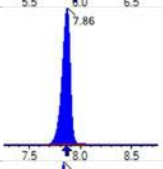
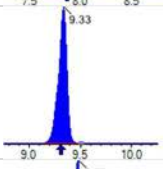
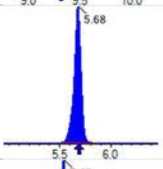
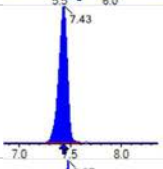
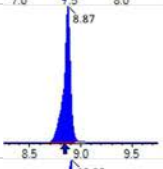
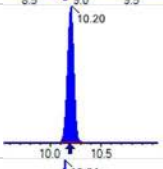
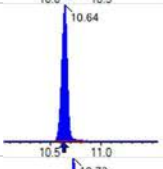
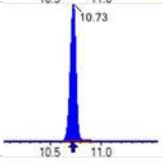
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 380545	(9.19 , N/A) (N/A , 0.02 , N/A)	497.6	N/A	0.8810 [1.0000]	88.1% { 106.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 638334	(7.87 , N/A) (N/A , 0.00 , N/A)	628.4	N/A	0.8641 [1.0000]	86.4% { 101.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 699757	(9.33 , N/A) (N/A , 0.03 , N/A)	428.6	N/A	0.9075 [1.0000]	90.8% { 102.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1442112	(3.54 , N/A) (N/A , 0.02 , N/A)	579.6	N/A	7.3250 [8.0000]	91.6% { 91.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 897474	(4.88 , N/A) (N/A , 0.02 , N/A)	519.2	N/A	3.3522 [4.0000]	83.8% { 88.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 640719	(5.99 , N/A) (N/A , 0.01 , N/A)	474.3	N/A	1.9169 [2.0000]	95.8% { 97.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 571639	(6.94 , N/A) (N/A , -0.01 , N/A)	553.8	N/A	1.7991 [2.0000]	90.0% { 90.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 723737	(7.76 , N/A) (N/A , 0.00 , N/A)	617.0	N/A	1.5860 [2.0000]	79.3% { 97.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 314047	(8.51 , N/A) (N/A , 0.02 , N/A)	610.6	N/A	0.9031 [1.0000]	90.3% { 99.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 396876	(9.19 , N/A) (N/A , 0.02 , N/A)	286.5	N/A	0.9256 [1.0000]	92.6% { 98.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 557787	(9.69 , N/A) (N/A , 0.02 , N/A)	405.9	N/A	1.0521 [1.0000]	105.2% { 103.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

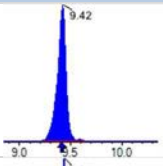
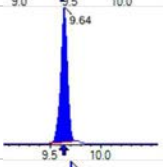
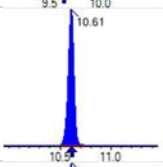
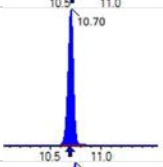
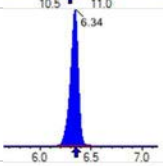
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 549273	(9.89 , N/A) (N/A , 0.02 , N/A)	422.1	N/A	1.0790 [1.0000]	107.9% { 108.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 414446	(10.14 , N/A) (N/A , 0.01 , N/A)	890.2	N/A	1.0171 [1.0000]	101.7% { 101.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1512357	(5.92 , N/A) (N/A , 0.01 , N/A)	438.1	N/A	1.7821 [2.0000]	89.1% { 93.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 930408	(7.86 , N/A) (N/A , 0.00 , N/A)	532.5	N/A	1.7495 [2.0000]	87.5% { 94.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1385851	(9.33 , N/A) (N/A , 0.03 , N/A)	427.1	N/A	1.6683 [2.0000]	83.4% { 91.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 543175	(5.68 , N/A) (N/A , 0.02 , N/A)	576.0	N/A	3.2792 [4.0000]	82.0% { 88.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 749274	(7.43 , N/A) (N/A , -0.01 , N/A)	642.4	N/A	3.0666 [4.0000]	76.7% { 83.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 764258	(8.87 , N/A) (N/A , 0.03 , N/A)	405.3	N/A	3.3383 [4.0000]	83.5% { 95.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1979482	(10.20 , N/A) (N/A , 0.01 , N/A)	887.7	N/A	1.7998 [2.0000]	90.0% { 98.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 356535	(10.64 , N/A) (N/A , 0.00 , N/A)	749.5	N/A	1.8054 [2.0000]	90.3% { 91.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 370129	(10.73 , N/A) (N/A , 0.00 , N/A)	709.1	N/A	1.9881 [2.0000]	99.4% { 100.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (2)
Acquired: 2023/01/10 - 14:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 992022	(9.42 , N/A) (N/A , 0.03 , N/A)	306.9	N/A	3.8106 [4.0000]	95.3% { 116.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 735532	(9.64 , N/A) (N/A , 0.01 , N/A)	90.4	N/A	3.5934 [4.0000]	89.8% { 92.5% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 764534	(10.61 , N/A) (N/A , 0.01 , N/A)	784.4	N/A	25.2298 [20.0000]	126.1% { 95.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 377665	(10.70 , N/A) (N/A , 0.01 , N/A)	932.8	N/A	27.0423 [20.0000]	135.2% { 91.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1365130	(6.34 , N/A) (N/A , 0.00 , N/A)	623.5	N/A	7.7826 [8.0000]	97.3% { 89.9% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB2	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

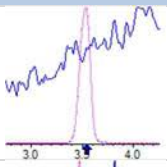
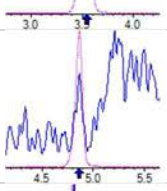
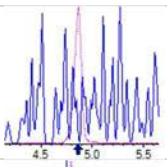
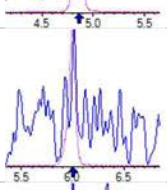
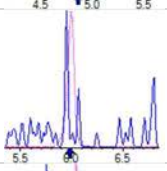
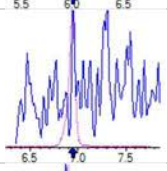
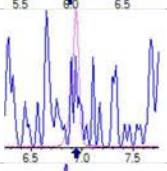
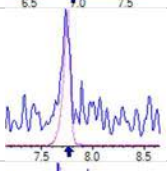
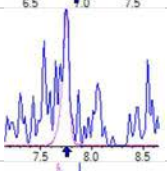
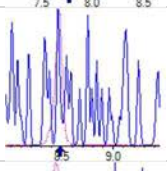
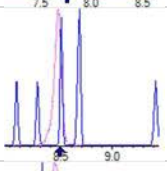
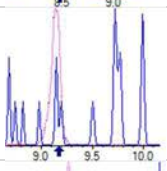
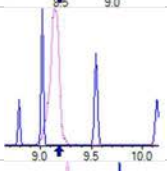
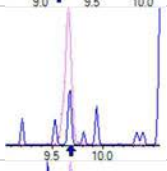
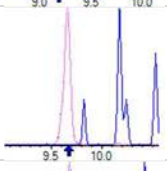
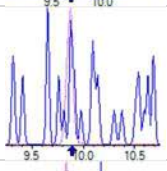
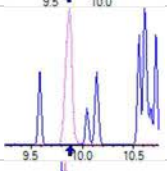
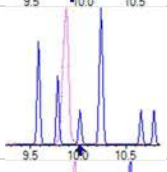
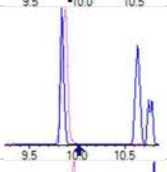
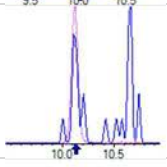
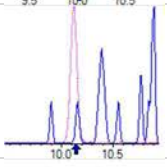
Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB2	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.04	ng/mL		
	13C5-PFPEA	3.37	ng/mL		
	13C5-PFHXA	1.82	ng/mL		
	13C4-PFHPA	1.86	ng/mL		
	13C8-PFOA	1.90	ng/mL		
	13C9-PFNA	0.896	ng/mL		
	13C6-PFDA	0.914	ng/mL		
	13C7-PFUnA	0.870	ng/mL		
	13C2-PFDOA	1.04	ng/mL		
	13C2-PFTEDA	1.00	ng/mL		
	13C3-PFBS	2.02	ng/mL		
	13C3-PFHXS	1.84	ng/mL		
	13C8-PFOS	2.13	ng/mL		
	13C2-4:2FTS	3.35	ng/mL		
	13C2-6:2FTS	3.32	ng/mL		
	13C2-8:2FTS	3.84	ng/mL		
	13C8-PFOSA	1.96	ng/mL		
	D5-NETFOSA	2.25	ng/mL		
	D3-NMEFOSA	2.18	ng/mL		
	D3-NMEFOSAA	3.74	ng/mL		
	D5-NETFOSAA	4.68	ng/mL		
	D7-NMEFOSE	29.2	ng/mL		
	D9-NETFOSE	30.3	ng/mL		
	13C3-HFPO-DA	7.59	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

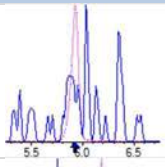
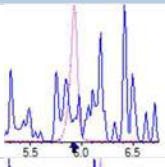
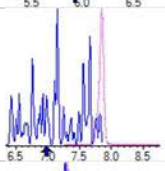
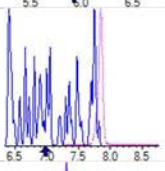
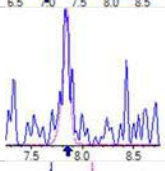
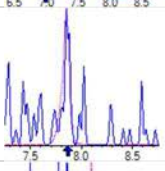
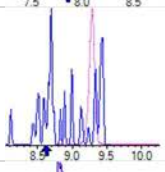
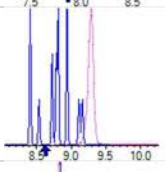
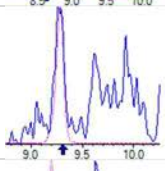
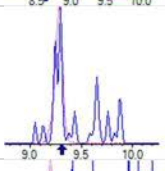
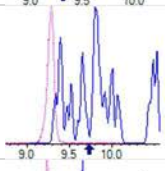
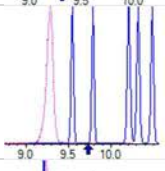
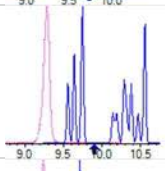
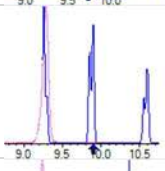
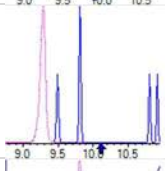
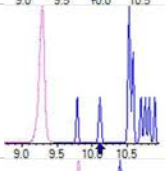
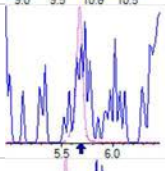
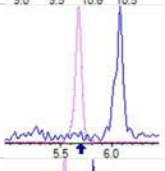
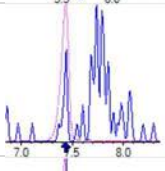
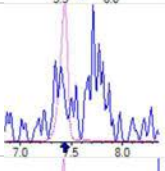
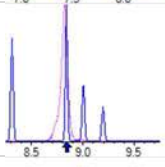
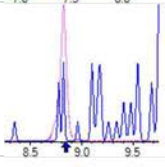
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

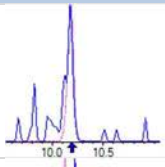
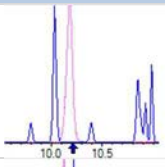
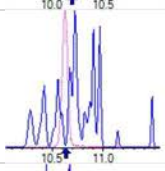
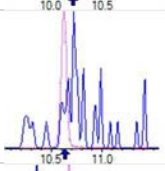
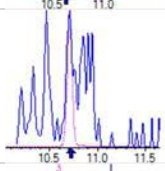
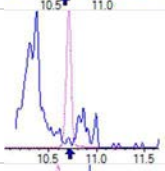
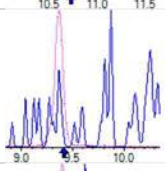
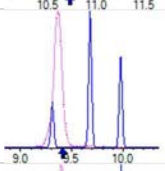
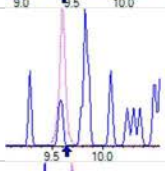
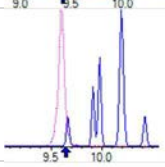
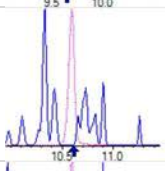
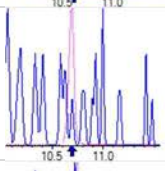
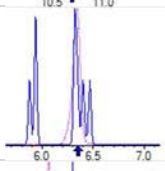
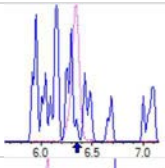
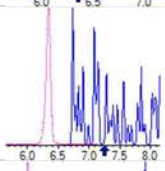
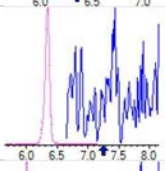
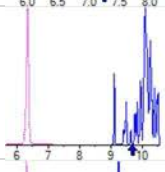
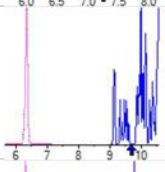
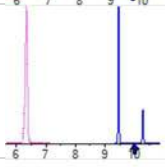
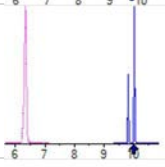
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

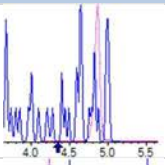
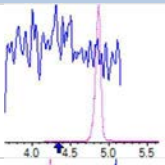
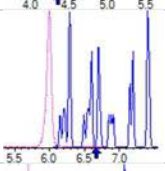
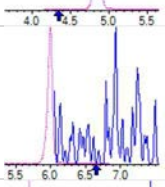
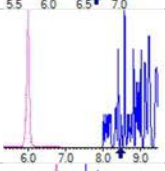
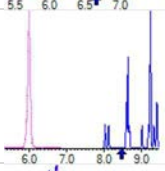
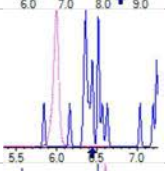
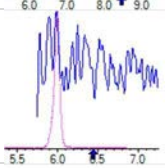
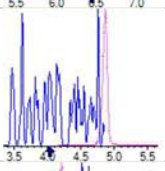
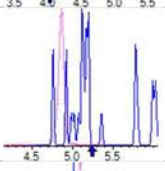
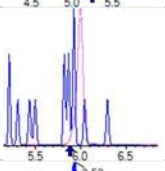
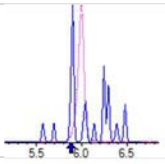
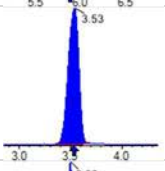
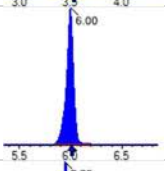
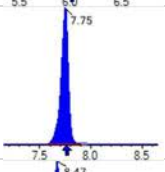
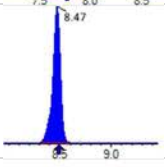
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

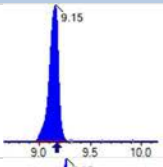
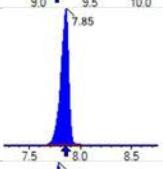
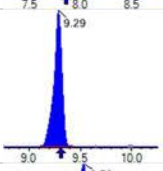
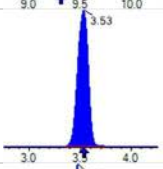
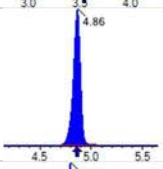
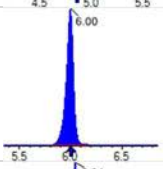
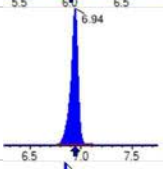
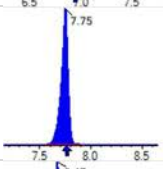
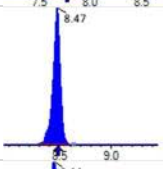
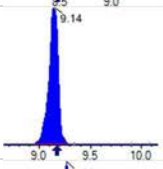
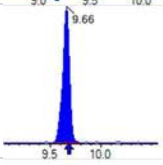
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 195462	(3.53 , N/A) (N/A , 0.01 , N/A)	322.6	N/A	0.7717 [1.0000]	77.2% { 96.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 325965	(6.00 , N/A) (N/A , 0.01 , N/A)	377.0	N/A	0.8818 [1.0000]	88.2% { 97.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 378112	(7.75 , N/A) (N/A , -0.01 , N/A)	576.3	N/A	0.8608 [1.0000]	86.1% { 98.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 328930	(8.47 , N/A) (N/A , -0.02 , N/A)	511.2	N/A	0.8111 [1.0000]	81.1% { 110.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

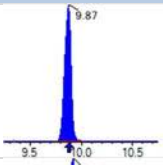
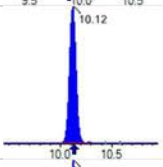
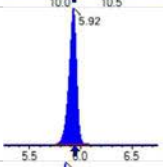
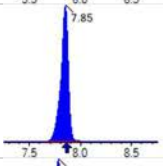
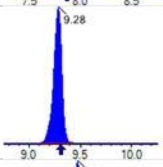
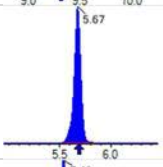
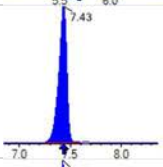
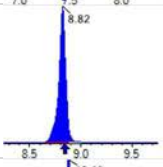
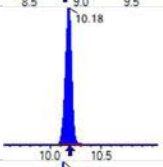
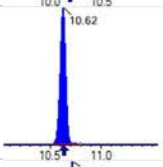
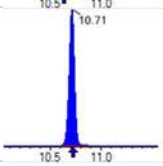
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 330110	(9.15 , N/A) (N/A , -0.02 , N/A)	335.0	N/A	0.7642 [1.0000]	76.4% { 92.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 594924	(7.85 , N/A) (N/A , -0.02 , N/A)	552.9	N/A	0.8054 [1.0000]	80.5% { 94.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 584857	(9.29 , N/A) (N/A , -0.01 , N/A)	403.3	N/A	0.7585 [1.0000]	75.9% { 85.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1351002	(3.53 , N/A) (N/A , 0.00 , N/A)	461.0	N/A	7.0353 [8.0000]	87.9% { 85.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 898361	(4.86 , N/A) (N/A , 0.01 , N/A)	576.0	N/A	3.3674 [4.0000]	84.2% { 88.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 604568	(6.00 , N/A) (N/A , 0.01 , N/A)	452.9	N/A	1.8151 [2.0000]	90.8% { 91.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 589090	(6.94 , N/A) (N/A , -0.01 , N/A)	495.3	N/A	1.8606 [2.0000]	93.0% { 93.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 730816	(7.75 , N/A) (N/A , -0.01 , N/A)	643.5	N/A	1.8970 [2.0000]	94.8% { 98.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 292489	(8.47 , N/A) (N/A , -0.02 , N/A)	542.5	N/A	0.8959 [1.0000]	89.6% { 92.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 340027	(9.14 , N/A) (N/A , -0.03 , N/A)	224.9	N/A	0.9141 [1.0000]	91.4% { 84.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 400202	(9.66 , N/A) (N/A , -0.01 , N/A)	292.7	N/A	0.8702 [1.0000]	87.0% { 74.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

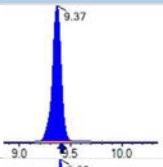
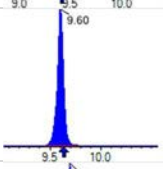
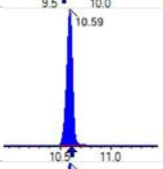
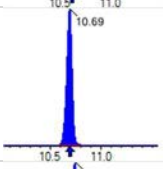
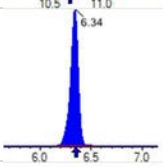
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 460087	(9.87 , N/A) (N/A , -0.01 , N/A)	670.2	N/A	1.0419 [1.0000]	104.2% { 90.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 354034	(10.12 , N/A) (N/A , -0.01 , N/A)	792.5	N/A	1.0016 [1.0000]	100.2% { 86.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1594511	(5.92 , N/A) (N/A , 0.01 , N/A)	505.1	N/A	2.0160 [2.0000]	100.8% { 98.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 910932	(7.85 , N/A) (N/A , -0.02 , N/A)	621.2	N/A	1.8379 [2.0000]	91.9% { 92.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1476713	(9.28 , N/A) (N/A , -0.02 , N/A)	497.5	N/A	2.1270 [2.0000]	106.3% { 96.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 517295	(5.67 , N/A) (N/A , 0.01 , N/A)	654.6	N/A	3.3508 [4.0000]	83.8% { 84.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 757055	(7.43 , N/A) (N/A , -0.01 , N/A)	553.8	N/A	3.3245 [4.0000]	83.1% { 84.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 818711	(8.82 , N/A) (N/A , -0.03 , N/A)	399.4	N/A	3.8371 [4.0000]	95.9% { 101.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1801976	(10.18 , N/A) (N/A , -0.01 , N/A)	1039.2	N/A	1.9603 [2.0000]	98.0% { 89.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 360016	(10.62 , N/A) (N/A , -0.01 , N/A)	1146.4	N/A	2.1812 [2.0000]	109.1% { 92.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 350381	(10.71 , N/A) (N/A , -0.01 , N/A)	743.7	N/A	2.2517 [2.0000]	112.6% { 94.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (7)
Acquired: 2023/01/10 - 15:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	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) 813257	(9.37 , N/A) (N/A , -0.03 , N/A)	360.2	N/A	3.7376 [4.0000]	93.4% { 95.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 800668	(9.60 , N/A) (N/A , -0.02 , N/A)	79.0	N/A	4.6801 [4.0000]	117.0% { 100.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 740633	(10.59 , N/A) (N/A , -0.01 , N/A)	724.5	N/A	29.2427 [20.0000]	146.2% { 92.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 353553	(10.69 , N/A) (N/A , -0.01 , N/A)	832.2	N/A	30.2893 [20.0000]	151.4% { 85.2% }			S2,
13C3_HFPODA_EIS	(287.0 / 169.0) 1326784	(6.34 , N/A) (N/A , 0.00 , N/A)	580.0	N/A	7.5907 [8.0000]	94.9% { 87.4% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB3	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

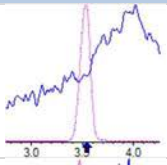
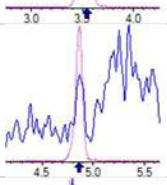
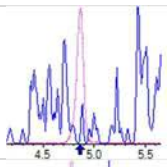
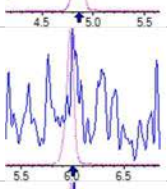
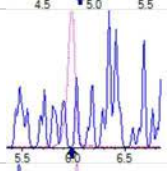
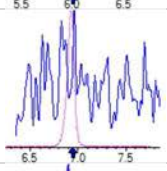
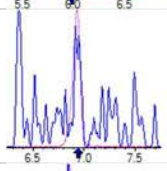
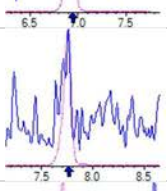
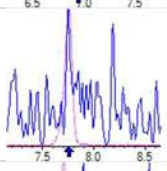
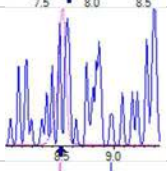
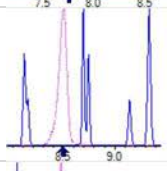
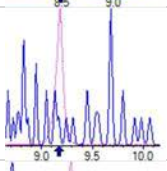
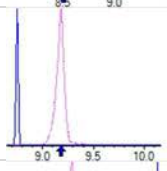
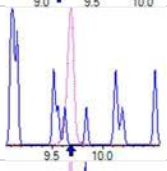
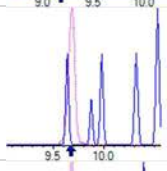
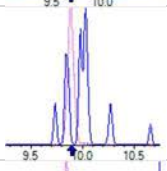
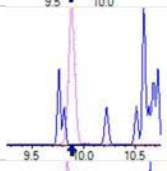
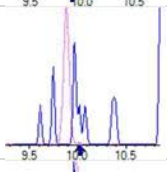
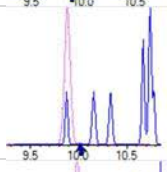
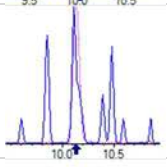
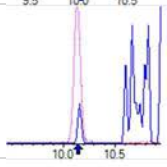
Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.32	ng/mL		
	13C5-PFPEA	3.32	ng/mL		
	13C5-PFHXA	1.84	ng/mL		
	13C4-PFHPA	1.77	ng/mL		
	13C8-PFOA	1.68	ng/mL		
	13C9-PFNA	0.901	ng/mL		
	13C6-PFDA	0.857	ng/mL		
	13C7-PFUnA	1.03	ng/mL		
	13C2-PFDOA	1.03	ng/mL		
	13C2-PFTEDA	0.829	ng/mL		
	13C3-PFBS	1.92	ng/mL		
	13C3-PFHXS	1.70	ng/mL		
	13C8-PFOS	1.84	ng/mL		
	13C2-4:2FTS	3.74	ng/mL		
	13C2-6:2FTS	3.13	ng/mL		
	13C2-8:2FTS	3.29	ng/mL		
	13C8-PFOSA	1.83	ng/mL		
	D5-NETFOSA	1.94	ng/mL		
	D3-NMEFOSA	1.80	ng/mL		
	D3-NMEFOSAA	3.46	ng/mL		
	D5-NETFOSAA	4.20	ng/mL		
	D7-NMEFOSE	25.7	ng/mL		
	D9-NETFOSE	26.7	ng/mL		
	13C3-HFPO-DA	7.10	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

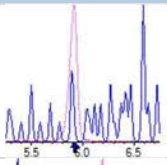
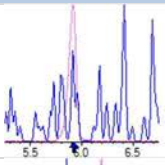
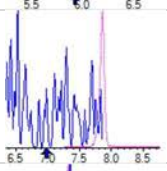
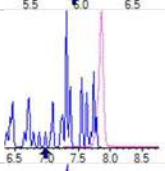
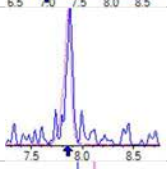
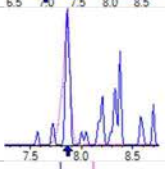
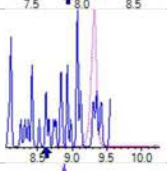
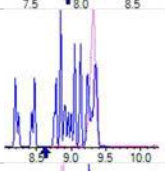
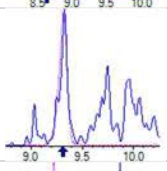
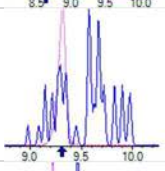
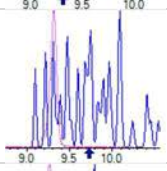
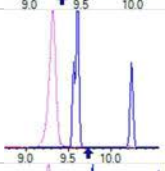
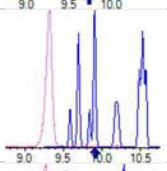
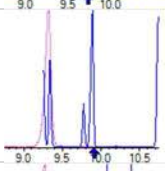
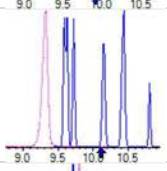
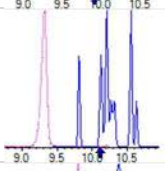
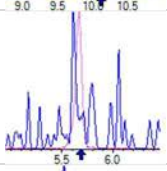
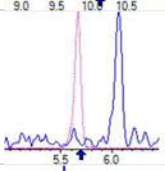
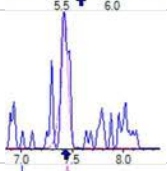
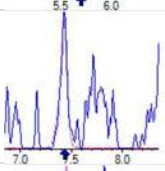
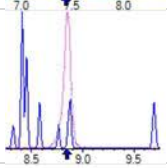
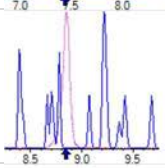
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

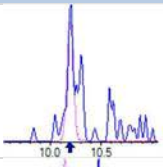
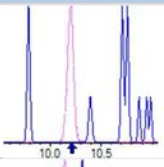
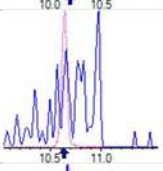
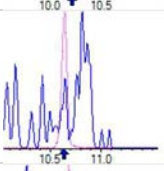
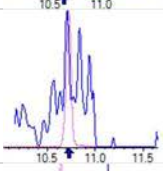
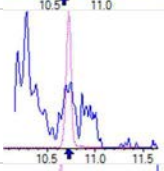
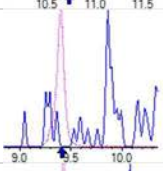
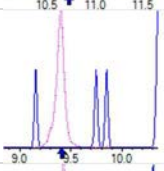
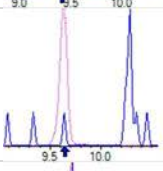
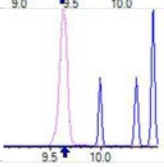
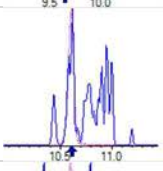
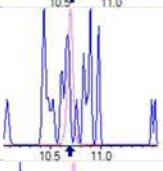
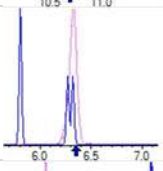
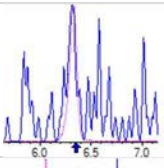
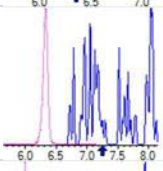
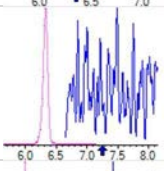
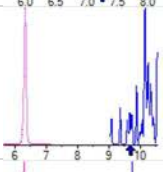
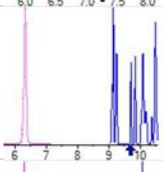
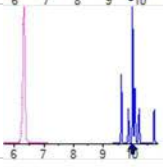
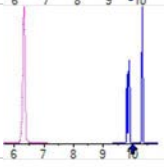
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) 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.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

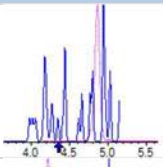
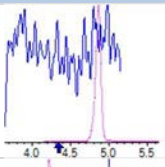
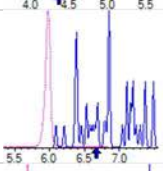
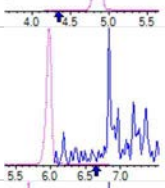
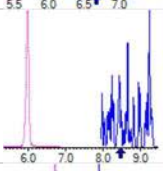
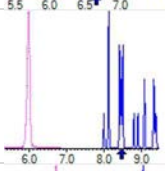
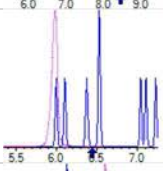
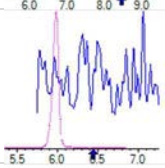
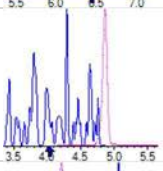
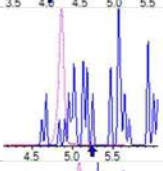
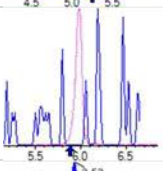
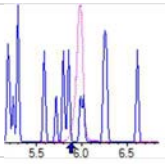
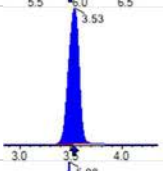
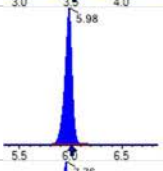
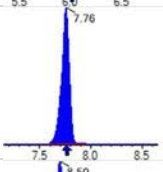
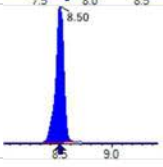
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

Sample I.D.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

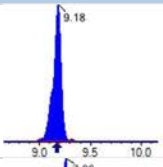
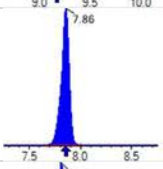
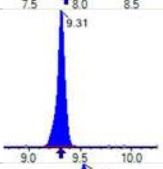
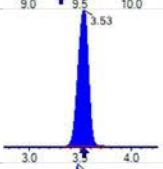
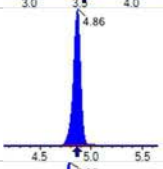
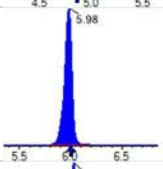
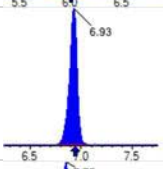
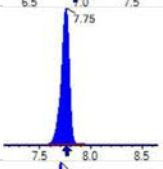
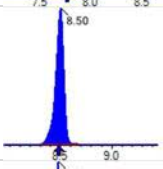
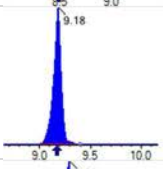
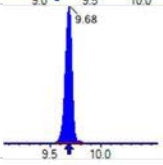
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 213843	(3.53 , N/A) (N/A , 0.01 , N/A)	432.2	N/A	0.8443 [1.0000]	84.4% { 106.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 371570	(5.98 , N/A) (N/A , 0.00 , N/A)	492.0	N/A	1.0052 [1.0000]	100.5% { 110.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 407045	(7.76 , N/A) (N/A , -0.01 , N/A)	487.8	N/A	0.9266 [1.0000]	92.7% { 106.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 338922	(8.50 , N/A) (N/A , 0.00 , N/A)	389.9	N/A	0.8357 [1.0000]	83.6% { 113.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

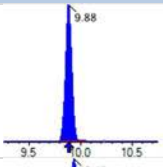
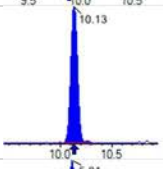
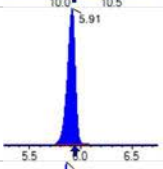
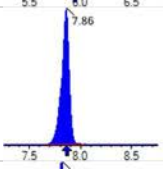
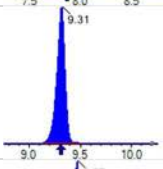
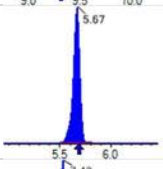
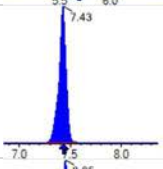
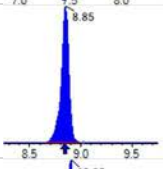
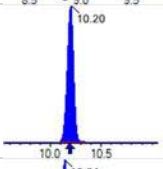
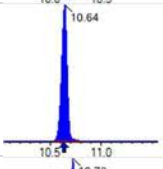
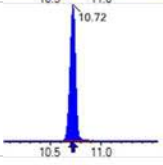
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 385637	(9.18 , N/A) (N/A , 0.01 , N/A)	275.7	N/A	0.8928 [1.0000]	89.3% { 108.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 652540	(7.86 , N/A) (N/A , -0.01 , N/A)	595.5	N/A	0.8834 [1.0000]	88.3% { 103.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 686776	(9.31 , N/A) (N/A , 0.01 , N/A)	410.0	N/A	0.8907 [1.0000]	89.1% { 100.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1537968	(3.53 , N/A) (N/A , 0.01 , N/A)	556.7	N/A	7.3205 [8.0000]	91.5% { 97.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1010962	(4.86 , N/A) (N/A , 0.01 , N/A)	717.1	N/A	3.3244 [4.0000]	83.1% { 99.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 699735	(5.98 , N/A) (N/A , -0.01 , N/A)	416.7	N/A	1.8430 [2.0000]	92.1% { 106.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 639816	(6.93 , N/A) (N/A , -0.02 , N/A)	538.4	N/A	1.7728 [2.0000]	88.6% { 101.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 695083	(7.75 , N/A) (N/A , -0.01 , N/A)	477.1	N/A	1.6760 [2.0000]	83.8% { 93.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 303109	(8.50 , N/A) (N/A , 0.00 , N/A)	484.6	N/A	0.9011 [1.0000]	90.1% { 96.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 372198	(9.18 , N/A) (N/A , 0.01 , N/A)	357.2	N/A	0.8566 [1.0000]	85.7% { 92.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 553620	(9.68 , N/A) (N/A , 0.01 , N/A)	462.8	N/A	1.0304 [1.0000]	103.0% { 102.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

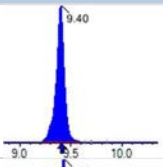
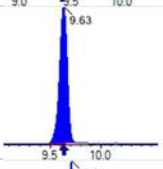
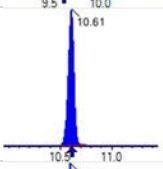
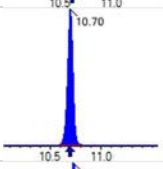
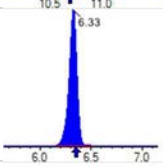
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 529754	(9.88 , N/A) (N/A , 0.01 , N/A)	413.9	N/A	1.0269 [1.0000]	102.7% { 104.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 342513	(10.13 , N/A) (N/A , 0.00 , N/A)	727.4	N/A	0.8294 [1.0000]	82.9% { 84.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1666913	(5.91 , N/A) (N/A , 0.00 , N/A)	572.2	N/A	1.9215 [2.0000]	96.1% { 102.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 926835	(7.86 , N/A) (N/A , -0.01 , N/A)	566.4	N/A	1.7048 [2.0000]	85.2% { 94.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1502254	(9.31 , N/A) (N/A , 0.01 , N/A)	383.9	N/A	1.8427 [2.0000]	92.1% { 98.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 633608	(5.67 , N/A) (N/A , 0.00 , N/A)	607.5	N/A	3.7418 [4.0000]	93.5% { 103.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 782038	(7.43 , N/A) (N/A , -0.01 , N/A)	713.0	N/A	3.1310 [4.0000]	78.3% { 87.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 768987	(8.85 , N/A) (N/A , 0.00 , N/A)	291.4	N/A	3.2859 [4.0000]	82.1% { 95.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1973594	(10.20 , N/A) (N/A , 0.01 , N/A)	810.0	N/A	1.8283 [2.0000]	91.4% { 97.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 349834	(10.64 , N/A) (N/A , 0.00 , N/A)	791.6	N/A	1.8049 [2.0000]	90.2% { 89.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 353607	(10.72 , N/A) (N/A , 0.00 , N/A)	787.4	N/A	1.9352 [2.0000]	96.8% { 95.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (18)
Acquired: 2023/01/10 - 18:39

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) 882993	(9.40 , N/A) (N/A , 0.01 , N/A)	309.0	N/A	3.4559 [4.0000]	86.4% { 103.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 844084	(9.63 , N/A) (N/A , 0.01 , N/A)	78.4	N/A	4.2017 [4.0000]	105.0% { 106.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 763538	(10.61 , N/A) (N/A , 0.00 , N/A)	1145.9	N/A	25.6732 [20.0000]	128.4% { 94.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 365613	(10.70 , N/A) (N/A , 0.00 , N/A)	926.9	N/A	26.6742 [20.0000]	133.4% { 88.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1414545	(6.33 , N/A) (N/A , -0.01 , N/A)	541.4	N/A	7.0995 [8.0000]	88.7% { 93.2% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB4	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00089
Calibration: 2302005

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

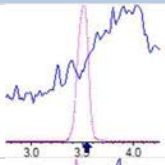
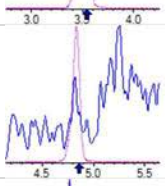
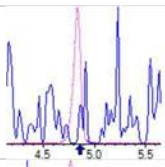
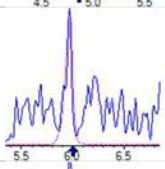
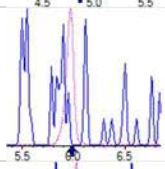
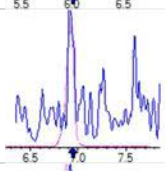
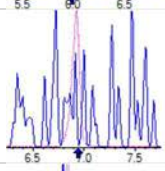
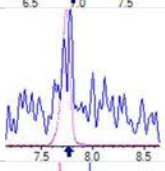
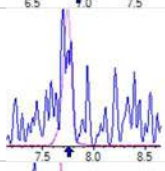
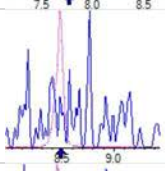
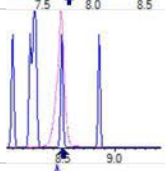
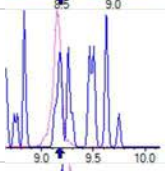
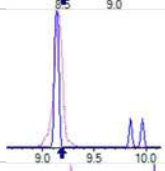
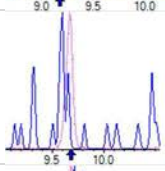
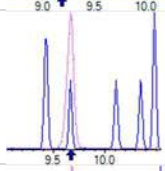
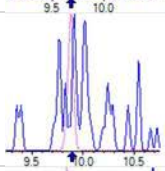
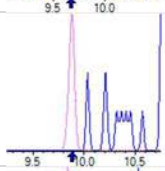
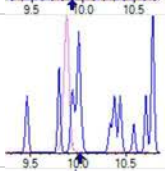
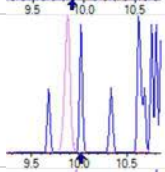
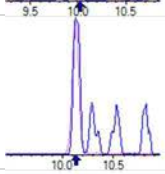
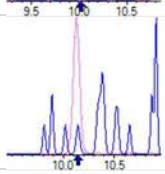
Lab Sample ID	Analyte	Found	Units	RL	C
SC00089-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.18	ng/mL		
	13C5-PFPEA	3.30	ng/mL		
	13C5-PFHXA	1.75	ng/mL		
	13C4-PFHPA	1.65	ng/mL		
	13C8-PFOA	1.79	ng/mL		
	13C9-PFNA	0.972	ng/mL		
	13C6-PFDA	0.915	ng/mL		
	13C7-PFUnA	0.971	ng/mL		
	13C2-PFDOA	1.14	ng/mL		
	13C2-PFTEDA	0.893	ng/mL		
	13C3-PFBS	1.97	ng/mL		
	13C3-PFHXS	1.76	ng/mL		
	13C8-PFOS	1.84	ng/mL		
	13C2-4:2FTS	3.89	ng/mL		
	13C2-6:2FTS	2.85	ng/mL		
	13C2-8:2FTS	3.69	ng/mL		
	13C8-PFOSA	1.73	ng/mL		
	D5-NETFOSA	1.78	ng/mL		
	D3-NMEFOSA	1.67	ng/mL		
	D3-NMEFOSAA	4.02	ng/mL		
	D5-NETFOSAA	4.23	ng/mL		
	D7-NMEFOSE	22.1	ng/mL		
	D9-NETFOSE	24.4	ng/mL		
	13C3-HFPO-DA	7.38	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

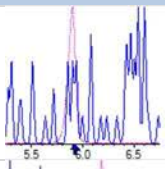
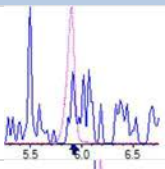
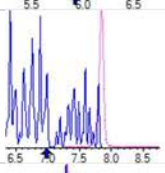
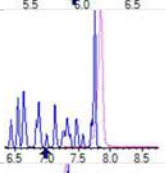
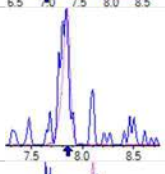
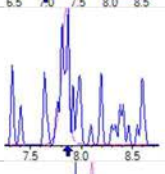
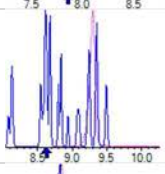
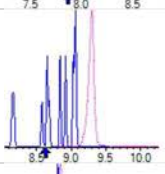
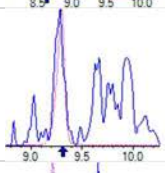
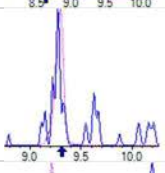
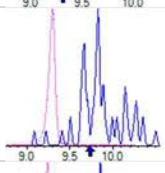
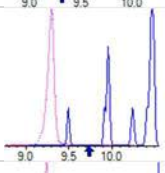
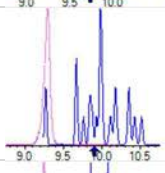
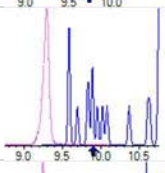
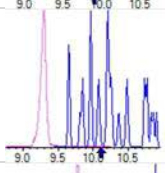
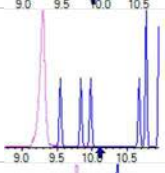
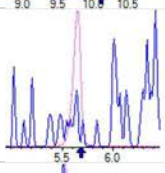
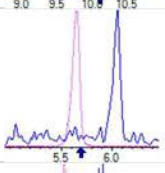
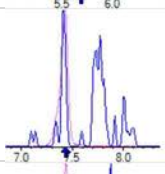
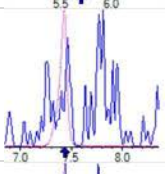
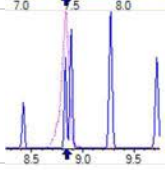
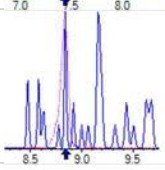
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

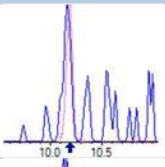
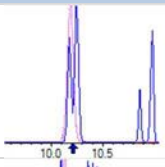
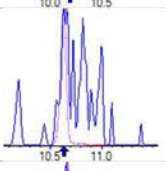
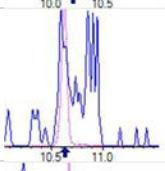
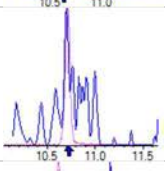
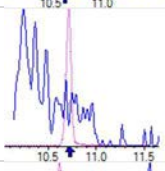
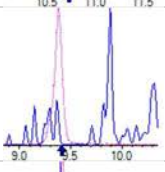
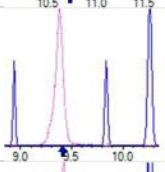
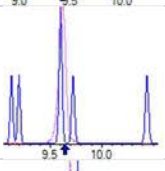
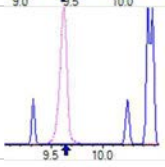
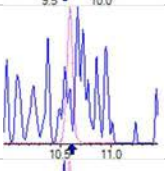
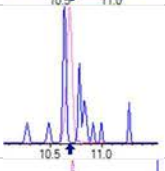
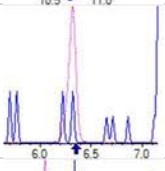
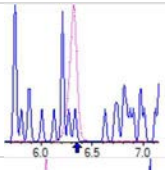
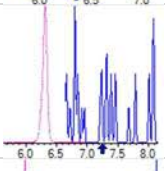
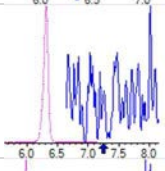
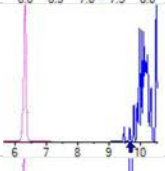
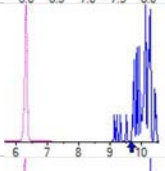
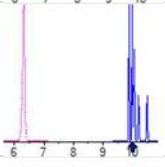
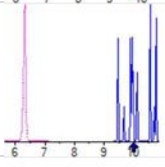
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

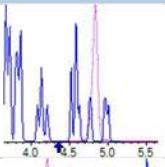
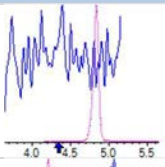
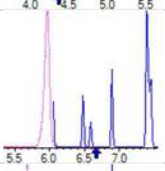
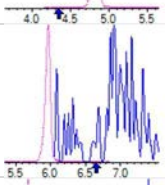
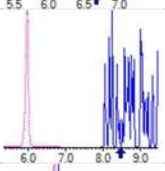
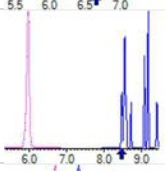
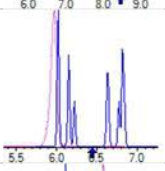
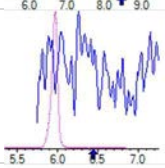
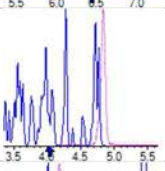
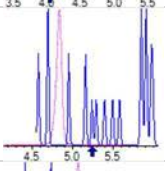
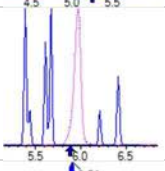
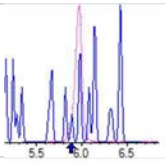
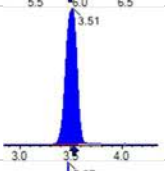
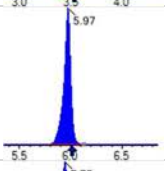
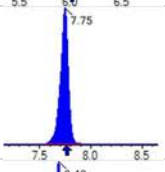
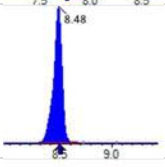
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

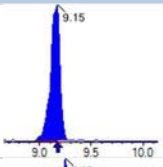
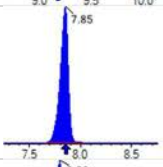
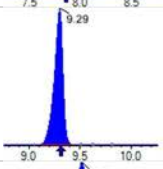
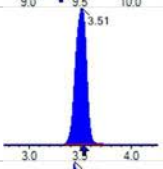
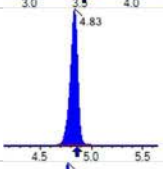
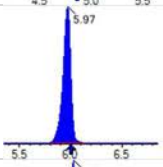
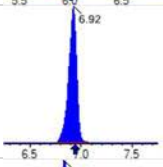
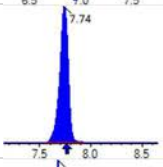
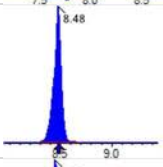
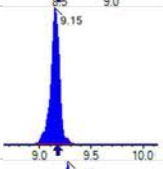
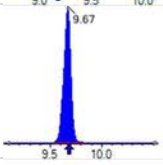
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 202873	(3.51 , N/A) (N/A , -0.02 , N/A)	337.9	N/A	0.8009 [1.0000]	80.1% { 100.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 353077	(5.97 , N/A) (N/A , -0.01 , N/A)	462.2	N/A	0.9552 [1.0000]	95.5% { 105.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 388392	(7.75 , N/A) (N/A , -0.02 , N/A)	498.2	N/A	0.8842 [1.0000]	88.4% { 101.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 318430	(8.48 , N/A) (N/A , -0.01 , N/A)	392.3	N/A	0.7852 [1.0000]	78.5% { 107.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

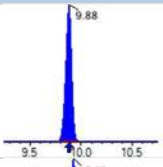
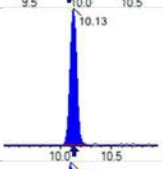
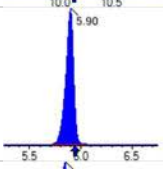
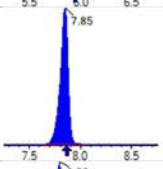
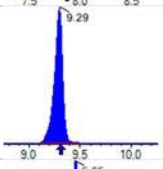
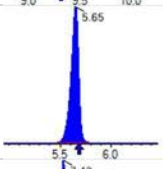
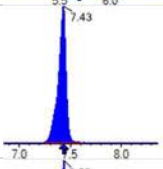
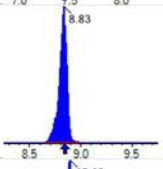
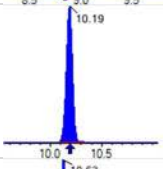
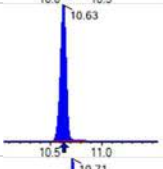
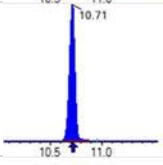
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 359716	(9.15 , N/A) (N/A , -0.01 , N/A)	230.1	N/A	0.8328 [1.0000]	83.3% { 100.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 649724	(7.85 , N/A) (N/A , -0.02 , N/A)	629.1	N/A	0.8795 [1.0000]	88.0% { 103.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 703339	(9.29 , N/A) (N/A , -0.01 , N/A)	447.3	N/A	0.9122 [1.0000]	91.2% { 103.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1431098	(3.51 , N/A) (N/A , -0.02 , N/A)	469.9	N/A	7.1802 [8.0000]	89.8% { 90.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 953466	(4.83 , N/A) (N/A , -0.02 , N/A)	516.9	N/A	3.2995 [4.0000]	82.5% { 93.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 631272	(5.97 , N/A) (N/A , -0.02 , N/A)	510.4	N/A	1.7497 [2.0000]	87.5% { 95.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 567435	(6.92 , N/A) (N/A , -0.03 , N/A)	465.0	N/A	1.6546 [2.0000]	82.7% { 89.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 709432	(7.74 , N/A) (N/A , -0.02 , N/A)	469.1	N/A	1.7927 [2.0000]	89.6% { 95.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 307339	(8.48 , N/A) (N/A , -0.02 , N/A)	437.1	N/A	0.9725 [1.0000]	97.2% { 97.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 370940	(9.15 , N/A) (N/A , -0.02 , N/A)	174.1	N/A	0.9152 [1.0000]	91.5% { 91.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 486697	(9.67 , N/A) (N/A , 0.00 , N/A)	363.9	N/A	0.9711 [1.0000]	97.1% { 90.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

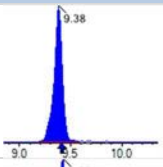
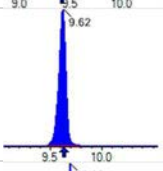
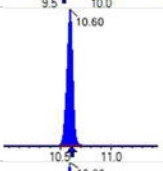
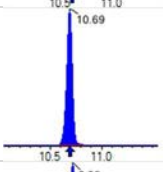
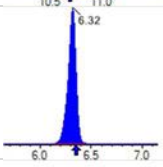
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 548665	(9.88 , N/A) (N/A , 0.00 , N/A)	671.4	N/A	1.1402 [1.0000]	114.0% { 107.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 344099	(10.13 , N/A) (N/A , 0.00 , N/A)	420.0	N/A	0.8933 [1.0000]	89.3% { 84.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1705685	(5.90 , N/A) (N/A , -0.02 , N/A)	524.9	N/A	1.9747 [2.0000]	98.7% { 104.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 954819	(7.85 , N/A) (N/A , -0.02 , N/A)	558.8	N/A	1.7639 [2.0000]	88.2% { 97.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1533237	(9.29 , N/A) (N/A , -0.01 , N/A)	429.9	N/A	1.8364 [2.0000]	91.8% { 100.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 655355	(5.65 , N/A) (N/A , -0.01 , N/A)	566.6	N/A	3.8870 [4.0000]	97.2% { 106.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 708178	(7.43 , N/A) (N/A , -0.01 , N/A)	504.5	N/A	2.8476 [4.0000]	71.2% { 78.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 860267	(8.83 , N/A) (N/A , -0.01 , N/A)	396.4	N/A	3.6918 [4.0000]	92.3% { 107.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1910462	(10.19 , N/A) (N/A , -0.01 , N/A)	905.0	N/A	1.7282 [2.0000]	86.4% { 94.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 331934	(10.63 , N/A) (N/A , -0.01 , N/A)	517.2	N/A	1.6723 [2.0000]	83.6% { 85.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 333859	(10.71 , N/A) (N/A , -0.01 , N/A)	661.0	N/A	1.7841 [2.0000]	89.2% { 90.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00089-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (42)
Acquired: 2023/01/10 - 23:48

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) 1052721	(9.38 , N/A) (N/A , -0.01 , N/A)	358.1	N/A	4.0231 [4.0000]	100.6% { 123.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 869756	(9.62 , N/A) (N/A , -0.01 , N/A)	104.6	N/A	4.2275 [4.0000]	105.7% { 109.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 674501	(10.60 , N/A) (N/A , -0.01 , N/A)	514.2	N/A	22.1453 [20.0000]	110.7% { 83.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 342809	(10.69 , N/A) (N/A , -0.01 , N/A)	777.2	N/A	24.4215 [20.0000]	122.1% { 82.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1398154	(6.32 , N/A) (N/A , -0.02 , N/A)	638.3	N/A	7.3848 [8.0000]	92.3% { 92.1% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00101
Calibration: 2302005

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00101-ICB1	PFBA	0.00	ng/mL	0.75	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00101
Calibration: 2302005

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

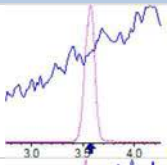
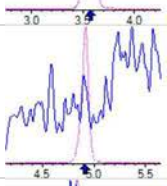
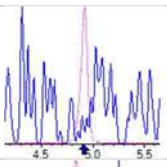
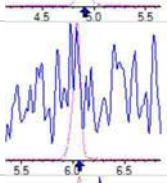
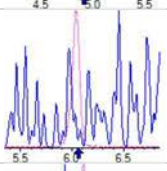
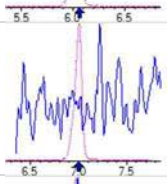
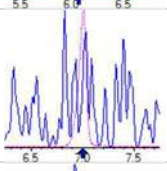
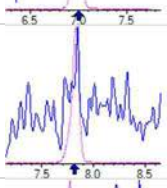
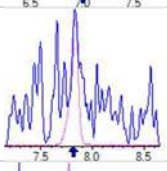
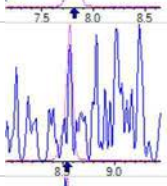
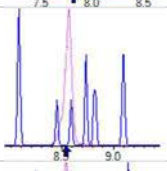
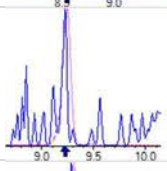
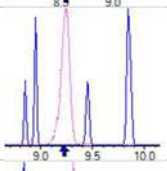
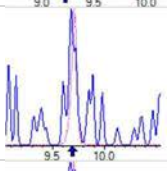
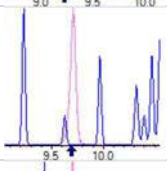
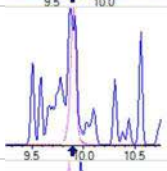
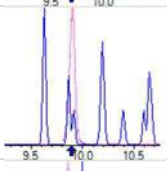
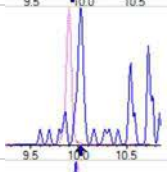
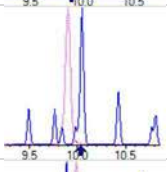
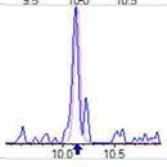
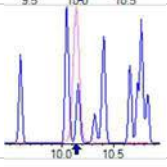
Lab Sample ID	Analyte	Found	Units	RL	C
SC00101-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.01	ng/mL		
	13C5-PFPEA	3.28	ng/mL		
	13C5-PFHXA	1.66	ng/mL		
	13C4-PFHPA	1.73	ng/mL		
	13C8-PFOA	1.76	ng/mL		
	13C9-PFNA	0.893	ng/mL		
	13C6-PFDA	0.831	ng/mL		
	13C7-PFUnA	0.924	ng/mL		
	13C2-PFDOA	0.864	ng/mL		
	13C2-PFTEDA	0.903	ng/mL		
	13C3-PFBS	1.73	ng/mL		
	13C3-PFHXS	1.66	ng/mL		
	13C8-PFOS	1.88	ng/mL		
	13C2-4:2FTS	3.65	ng/mL		
	13C2-6:2FTS	3.40	ng/mL		
	13C2-8:2FTS	3.52	ng/mL		
	13C8-PFOSA	1.89	ng/mL		
	D5-NETFOSA	1.94	ng/mL		
	D3-NMEFOSA	1.85	ng/mL		
	D3-NMEFOSAA	3.63	ng/mL		
	D5-NETFOSAA	3.83	ng/mL		
	D7-NMEFOSE	19.2	ng/mL		
	D9-NETFOSE	19.2	ng/mL		
	13C3-HFPO-DA	6.94	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

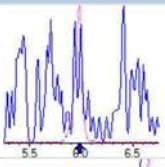
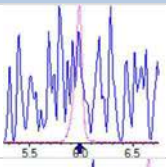
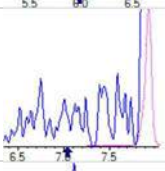
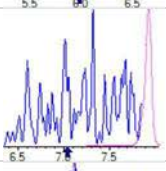
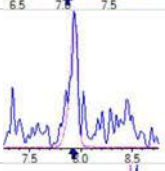
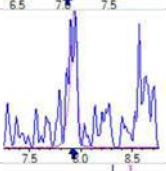
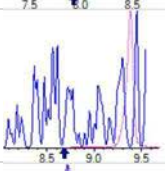
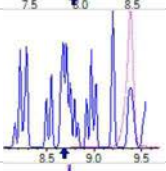
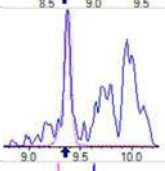
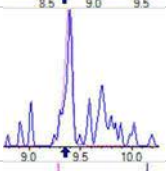
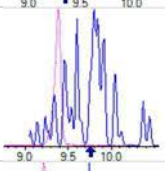
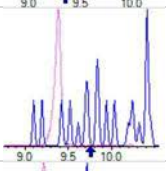
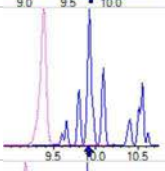
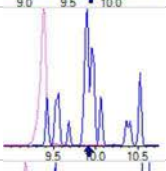
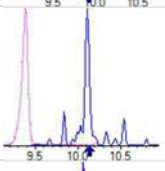
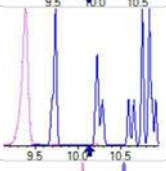
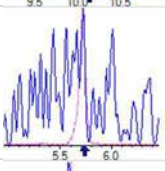
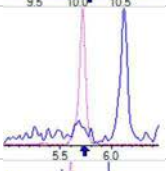
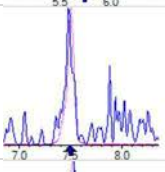
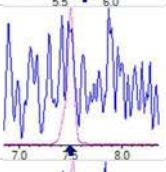
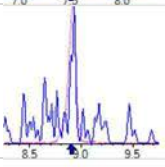
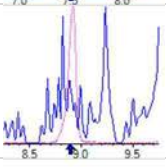
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

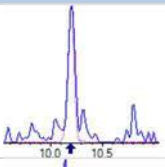
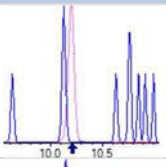
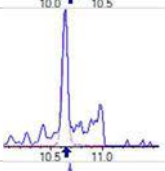
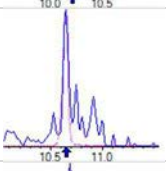
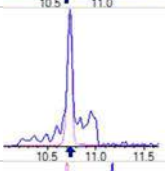
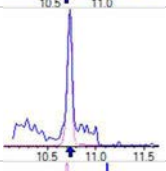
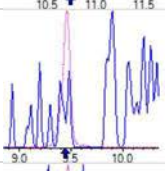
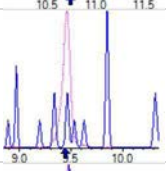
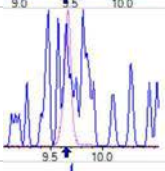
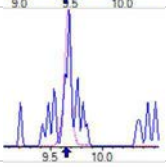
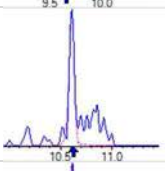
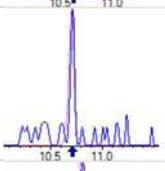
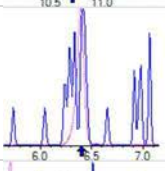
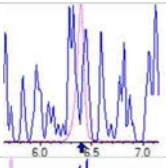
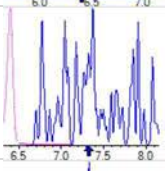
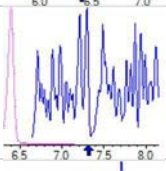
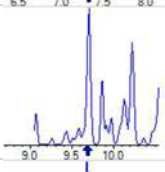
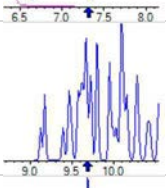
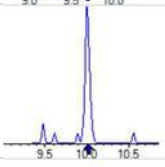
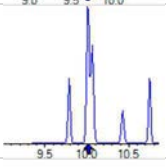
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

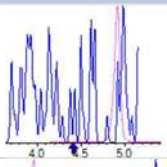
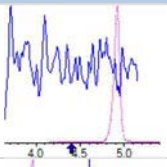
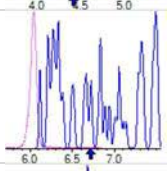
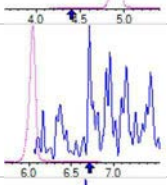
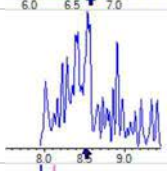
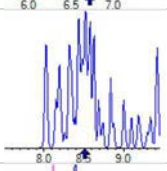
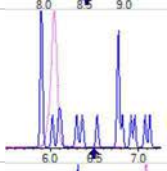
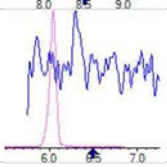
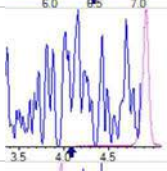
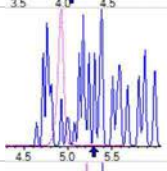
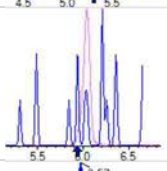
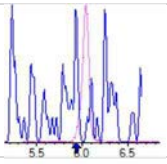
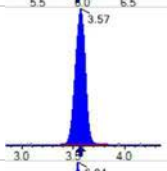
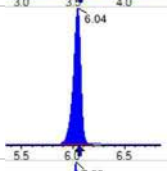
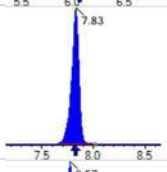
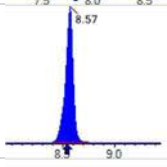
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

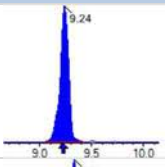
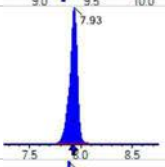
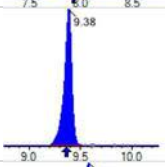
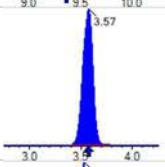
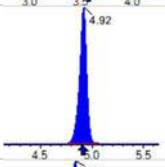
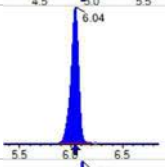
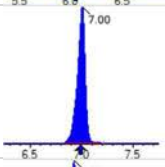
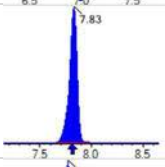
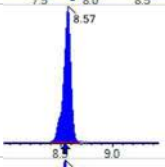
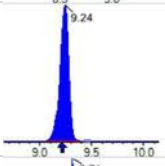
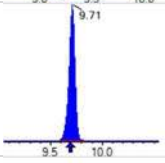
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 258587	(3.57 , N/A) (N/A , 0.00 , N/A)	542.9	N/A	1.0209 [1.0000]	102.1% { 100.1% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 405527	(6.04 , N/A) (N/A , -0.01 , N/A)	443.5	N/A	1.0970 [1.0000]	109.7% { 110.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 461004	(7.83 , N/A) (N/A , 0.02 , N/A)	476.4	N/A	1.0495 [1.0000]	104.9% { 98.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 433450	(8.57 , N/A) (N/A , 0.03 , N/A)	492.8	N/A	1.0688 [1.0000]	106.9% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

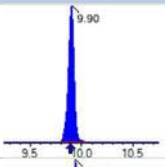
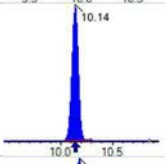
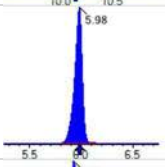
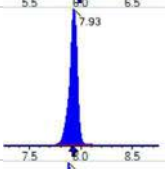
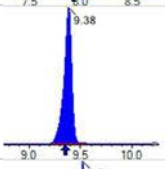
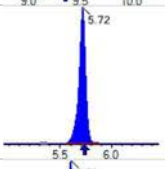
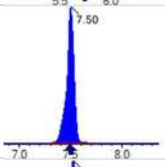
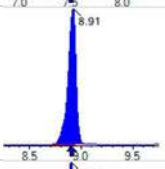
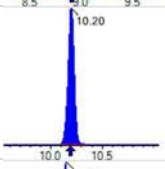
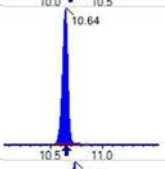
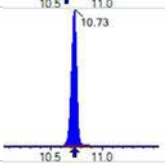
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 473356	(9.24 , N/A) (N/A , 0.03 , N/A)	348.8	N/A	1.0959 [1.0000]	109.6% { 110.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 797997	(7.93 , N/A) (N/A , 0.02 , N/A)	709.4	N/A	1.0803 [1.0000]	108.0% { 106.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 786619	(9.38 , N/A) (N/A , 0.03 , N/A)	480.9	N/A	1.0202 [1.0000]	102.0% { 96.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1779803	(3.57 , N/A) (N/A , 0.00 , N/A)	576.9	N/A	7.0058 [8.0000]	87.6% { 87.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1089582	(4.92 , N/A) (N/A , 0.01 , N/A)	601.1	N/A	3.2829 [4.0000]	82.1% { 88.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 688861	(6.04 , N/A) (N/A , -0.01 , N/A)	469.2	N/A	1.6624 [2.0000]	83.1% { 84.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 682148	(7.00 , N/A) (N/A , 0.01 , N/A)	445.5	N/A	1.7318 [2.0000]	86.6% { 94.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 827713	(7.83 , N/A) (N/A , 0.02 , N/A)	526.2	N/A	1.7622 [2.0000]	88.1% { 90.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 384119	(8.57 , N/A) (N/A , 0.03 , N/A)	526.1	N/A	0.8929 [1.0000]	89.3% { 93.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 443457	(9.24 , N/A) (N/A , 0.03 , N/A)	429.7	N/A	0.8314 [1.0000]	83.1% { 100.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 609192	(9.71 , N/A) (N/A , 0.02 , N/A)	519.0	N/A	0.9237 [1.0000]	92.4% { 93.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

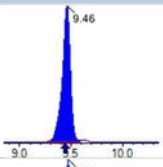
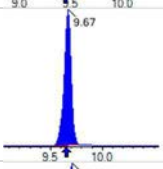
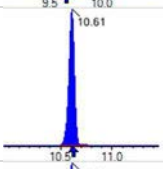
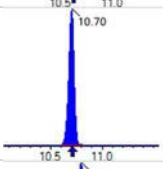
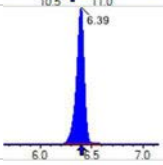
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 547034	(9.90 , N/A) (N/A , 0.01 , N/A)	426.2	N/A	0.8639 [1.0000]	86.4% { 88.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 457766	(10.14 , N/A) (N/A , 0.00 , N/A)	668.6	N/A	0.9031 [1.0000]	90.3% { 99.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1835466	(5.98 , N/A) (N/A , 0.00 , N/A)	553.1	N/A	1.7301 [2.0000]	86.5% { 92.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1106236	(7.93 , N/A) (N/A , 0.02 , N/A)	629.4	N/A	1.6639 [2.0000]	83.2% { 91.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1758547	(9.38 , N/A) (N/A , 0.03 , N/A)	467.8	N/A	1.8832 [2.0000]	94.2% { 92.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 755437	(5.72 , N/A) (N/A , 0.00 , N/A)	564.7	N/A	3.6481 [4.0000]	91.2% { 104.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 1038056	(7.50 , N/A) (N/A , 0.02 , N/A)	688.3	N/A	3.3985 [4.0000]	85.0% { 90.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 1008170	(8.91 , N/A) (N/A , 0.02 , N/A)	419.7	N/A	3.5226 [4.0000]	88.1% { 104.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 2331132	(10.20 , N/A) (N/A , 0.00 , N/A)	790.6	N/A	1.8855 [2.0000]	94.3% { 92.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 410072	(10.64 , N/A) (N/A , 0.00 , N/A)	766.7	N/A	1.8472 [2.0000]	92.4% { 95.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 406192	(10.73 , N/A) (N/A , 0.00 , N/A)	759.9	N/A	1.9409 [2.0000]	97.0% { 92.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: ABK
Instrument: Saphira
Type: Sciex Q3 5500

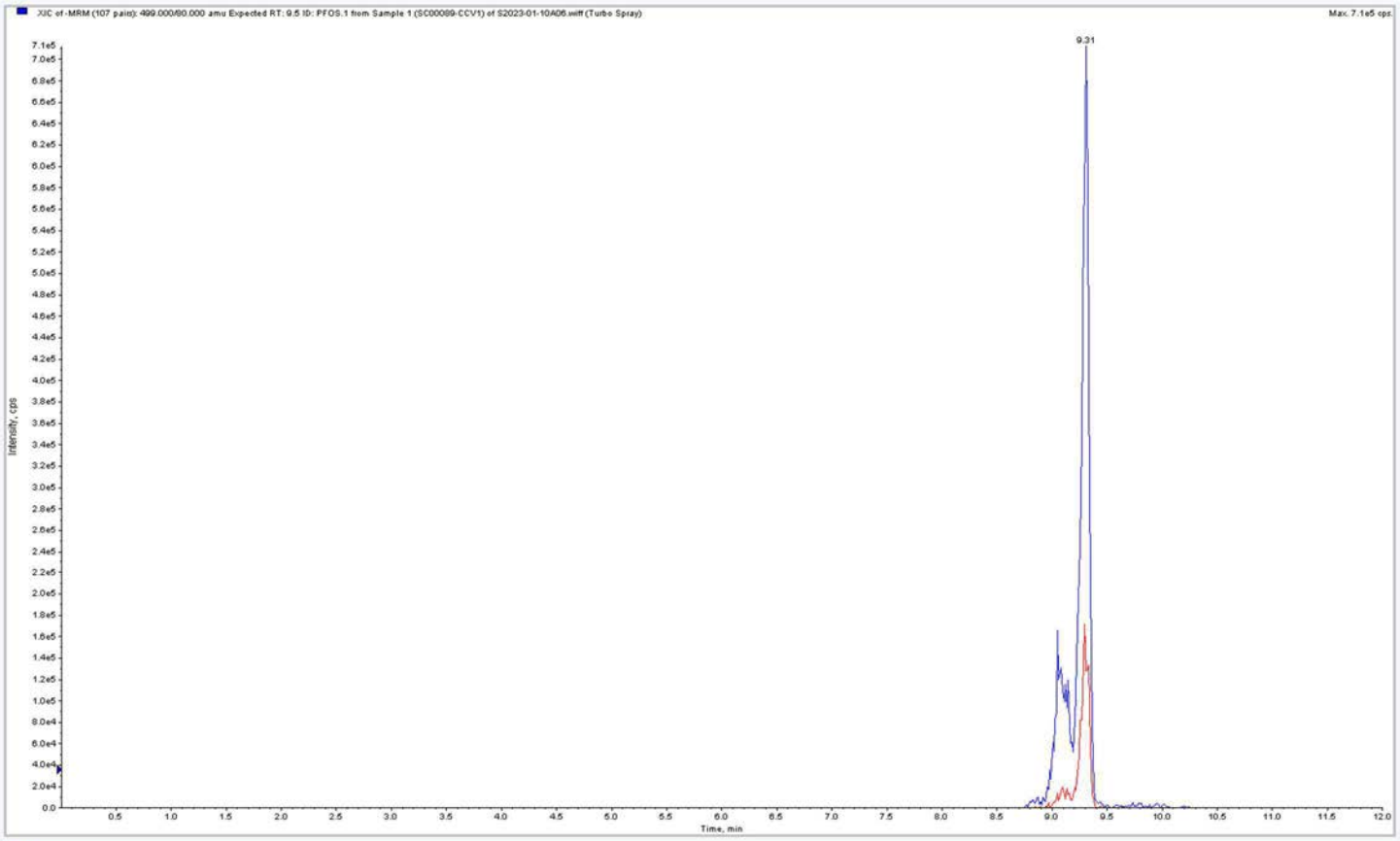
Sample I.D.: SC00101-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

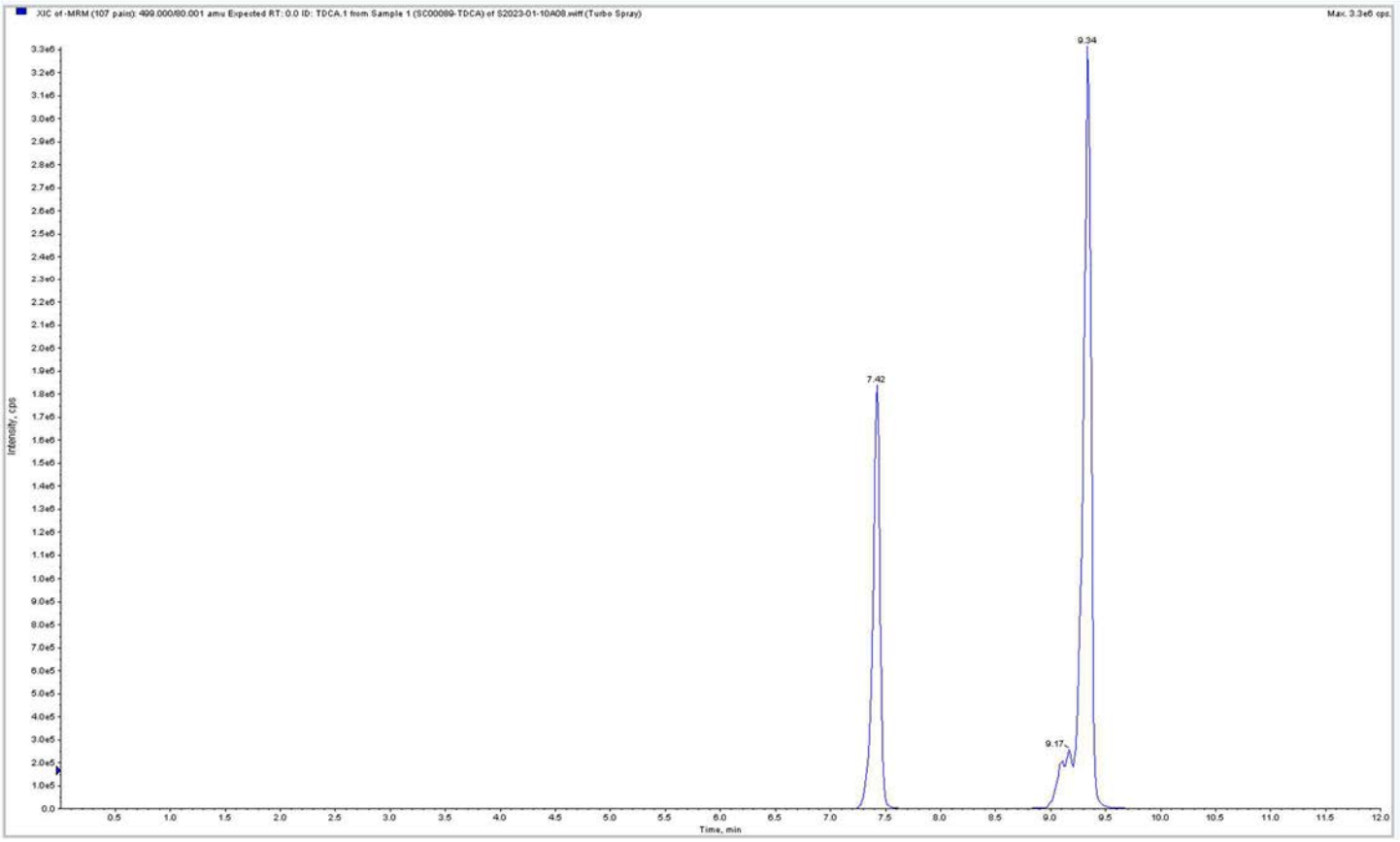
Quant Method: 1633 - S2023-01-09B
Path: S2023-01-09B (9)
Acquired: 2023/01/09 - 16:46

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) 1062032	(9.46 , N/A) (N/A , 0.03 , N/A)	256.3	N/A	3.6290 [4.0000]	90.7% { 90.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 880290	(9.67 , N/A) (N/A , 0.02 , N/A)	74.8	N/A	3.8257 [4.0000]	95.6% { 103.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 652633	(10.61 , N/A) (N/A , 0.00 , N/A)	980.6	N/A	19.1588 [20.0000]	95.8% { 96.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 301154	(10.70 , N/A) (N/A , 0.00 , N/A)	981.4	N/A	19.1827 [20.0000]	95.9% { 93.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1508994	(6.39 , N/A) (N/A , 0.00 , N/A)	552.6	N/A	6.9394 [8.0000]	86.7% { 94.4% }			

BILE STANDARD CHECK S2023-01-10A/SC00089

TDCA	=	7.42		
PFOS	=	8.85		
PFOS - TDCA	=	1.43	> 1.0	PASS





S2023-01-10A/SC00089 Column Resolution

QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BLK1	File ID:	S2023-01-10A (8)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:30
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
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	0.132 J	0.40	0.20	0.064	J
PFNS	0.20 U	0.40	0.20	0.12	U
PFDS	0.20 U	0.40	0.20	0.15	U
PFDOS	0.20 U	0.40	0.20	0.12	U
4:2FTS	0.80 U	1.6	0.80	0.29	U
6:2FTS	0.80 U	1.6	0.80	0.31	U
8:2FTS	0.80 U	1.6	0.80	0.082	U
PFOSA	0.20 U	0.40	0.20	0.10	U
NMeFOSA	0.80 U	1.6	0.80	0.47	U
NEtFOSA	0.80 U	1.6	0.80	0.41	U
NMeFOSAA	0.20 U	0.40	0.20	0.11	U
NEtFOSAA	0.20 U	0.40	0.20	0.11	U
NMeFOSE	1.2 U	1.6	1.2	1.0	U
NEtFOSE	1.2 U	1.6	1.2	1.0	U
HFPO-DA	0.40 U				

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BLK1	File ID:	S2023-01-10A (8)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:30
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
Instrument:	Saphira				
Column:	1				

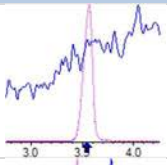
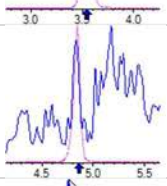
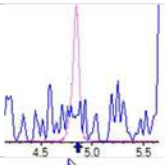
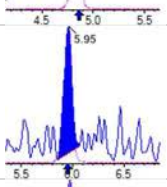
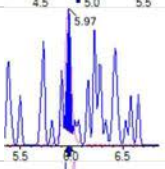
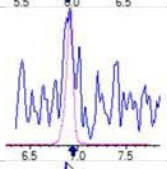
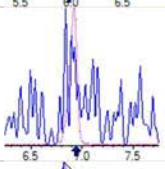
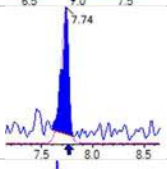
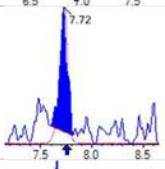
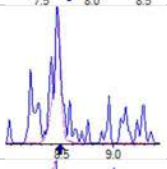
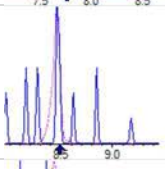
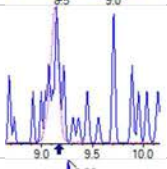
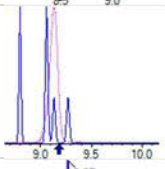
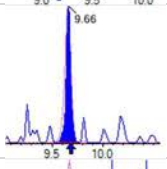
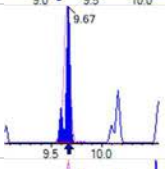
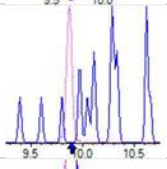
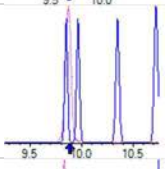
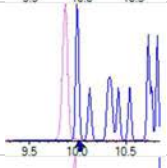
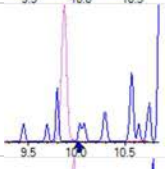
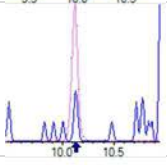
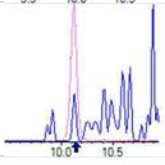
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	0.80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

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

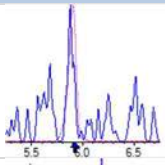
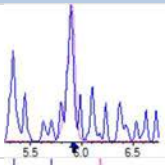
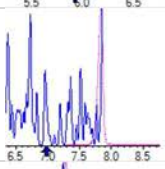
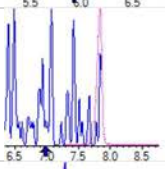
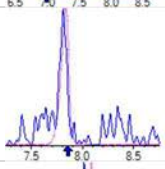
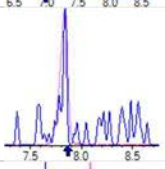
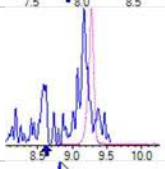
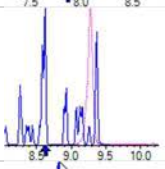
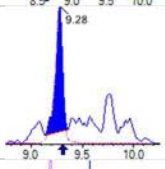
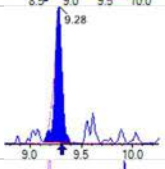
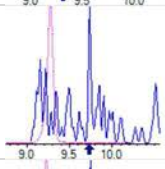
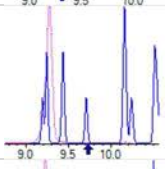
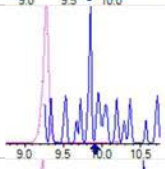
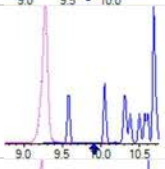
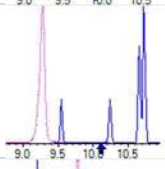
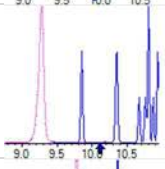
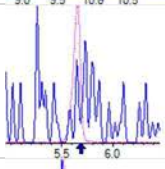
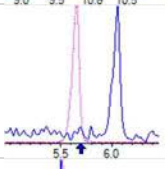
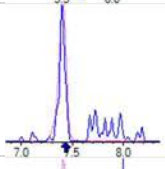
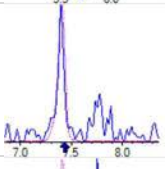
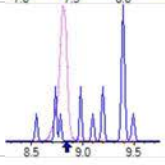
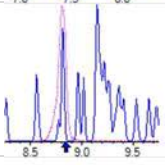
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 4585 (313.0 / 119.0) 365	(5.95 , 1.00) (-0.01 , N/A , -1.2)	14.6 6.5	0.0797 81.2 87.0	0.0126	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) 15292 (413.0 / 169.0) 4894	(7.74 , 1.00) (0.01 , N/A , 1.1)	31.7 22.2	0.3200 100.2 110.4	0.0343	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) 9183 (563.0 / 169.0) 2972	(9.66 , 1.00) (0.00 , N/A , -0.6)	27.8 48.3	0.3237 309.4 310.9	0.0161	N/A			IR2,
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

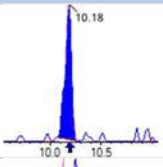
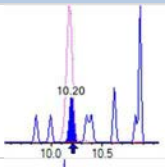
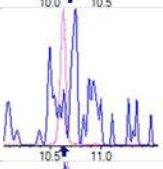
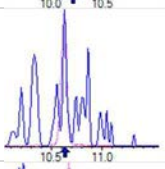
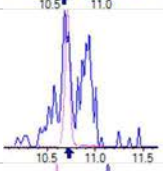
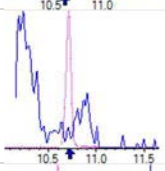
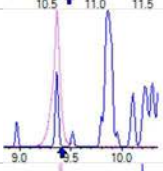
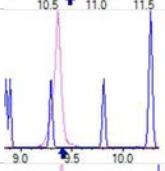
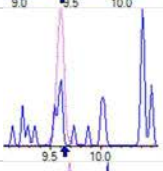
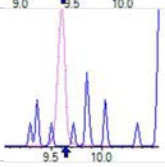
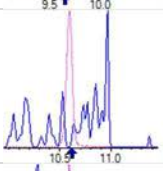
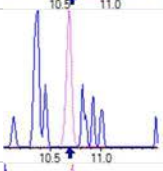
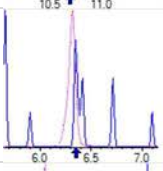
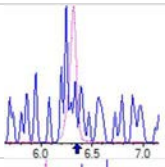
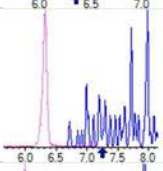
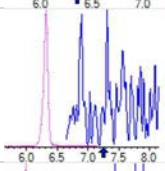
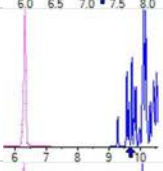
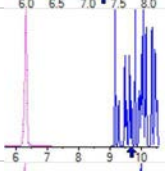
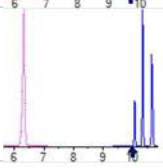
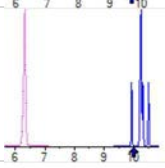
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 92065 (499.0 / 99.0) 32037	(9.28 , 1.00) (0.00 , N/A , 0.0)	45.1 65.2	0.3480 153.1 165.0	0.0329	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: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

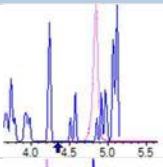
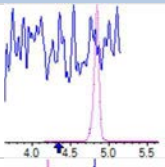
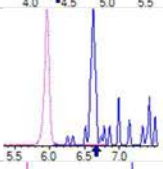
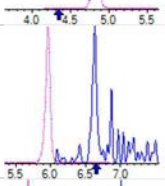
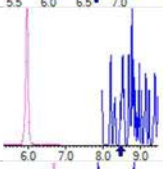
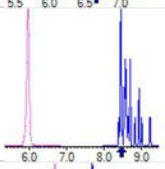
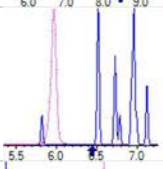
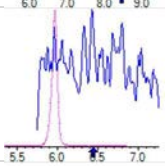
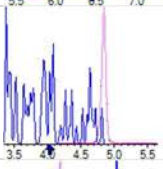
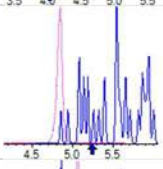
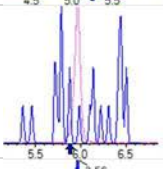
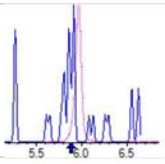
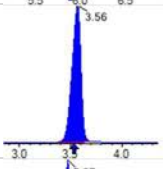
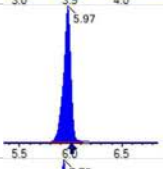
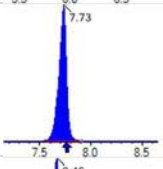
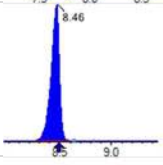
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 13252 (498.0 / 478.0) 503	(10.18 , 1.00) (0.00 , N/A , -0.9)	61.8 7.3	0.0380 201.3 193.4	0.0211	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: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

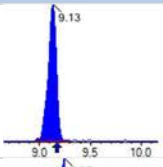
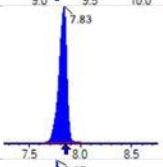
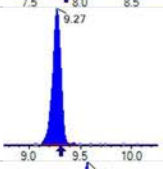
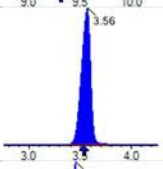
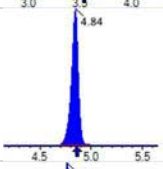
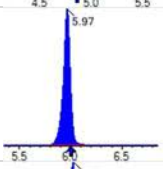
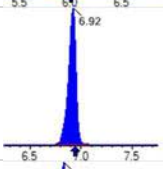
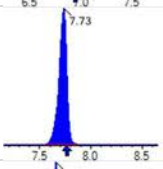
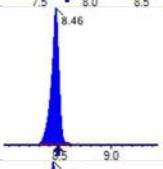
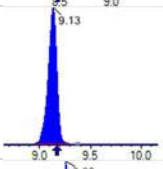
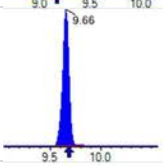
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 205233	(3.56 , N/A) (N/A , 0.04 , N/A)	497.0	N/A	0.8103 [1.0000]	81.0% { 101.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 340625	(5.97 , N/A) (N/A , -0.01 , N/A)	418.1	N/A	0.9215 [1.0000]	92.1% { 101.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 358672	(7.73 , N/A) (N/A , -0.03 , N/A)	486.9	N/A	0.8165 [1.0000]	81.7% { 93.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 316631	(8.46 , N/A) (N/A , -0.03 , N/A)	455.5	N/A	0.7808 [1.0000]	78.1% { 106.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

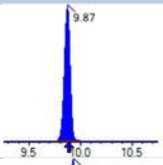
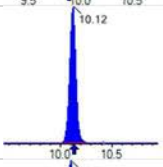
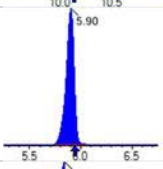
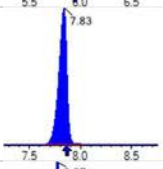
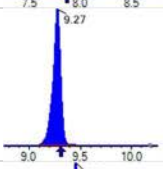
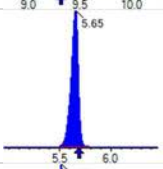
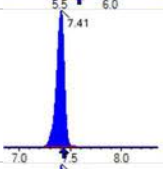
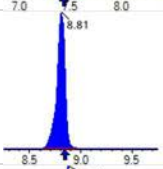
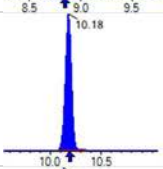
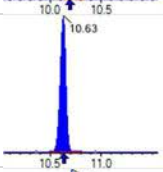
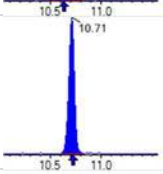
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 396360	(9.13 , N/A) (N/A , -0.04 , N/A)	345.6	N/A	0.9176 [1.0000]	91.8% { 111.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 605695	(7.83 , N/A) (N/A , -0.04 , N/A)	562.3	N/A	0.8199 [1.0000]	82.0% { 96.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 691456	(9.27 , N/A) (N/A , -0.03 , N/A)	303.1	N/A	0.8968 [1.0000]	89.7% { 101.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1721690	(3.56 , N/A) (N/A , 0.04 , N/A)	555.5	N/A	8.5388 [8.0000]	106.7% { 109.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1154194	(4.84 , N/A) (N/A , -0.01 , N/A)	566.1	N/A	4.1401 [4.0000]	103.5% { 113.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 737894	(5.97 , N/A) (N/A , -0.02 , N/A)	470.6	N/A	2.1200 [2.0000]	106.0% { 112.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 714826	(6.92 , N/A) (N/A , -0.03 , N/A)	447.7	N/A	2.1605 [2.0000]	108.0% { 113.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 856298	(7.73 , N/A) (N/A , -0.03 , N/A)	590.8	N/A	2.3432 [2.0000]	117.2% { 115.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 354905	(8.46 , N/A) (N/A , -0.03 , N/A)	435.2	N/A	1.1293 [1.0000]	112.9% { 112.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 472792	(9.13 , N/A) (N/A , -0.04 , N/A)	325.8	N/A	1.0586 [1.0000]	105.9% { 116.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 626706	(9.66 , N/A) (N/A , -0.01 , N/A)	332.6	N/A	1.1349 [1.0000]	113.5% { 116.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

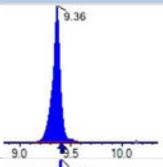
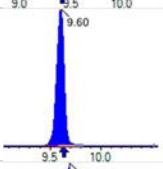
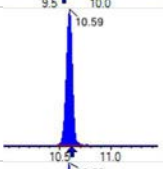
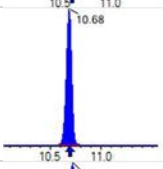
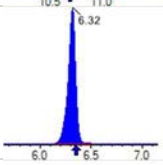
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 644314	(9.87 , N/A) (N/A , -0.01 , N/A)	540.6	N/A	1.2152 [1.0000]	121.5% { 126.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 426758	(10.12 , N/A) (N/A , -0.01 , N/A)	975.6	N/A	1.0055 [1.0000]	100.5% { 104.7% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1890169	(5.90 , N/A) (N/A , -0.01 , N/A)	569.7	N/A	2.3473 [2.0000]	117.4% { 116.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1034339	(7.83 , N/A) (N/A , -0.03 , N/A)	584.3	N/A	2.0497 [2.0000]	102.5% { 105.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1796336	(9.27 , N/A) (N/A , -0.03 , N/A)	554.2	N/A	2.1885 [2.0000]	109.4% { 117.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 826905	(5.65 , N/A) (N/A , -0.01 , N/A)	638.9	N/A	5.2610 [4.0000]	131.5% { 134.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 956226	(7.41 , N/A) (N/A , -0.03 , N/A)	620.8	N/A	4.1245 [4.0000]	103.1% { 106.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 856650	(8.81 , N/A) (N/A , -0.04 , N/A)	395.9	N/A	3.9435 [4.0000]	98.6% { 106.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1180255	(10.18 , N/A) (N/A , -0.01 , N/A)	604.4	N/A	1.0860 [2.0000]	54.3% { 58.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 136764	(10.63 , N/A) (N/A , -0.01 , N/A)	521.3	N/A	0.7009 [2.0000]	35.0% { 35.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 125546	(10.71 , N/A) (N/A , -0.01 , N/A)	396.9	N/A	0.6824 [2.0000]	34.1% { 34.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (8)
Acquired: 2023/01/10 - 16:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1165169	(9.36 , N/A) (N/A , -0.03 , N/A)	268.6	N/A	4.5294 [4.0000]	113.2% { 136.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 995424	(9.60 , N/A) (N/A , -0.02 , N/A)	90.9	N/A	4.9215 [4.0000]	123.0% { 125.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 278754	(10.59 , N/A) (N/A , -0.01 , N/A)	476.7	N/A	9.3094 [20.0000]	46.5% { 34.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 149822	(10.68 , N/A) (N/A , -0.01 , N/A)	691.7	N/A	10.8566 [20.0000]	54.3% { 36.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1628714	(6.32 , N/A) (N/A , -0.02 , N/A)	548.7	N/A	8.9170 [8.0000]	111.5% { 107.3% }			

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BS1	File ID:	S2023-01-10A (9)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:43
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	17.2	1.6	0.21	
PFPEA	8.30	0.80	0.065	
PFHXA	4.02	0.40	0.055	
PFHPA	4.62	0.40	0.041	
PFOA	4.58	0.40	0.15	
PFNA	4.27	0.40	0.082	
PFDA	4.76	0.40	0.10	
PFUnA	4.32	0.40	0.16	
PFDOA	4.04	0.40	0.11	
PFTRDA	3.44	0.40	0.20	
PFTEDA	4.62	0.40	0.20	
PFBS	3.87	0.40	0.037	
PFPES	4.56	0.40	0.063	
PFHXS	4.88	0.40	0.032	
PFHPS	5.20	0.40	0.051	
PFOS	64.3	0.40	0.064	
PFNS	3.96	0.40	0.12	
PFDS	4.24	0.40	0.15	
PFDOS	4.57	0.40	0.12	
4:2FTS	17.1	1.6	0.29	
6:2FTS	17.6	1.6	0.31	
8:2FTS	18.1	1.6	0.082	
PFOSA	4.86	0.40	0.10	
NMeFOSA	16.2	1.6	0.47	
NEtFOSA	17.2	1.6	0.41	
NMeFOSAA	3.52	0.40	0.11	
NEtFOSAA	4.67	0.40	0.11	
NMeFOSE	16.4	1.6	1.0	
NEtFOSE	18.2	1.6	1.0	
HFPO-DA	8.96	[illegible]	[illegible]	

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-BS1	File ID:	S2023-01-10A (9)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:43
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
Instrument:	Saphira				
Column:	1				

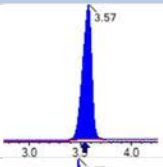
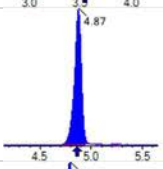
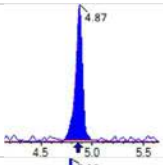
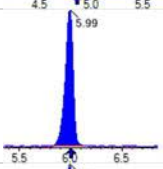
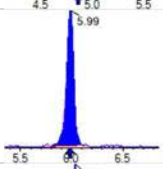
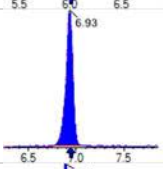
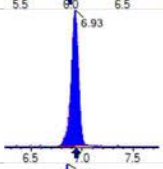
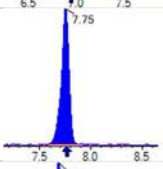
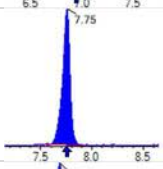
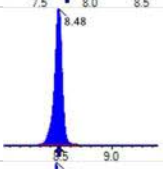
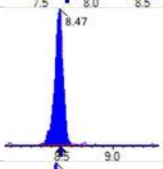
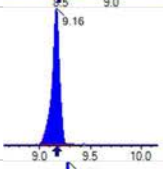
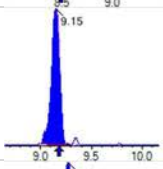
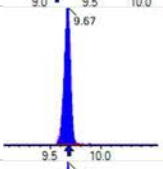
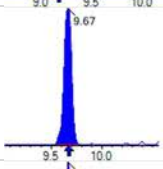
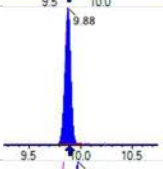
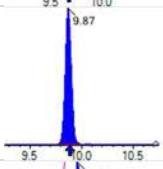
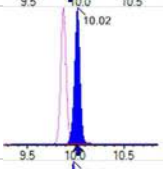
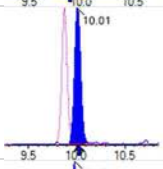
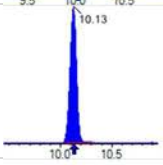
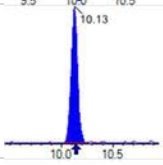
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	8.13	0.80	0.12	
PFEESA	7.54	0.80	0.11	
PFMPA	7.82	0.80	0.054	
PFMBA	8.79	0.80	0.091	
NFDHA	9.43	0.80	0.30	
9CL-PF3ONS	6.82	0.80	0.21	
11CL-PF3OUDS	9.04	0.80	0.21	
3:3FTCA	13.9	1.6	0.57	
5:3FTCA	15.8	1.6	0.44	
7:3FTCA	13.8	1.6	0.55	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

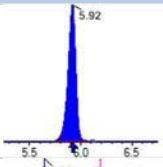
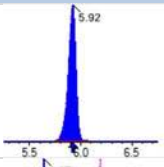
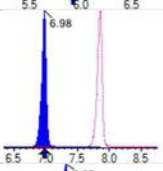
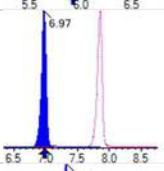
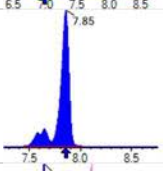
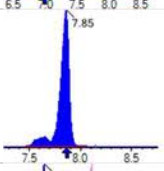
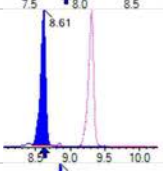
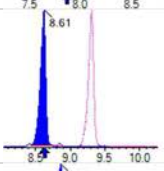
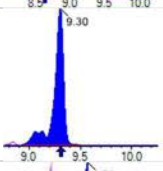
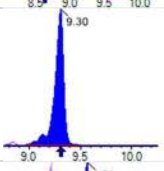
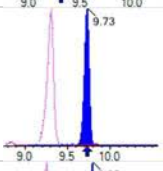
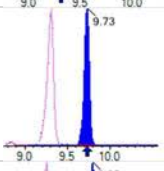
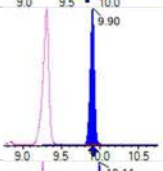
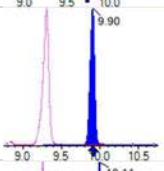
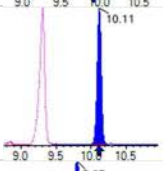
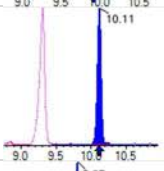
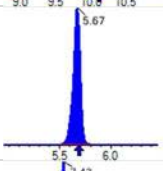
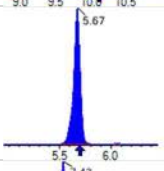
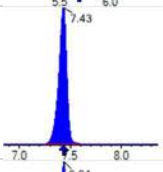
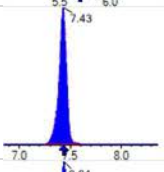
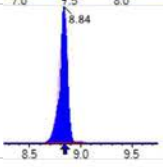
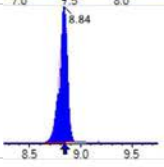
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 925839	(3.57 , 1.00) (0.00 , N/A , 0.0)	358.2	N/A 0.0 0.0	4.2942 [4.0000]	107.4%			
PFPeA	(263.0 / 219.0) 636618 (263.0 / 69.0) 6921	(4.87 , 1.00) (0.00 , N/A , -0.1)	533.0 103.6	0.0109 100.1 103.0	2.0754 [2.0000]	103.8%			
PFHxA	(313.0 / 269.0) 382989 (313.0 / 119.0) 40856	(5.99 , 1.00) (0.00 , N/A , 0.1)	336.9 186.4	0.1067 108.7 116.5	1.0048 [1.0000]	100.5%			
PFHpA	(363.0 / 319.0) 414405 (363.0 / 169.0) 124666	(6.93 , 1.00) (0.00 , N/A , 0.2)	412.8 359.6	0.3008 105.7 107.6	1.1545 [1.0000]	115.4%			
PFOA	(413.0 / 369.0) 521689 (413.0 / 169.0) 166968	(7.75 , 1.00) (0.00 , N/A , -0.1)	396.5 327.2	0.3201 100.2 110.4	1.1441 [1.0000]	114.4%			
PFNA	(463.0 / 419.0) 384481 (463.0 / 169.0) 83309	(8.48 , 1.00) (0.00 , N/A , 0.3)	411.7 266.0	0.2167 96.6 109.1	1.0676 [1.0000]	106.8%			
PFDA	(513.0 / 469.0) 527238 (513.0 / 169.0) 52127	(9.16 , 1.00) (0.00 , N/A , 0.9)	416.9 200.3	0.0989 90.0 93.5	1.1897 [1.0000]	119.0%			
PFUnA	(563.0 / 519.0) 595034 (563.0 / 169.0) 62142	(9.67 , 1.00) (0.00 , N/A , 0.4)	483.0 215.8	0.1044 99.8 100.3	1.0802 [1.0000]	108.0%			
PFDoA	(613.0 / 569.0) 674067 (613.0 / 169.0) 81076	(9.88 , 1.00) (0.00 , N/A , 0.5)	493.4 380.7	0.1203 93.5 87.1	1.0092 [1.0000]	100.9%			
PFTrDA	(663.0 / 619.0) 566296 (663.0 / 169.0) 119211	(10.02 , 1.01) (N/A , 0.00 , 0.5)	610.7 219.0	0.2105 104.4 105.6	0.8604 [1.0000]	86.0%			
PFTeDA	(713.0 / 669.0) 462353 (713.0 / 169.0) 89677	(10.13 , 1.00) (0.00 , N/A , 0.0)	609.6 279.9	0.1940 99.2 105.5	1.1561 [1.0000]	115.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

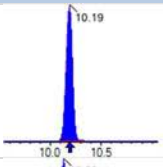
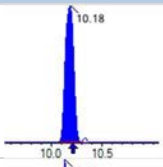
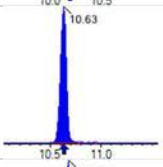
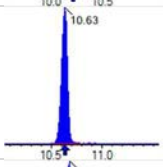
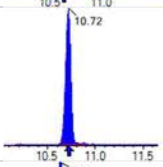
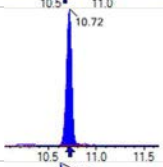
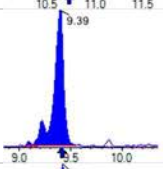
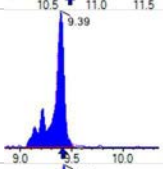
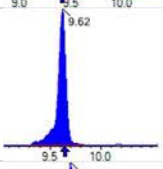
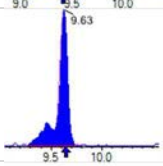
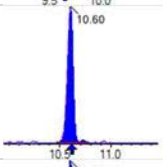
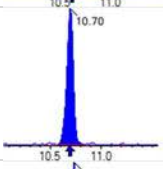
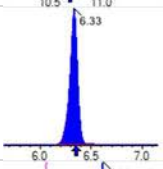
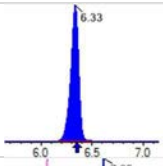
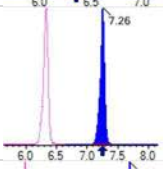
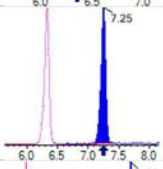
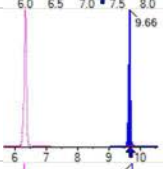
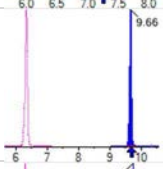
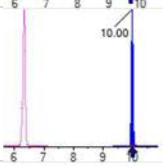
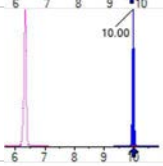
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 595642 (299.0 / 99.0) 385204	(5.92 , 1.00) (0.00 , N/A , -0.2)	446.5 452.0	0.6467 99.2 111.3	0.9671 [0.8847]	109.3%			
PFPeS	(349.0 / 80.0) 1115714 (349.0 / 99.0) 401769	(6.98 , 0.89) (N/A , -0.01 , 0.2)	534.6 517.1	0.3601 97.4 106.3	1.1392 [0.9384]	121.4%			
PFHxS	(399.0 / 80.0) 1166627 (399.0 / 99.0) 373406	(7.85 , 1.00) (0.00 , N/A , 0.0)	626.5 645.1	0.3201 97.0 98.0	1.2194 [0.9110]	133.9%			QC,
PFHpS	(449.0 / 80.0) 1243934 (449.0 / 99.0) 334065	(8.61 , 0.93) (N/A , -0.01 , 0.0)	327.0 317.8	0.2686 97.7 101.4	1.2997 [0.9514]	136.6%			QC,
PFOS	(499.0 / 80.0) 18246869 (499.0 / 99.0) 3951032	(9.30 , 1.00) (0.00 , N/A , 0.0)	880.6 1494.6	0.2165 95.3 102.7	16.0743 [0.9275]	1733.1%			QC,
PFNS	(549.0 / 80.0) 1149883 (549.0 / 99.0) 255219	(9.73 , 1.05) (N/A , 0.00 , 0.0)	402.1 402.4	0.2220 95.3 86.1	0.9905 [0.9599]	103.2%			
PFDS	(599.0 / 80.0) 1360266 (599.0 / 99.0) 295502	(9.90 , 1.06) (N/A , 0.00 , -0.1)	725.7 355.1	0.2172 95.1 102.1	1.0601 [0.9631]	110.1%			
PFDoS	(699.0 / 80.0) 623017 (699.0 / 99.0) 134256	(10.11 , 1.09) (N/A , 0.00 , 0.0)	639.6 333.4	0.2155 103.9 112.7	1.1431 [0.9696]	117.9%			
4:2FTS	(327.0 / 307.0) 2989324 (327.0 / 81.0) 1890823	(5.67 , 1.00) (0.00 , N/A , 0.0)	665.4 507.8	0.6325 100.5 93.8	4.2713 [3.7381]	114.3%			
6:2FTS	(427.0 / 407.0) 1614585 (427.0 / 81.0) 1293916	(7.43 , 1.00) (0.00 , N/A , 0.1)	759.5 624.7	0.8014 104.6 117.7	4.4011 [3.7962]	115.9%			
8:2FTS	(527.0 / 507.0) 1441889 (527.0 / 81.0) 983803	(8.84 , 1.00) (0.00 , N/A , -0.1)	548.0 452.7	0.6823 89.9 102.4	4.5365 [3.8332]	118.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

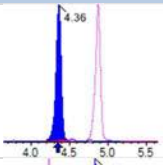
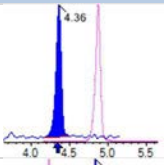
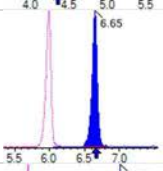
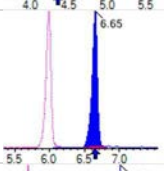
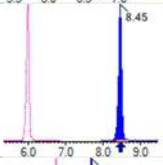
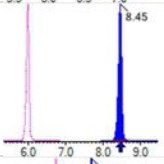
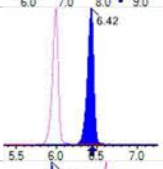
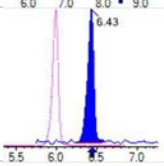
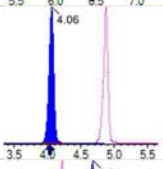
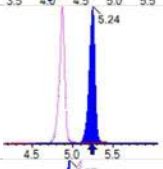
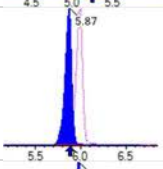
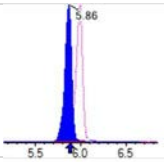
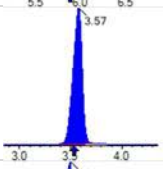
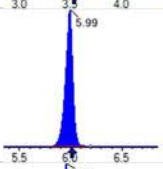
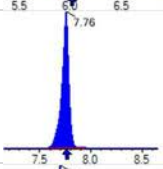
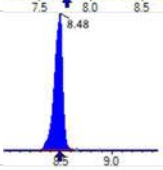
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 693939 (498.0 / 478.0) 17473	(10.19 , 1.00) (0.00 , N/A , 0.6)	733.3 30974.3	0.0252 133.5 128.3	1.2162 [1.0000]	121.6%			
NMeFOSA	(512.0 / 219.0) 234513 (512.0 / 169.0) 163179	(10.63 , 1.00) (0.00 , N/A , -0.1)	677.0 653.5	0.6958 97.5 98.6	4.0397 [4.0000]	101.0%			
NEtFOSA	(526.0 / 219.0) 230387 (526.0 / 169.0) 229803	(10.72 , 1.00) (0.00 , N/A , 0.0)	1089.5 621.5	0.9975 94.3 95.8	4.3023 [4.0000]	107.6%			
NMeFOSAA	(570.0 / 419.0) 228232 (570.0 / 483.0) 125715	(9.39 , 1.00) (0.00 , N/A , -0.2)	158.1 247.7	0.5508 108.3 98.2	0.8798 [1.0000]	88.0%			
NEtFOSAA	(584.0 / 419.0) 248983 (584.0 / 526.0) 163388	(9.62 , 1.00) (0.00 , N/A , -0.3)	510.8 256.8	0.6562 105.5 112.6	1.1678 [1.0000]	116.8%			
NMeFOSE	(616.0 / 59.0) 66663	(10.60 , 1.00) (0.00 , N/A , 0.0)	242.9	N/A 0.0 0.0	4.0905 [4.0000]	102.3%			
NEtFOSE	(630.0 / 59.0) 16906	(10.70 , 1.00) (0.01 , N/A , 0.0)	245.9	N/A 0.0 0.0	4.5498 [4.0000]	113.7%			
HFPO-DA	(285.0 / 169.0) 300247 (285.0 / 185.0) 850108	(6.33 , 1.00) (0.00 , N/A , 0.0)	440.2 543.3	2.8314 105.5 101.6	2.2396 [2.0000]	112.0%			
ADONA	(377.0 / 85.0) 1425064 (377.0 / 251.0) 166917	(7.26 , 1.15) (N/A , -0.01 , 0.2)	666.6 269.3	0.1171 100.6 96.8	2.0336 [1.8854]	107.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 3443014 (533.0 / 353.0) 1068397	(9.66 , 1.53) (N/A , 0.00 , 0.0)	480.4 410.0	0.3103 99.9 97.7	1.7053 [1.8665]	91.4%			
11Cl-PF3OUDS	(631.0 / 451.0) 2115239 (633.0 / 453.0) 656592	(10.00 , 1.58) (N/A , 0.00 , 0.0)	631.7 681.1	0.3104 90.4 89.0	2.2611 [1.8864]	119.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

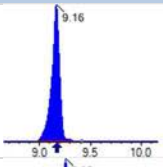
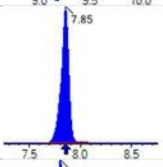
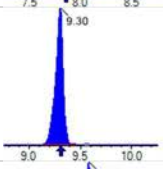
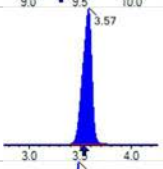
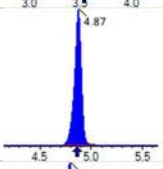
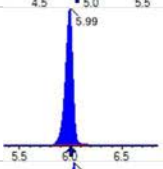
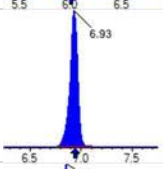
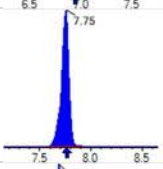
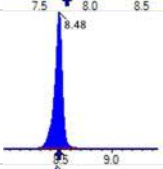
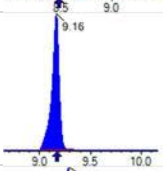
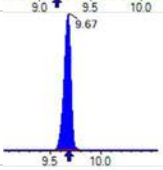
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 30516 (241.0 / 117.0) 40435	(4.36 , 0.90) (N/A , 0.02 , -0.1)	353.6 140.9	1.3251 90.1 96.0	3.4660 [4.0000]	86.7%			
5:3FTCA	(341.0 / 236.7) 229744 (341.0 / 217.0) 342481	(6.65 , 1.11) (N/A , -0.01 , -0.1)	319.1 400.4	1.4907 89.3 94.7	3.9612 [4.0000]	99.0%			
7:3FTCA	(441.0 / 317.0) 301274 (441.0 / 337.0) 263454	(8.45 , 1.41) (N/A , -0.01 , 0.0)	312.8 346.9	0.8745 101.4 101.0	3.4515 [4.0000]	86.3%			
PFEESA	(315.0 / 135.0) 707776 (315.0 / 83.0) 222937	(6.42 , 1.07) (N/A , 0.00 , -0.1)	485.6 141.7	0.3150 103.0 103.3	1.8848 [1.7849]	105.6%			
PFMPA	(229.0 / 85.0) 179393	(4.06 , 0.83) (N/A , 0.03 , 0.0)	997.5	N/A 0.0 0.0	1.9559 [2.0000]	97.8%			
PFMBA	(279.0 / 85.0) 509250	(5.24 , 1.08) (N/A , 0.01 , 0.0)	529.3	N/A 0.0 0.0	2.1980 [2.0000]	109.9%			
NFDHA	(295.0 / 201.0) 373888 (295.0 / 85.0) 331165	(5.87 , 0.98) (N/A , 0.01 , 0.1)	534.8 482.2	0.8857 96.3 88.6	2.3586 [2.0000]	117.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 226479	(3.57 , N/A) (N/A , 0.05 , N/A)	455.0	N/A	0.8941 [1.0000]	89.4% { 112.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 355941	(5.99 , N/A) (N/A , 0.00 , N/A)	479.3	N/A	0.9629 [1.0000]	96.3% { 106.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 406957	(7.76 , N/A) (N/A , -0.01 , N/A)	498.6	N/A	0.9264 [1.0000]	92.6% { 106.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 322147	(8.48 , N/A) (N/A , -0.01 , N/A)	456.6	N/A	0.7944 [1.0000]	79.4% { 108.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

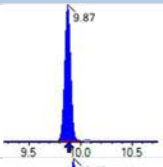
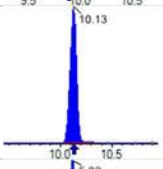
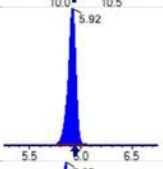
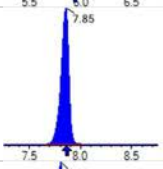
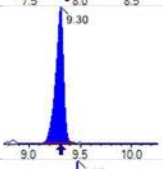
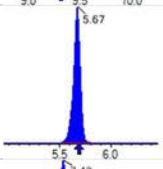
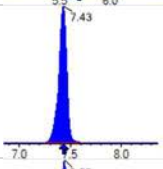
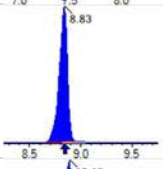
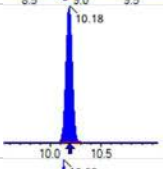
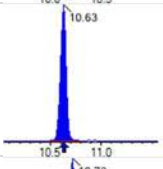
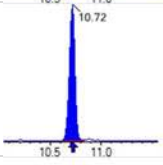
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 336107	(9.16 , N/A) (N/A , 0.00 , N/A)	317.2	N/A	0.7781 [1.0000]	77.8% { 94.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 648914	(7.85 , N/A) (N/A , -0.02 , N/A)	620.8	N/A	0.8784 [1.0000]	87.8% { 103.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 724247	(9.30 , N/A) (N/A , 0.00 , N/A)	347.5	N/A	0.9393 [1.0000]	93.9% { 106.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1885573	(3.57 , N/A) (N/A , 0.05 , N/A)	606.1	N/A	8.4743 [8.0000]	105.9% { 119.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1262989	(4.87 , N/A) (N/A , 0.02 , N/A)	560.2	N/A	4.3354 [4.0000]	108.4% { 124.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 773520	(5.99 , N/A) (N/A , 0.00 , N/A)	462.6	N/A	2.1267 [2.0000]	106.3% { 117.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 710970	(6.93 , N/A) (N/A , -0.02 , N/A)	425.5	N/A	2.0564 [2.0000]	102.8% { 112.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 875282	(7.75 , N/A) (N/A , -0.01 , N/A)	585.0	N/A	2.1109 [2.0000]	105.5% { 118.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 375107	(8.48 , N/A) (N/A , -0.01 , N/A)	515.5	N/A	1.1732 [1.0000]	117.3% { 118.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 432254	(9.16 , N/A) (N/A , -0.01 , N/A)	395.6	N/A	1.1414 [1.0000]	114.1% { 106.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 606102	(9.67 , N/A) (N/A , 0.00 , N/A)	640.9	N/A	1.2944 [1.0000]	129.4% { 112.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

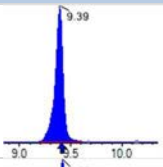
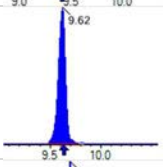
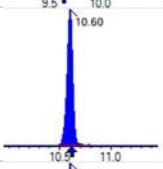
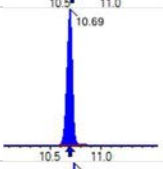
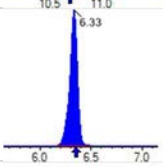
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 713465	(9.87 , N/A) (N/A , 0.00 , N/A)	441.9	N/A	1.5868 [1.0000]	158.7% { 140.3% }			S2,
13C2_PFTeDA_EIS	(715.0 / 670.0) 419824	(10.13 , N/A) (N/A , 0.00 , N/A)	1049.5	N/A	1.1665 [1.0000]	116.6% { 103.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 1888243	(5.92 , N/A) (N/A , 0.00 , N/A)	473.7	N/A	2.1888 [2.0000]	109.4% { 116.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1144799	(7.85 , N/A) (N/A , -0.01 , N/A)	504.0	N/A	2.1175 [2.0000]	105.9% { 116.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1862784	(9.30 , N/A) (N/A , 0.00 , N/A)	287.3	N/A	2.1667 [2.0000]	108.3% { 122.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 871002	(5.67 , N/A) (N/A , 0.01 , N/A)	641.9	N/A	5.1725 [4.0000]	129.3% { 141.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 960466	(7.43 , N/A) (N/A , -0.01 , N/A)	670.2	N/A	3.8669 [4.0000]	96.7% { 107.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 871693	(8.83 , N/A) (N/A , -0.01 , N/A)	441.8	N/A	3.7455 [4.0000]	93.6% { 108.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1071067	(10.18 , N/A) (N/A , -0.01 , N/A)	595.1	N/A	0.9409 [2.0000]	47.0% { 53.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 122383	(10.63 , N/A) (N/A , -0.01 , N/A)	491.1	N/A	0.5988 [2.0000]	29.9% { 31.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 107517	(10.72 , N/A) (N/A , -0.01 , N/A)	463.4	N/A	0.5580 [2.0000]	27.9% { 29.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (9)
Acquired: 2023/01/10 - 16:43

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1155133	(9.39 , N/A) (N/A , 0.00 , N/A)	281.1	N/A	4.2870 [4.0000]	107.2% { 135.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 891770	(9.62 , N/A) (N/A , -0.01 , N/A)	80.4	N/A	4.2094 [4.0000]	105.2% { 112.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 254321	(10.60 , N/A) (N/A , 0.00 , N/A)	603.5	N/A	8.1089 [20.0000]	40.5% { 31.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 132541	(10.69 , N/A) (N/A , -0.01 , N/A)	859.4	N/A	9.1695 [20.0000]	45.8% { 31.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1690952	(6.33 , N/A) (N/A , -0.01 , N/A)	588.3	N/A	8.8594 [8.0000]	110.7% { 111.4% }			

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-MRL1	File ID:	S2023-01-10A (10)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:56
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.71	1.6	0.21	
PFPEA	0.916	0.80	0.065	
PFHXA	0.491	0.40	0.055	
PFHPA	0.514	0.40	0.041	
PFOA	0.470	0.40	0.15	
PFNA	0.413	0.40	0.082	
PFDA	0.545	0.40	0.10	
PFUnA	0.440	0.40	0.16	
PFDOA	0.407	0.40	0.11	
PFTRDA	0.428	0.40	0.20	
PFTEDA	0.428	0.40	0.20	
PFBS	0.382	0.40	0.037	J
PFPES	0.468	0.40	0.063	
PFHXS	0.505	0.40	0.032	
PFHPS	0.565	0.40	0.051	
PFOS	7.18	0.40	0.064	
PFNS	0.418	0.40	0.12	
PFDS	0.479	0.40	0.15	
PFDOS	0.502	0.40	0.12	
4:2FTS	1.47	1.6	0.29	J
6:2FTS	1.71	1.6	0.31	
8:2FTS	1.84	1.6	0.082	
PFOSA	0.528	0.40	0.10	
NMeFOSA	1.85	1.6	0.47	
NEtFOSA	1.45	1.6	0.41	J
NMeFOSAA	0.287	0.40	0.11	J
NEtFOSAA	0.350	0.40	0.11	J
NMeFOSE	1.48	1.6	1.0	J
NEtFOSE	2.42	1.6	1.0	BS2
HFPO-DA	0.929			

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCA0105-MRL1	File ID:	S2023-01-10A (10)
Sampled:		Prepared:	01/09/23 09:35	Analyzed:	01/10/23 16:56
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCA0105	Sequence:	SC00089	Calibration:	2302005
Instrument:	Saphira				
Column:	1				

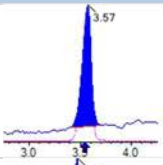
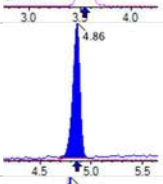
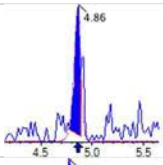
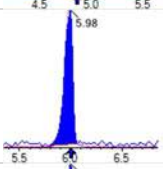
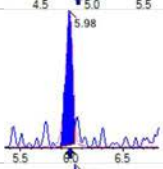
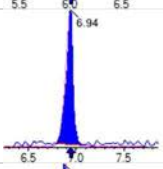
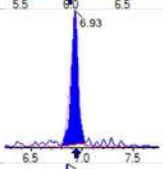
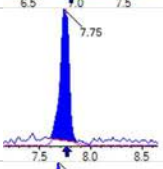
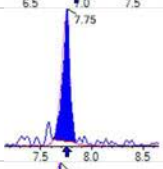
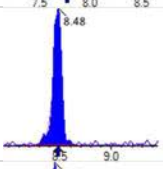
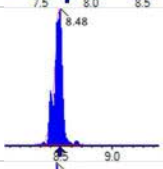
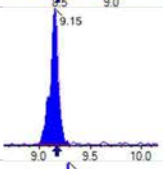
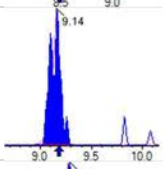
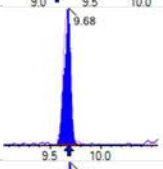
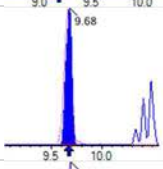
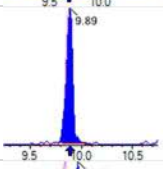
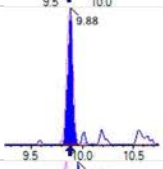
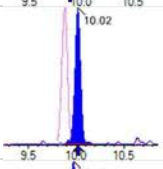
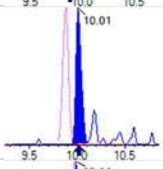
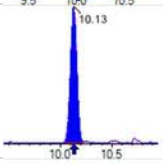
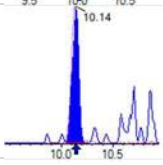
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.782	0.80	0.12	J
PFEESA	0.680	0.80	0.11	J
PFMPA	0.811	0.80	0.054	
PFMBA	0.890	0.80	0.091	
NFDHA	0.956	0.80	0.30	
9CL-PF3ONS	0.745	0.80	0.21	J
11CL-PF3OUDS	0.927	0.80	0.21	
3:3FTCA	1.42	1.6	0.57	J
5:3FTCA	1.55	1.6	0.44	J
7:3FTCA	1.28	1.6	0.55	J

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

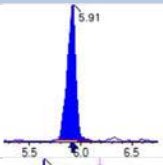
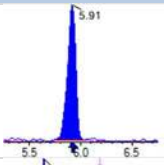
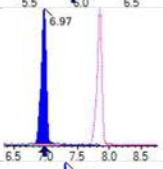
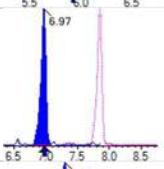
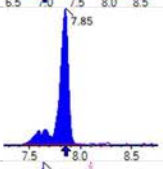
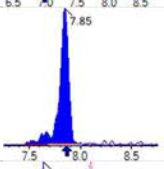
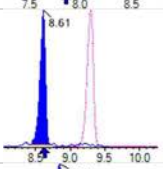
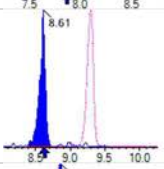
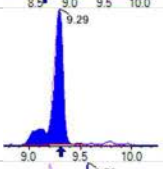
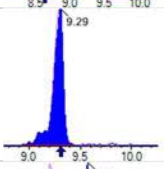
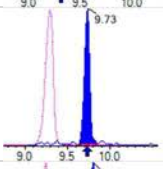
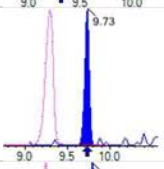
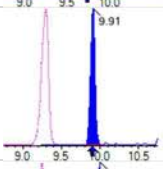
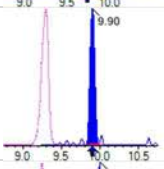
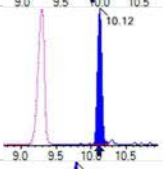
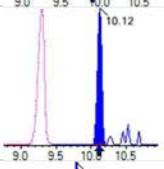
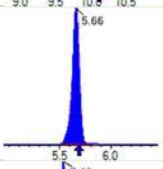
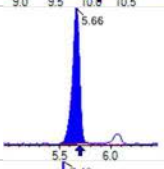
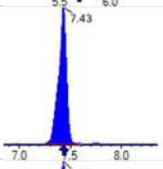
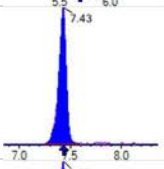
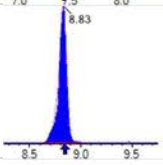
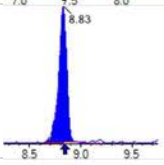
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 90224	(3.57 , 1.00) (0.00 , N/A , 0.0)	133.6	N/A 0.0 0.0	0.4275 [0.4000]	106.9%			
PFPeA	(263.0 / 219.0) 65966 (263.0 / 69.0) 649	(4.86 , 1.00) (0.00 , N/A , 0.1)	187.7 22.2	0.0098 90.7 93.2	0.2289 [0.2000]	114.4%			
PFHxA	(313.0 / 269.0) 48555 (313.0 / 119.0) 3988	(5.98 , 1.00) (0.00 , N/A , 0.4)	102.7 27.5	0.0821 83.7 89.7	0.1226 [0.1000]	122.6%			
PFHpA	(363.0 / 319.0) 46009 (363.0 / 169.0) 12602	(6.94 , 1.00) (0.01 , N/A , 0.6)	102.0 70.5	0.2739 96.3 97.9	0.1285 [0.1000]	128.5%			
PFOA	(413.0 / 369.0) 54582 (413.0 / 169.0) 17319	(7.75 , 1.00) (0.00 , N/A , -0.4)	94.9 59.2	0.3173 99.4 109.5	0.1175 [0.1000]	117.5%			
PFNA	(463.0 / 419.0) 37777 (463.0 / 169.0) 9790	(8.48 , 1.00) (0.00 , N/A , -0.3)	93.1 46763.2	0.2592 115.6 130.4	0.1033 [0.1000]	103.3%			
PFDA	(513.0 / 469.0) 63062 (513.0 / 169.0) 7655	(9.15 , 1.00) (-0.01 , N/A , 0.4)	141.3 50.8	0.1214 110.5 114.8	0.1362 [0.1000]	136.2%			QC,
PFUnA	(563.0 / 519.0) 57013 (563.0 / 169.0) 4594	(9.68 , 1.00) (0.01 , N/A , 0.0)	160.6 41.6	0.0806 77.0 77.4	0.1099 [0.1000]	109.9%			
PFDoA	(613.0 / 569.0) 63036 (613.0 / 169.0) 10900	(9.89 , 1.00) (0.01 , N/A , 0.3)	156.4 58.9	0.1729 134.4 125.2	0.1018 [0.1000]	101.8%			
PFTrDA	(663.0 / 619.0) 65333 (663.0 / 169.0) 12290	(10.02 , 1.01) (N/A , 0.00 , 0.3)	133.9 56.8	0.1881 93.3 94.4	0.1070 [0.1000]	107.0%			
PFTeDA	(713.0 / 669.0) 47792 (713.0 / 169.0) 8299	(10.13 , 1.00) (0.00 , N/A , -0.7)	225.5 21.8	0.1736 88.8 94.5	0.1069 [0.1000]	106.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

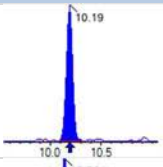
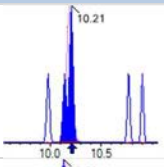
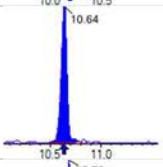
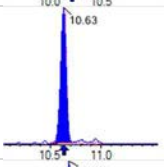
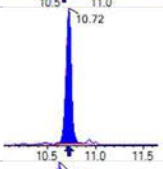
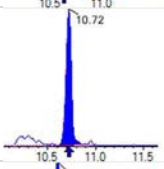
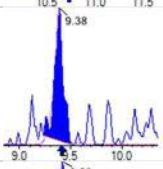
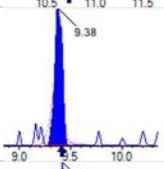
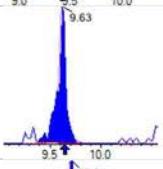
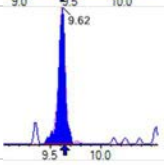
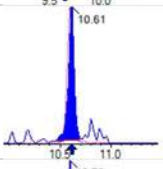
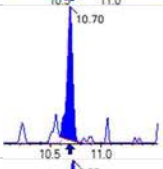
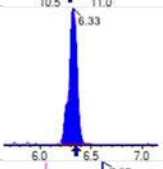
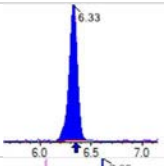
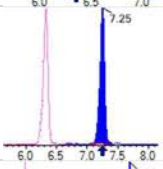
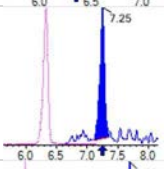
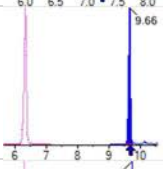
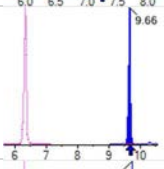
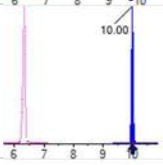
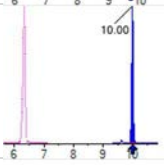
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 63013 (299.0 / 99.0) 39588	(5.91 , 1.00) (0.00 , N/A , -0.2)	197.4 161.4	0.6282 96.3 108.1	0.0956 [0.0885]	108.0%			
PFPeS	(349.0 / 80.0) 109385 (349.0 / 99.0) 40155	(6.97 , 0.89) (N/A , -0.01 , 0.2)	257.5 165.9	0.3671 99.3 108.3	0.1169 [0.0938]	124.6%			
PFHxS	(399.0 / 80.0) 115389 (399.0 / 99.0) 39263	(7.85 , 1.00) (0.00 , N/A , 0.0)	349.1 178.3	0.3403 103.1 104.2	0.1262 [0.0911]	138.6%			QC,
PFHpS	(449.0 / 80.0) 125517 (449.0 / 99.0) 34293	(8.61 , 0.93) (N/A , -0.01 , 0.0)	197.9 126.6	0.2732 99.4 103.2	0.1412 [0.0951]	148.4%			QC,
PFOS	(499.0 / 80.0) 1939133 (499.0 / 99.0) 418022	(9.29 , 1.00) (0.00 , N/A , 0.0)	341.9 559.8	0.2156 94.9 102.2	1.7938 [0.0927]	1934.0%			QC,
PFNS	(549.0 / 80.0) 112627 (549.0 / 99.0) 23643	(9.73 , 1.05) (N/A , 0.00 , 0.0)	142.7 65.6	0.2099 90.1 81.5	0.1045 [0.0960]	108.8%			
PFDS	(599.0 / 80.0) 142803 (599.0 / 99.0) 32660	(9.91 , 1.07) (N/A , 0.00 , 0.4)	242.1 98.0	0.2287 100.2 107.5	0.1198 [0.0963]	124.4%			
PFDoS	(699.0 / 80.0) 63507 (699.0 / 99.0) 12090	(10.12 , 1.09) (N/A , 0.00 , 0.0)	204.3 66.3	0.1904 91.8 99.5	0.1255 [0.0970]	129.4%			
4:2FTS	(327.0 / 307.0) 284158 (327.0 / 81.0) 198952	(5.66 , 1.00) (0.00 , N/A , -0.3)	530.8 209.7	0.7001 111.3 103.9	0.3667 [0.3738]	98.1%			
6:2FTS	(427.0 / 407.0) 151331 (427.0 / 81.0) 119227	(7.43 , 1.00) (0.00 , N/A , 0.3)	490.1 371.5	0.7879 102.9 115.7	0.4272 [0.3796]	112.5%			
8:2FTS	(527.0 / 507.0) 159371 (527.0 / 81.0) 98380	(8.83 , 1.00) (0.00 , N/A , -0.1)	321.8 175.0	0.6173 81.4 92.7	0.4611 [0.3833]	120.3%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

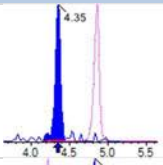
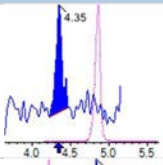
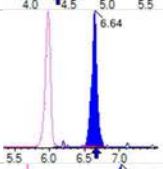
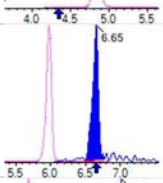
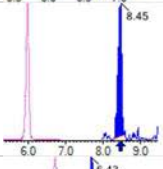
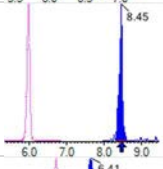
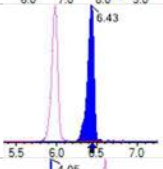
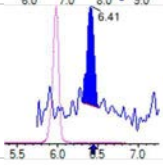
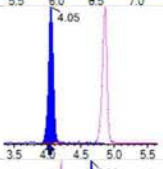
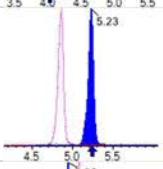
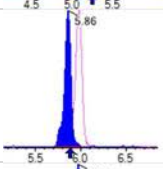
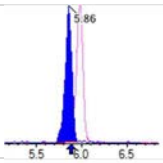
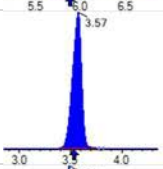
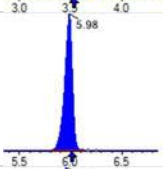
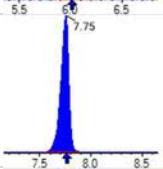
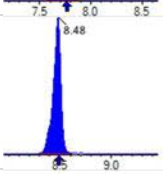
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 75952 (498.0 / 478.0) 749	(10.19 , 1.00) (0.00 , N/A , -1.0)	194.6 26.4	0.0099 52.3 50.3	0.1320 [0.1000]	132.0%			QC,
NMeFOSA	(512.0 / 219.0) 26580 (512.0 / 169.0) 15868	(10.64 , 1.00) (0.00 , N/A , 0.5)	254.3 137.5	0.5970 83.7 84.6	0.4637 [0.4000]	115.9%			
NEtFOSA	(526.0 / 219.0) 21665 (526.0 / 169.0) 21694	(10.72 , 1.00) (0.00 , N/A , 0.0)	231.2 147.1	1.0013 94.7 96.1	0.3620 [0.4000]	90.5%			
NMeFOSAA	(570.0 / 419.0) 16532 (570.0 / 483.0) 13409	(9.38 , 1.00) (0.00 , N/A , 0.1)	25.8 134.2	0.8111 159.5 144.6	0.0717 [0.1000]	71.7%			IR2,
NEtFOSAA	(584.0 / 419.0) 18405 (584.0 / 526.0) 12706	(9.63 , 1.00) (0.01 , N/A , 0.5)	96.8 150.2	0.6904 111.0 118.5	0.0874 [0.1000]	87.4%			
NMeFOSE	(616.0 / 59.0) 6987	(10.61 , 1.00) (0.01 , N/A , 0.0)	49.5	N/A 0.0 0.0	0.3704 [0.4000]	92.6%			
NEtFOSE	(630.0 / 59.0) 2389	(10.70 , 1.00) (0.00 , N/A , 0.0)	32.0	N/A 0.0 0.0	0.6060 [0.4000]	151.5%			QC,
HFPO-DA	(285.0 / 169.0) 31181 (285.0 / 185.0) 79515	(6.33 , 1.00) (0.00 , N/A , 0.0)	324.6 316.9	2.5501 95.1 91.5	0.2323 [0.2000]	116.1%			
ADONA	(377.0 / 85.0) 137216 (377.0 / 251.0) 17147	(7.25 , 1.15) (N/A , -0.02 , 0.0)	344.7 54.0	0.1250 107.4 103.3	0.1955 [0.1885]	103.7%			
9Cl-Pf3ONS	(531.0 / 351.0) 343968 (533.0 / 353.0) 102930	(9.66 , 1.53) (N/A , -0.01 , -0.1)	253.3 265.2	0.2992 96.4 94.2	0.1862 [0.1867]	99.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 217036 (633.0 / 453.0) 70095	(10.00 , 1.58) (N/A , 0.00 , -0.1)	712.8 433.8	0.3230 94.0 92.6	0.2317 [0.1886]	122.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

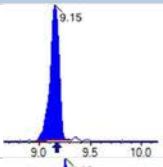
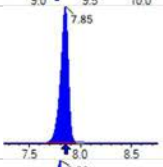
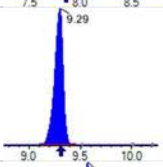
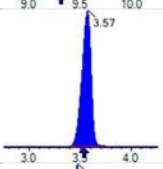
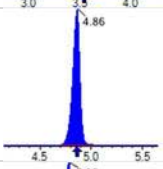
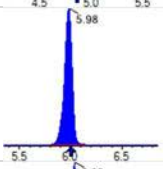
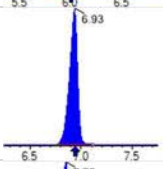
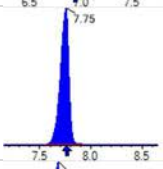
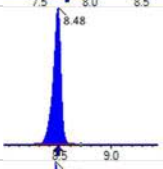
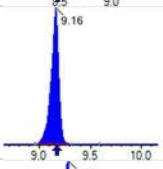
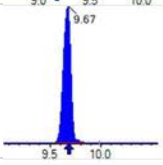
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 2941 (241.0 / 117.0) 5299	(4.35 , 0.90) (N/A , 0.01 , 0.1)	78.5 23.8	1.8015 122.5 130.5	0.3556 [0.4000]	88.9%			
5:3FTCA	(341.0 / 236.7) 23360 (341.0 / 217.0) 32824	(6.64 , 1.11) (N/A , -0.01 , -0.3)	164.8 73.0	1.4051 84.1 89.2	0.3877 [0.4000]	96.9%			
7:3FTCA	(441.0 / 317.0) 29064 (441.0 / 337.0) 26541	(8.45 , 1.41) (N/A , -0.01 , -0.1)	60.0 123.7	0.9132 105.9 105.5	0.3205 [0.4000]	80.1%			
PFEESA	(315.0 / 135.0) 66326 (315.0 / 83.0) 21734	(6.43 , 1.08) (N/A , 0.00 , 1.2)	320.8 20.8	0.3277 107.2 107.5	0.1700 [0.1785]	95.3%			
PFMPA	(229.0 / 85.0) 17471	(4.05 , 0.83) (N/A , 0.02 , 0.0)	269.6	N/A 0.0 0.0	0.2027 [0.2000]	101.4%			
PFMBA	(279.0 / 85.0) 48420	(5.23 , 1.08) (N/A , 0.00 , 0.0)	530.2	N/A 0.0 0.0	0.2224 [0.2000]	111.2%			
NFDHA	(295.0 / 201.0) 39350 (295.0 / 85.0) 32415	(5.86 , 0.98) (N/A , 0.00 , 0.1)	356.4 233.4	0.8238 89.6 82.4	0.2389 [0.2000]	119.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 223226	(3.57 , N/A) (N/A , 0.04 , N/A)	464.2	N/A	0.8813 [1.0000]	88.1% { 110.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 351417	(5.98 , N/A) (N/A , 0.00 , N/A)	544.4	N/A	0.9507 [1.0000]	95.1% { 104.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 388308	(7.75 , N/A) (N/A , -0.01 , N/A)	633.9	N/A	0.8840 [1.0000]	88.4% { 101.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 361378	(8.48 , N/A) (N/A , -0.01 , N/A)	395.3	N/A	0.8911 [1.0000]	89.1% { 121.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

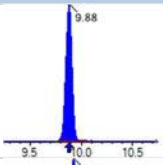
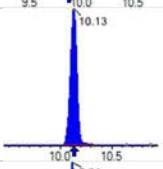
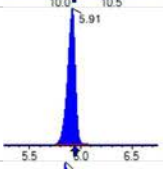
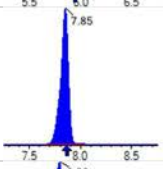
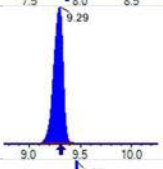
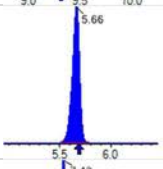
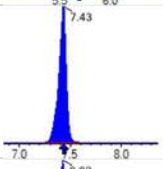
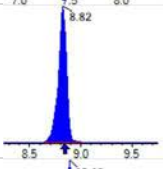
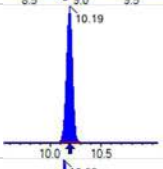
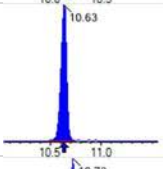
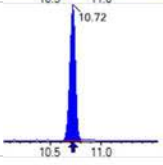
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 354720	(9.15 , N/A) (N/A , -0.01 , N/A)	199.1	N/A	0.8212 [1.0000]	82.1% { 99.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 669597	(7.85 , N/A) (N/A , -0.02 , N/A)	547.6	N/A	0.9064 [1.0000]	90.6% { 106.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 679192	(9.29 , N/A) (N/A , -0.01 , N/A)	366.6	N/A	0.8809 [1.0000]	88.1% { 99.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1845592	(3.57 , N/A) (N/A , 0.04 , N/A)	550.4	N/A	8.4155 [8.0000]	105.2% { 117.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1186654	(4.86 , N/A) (N/A , 0.00 , N/A)	521.1	N/A	4.1259 [4.0000]	103.1% { 116.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 803585	(5.98 , N/A) (N/A , -0.01 , N/A)	450.9	N/A	2.2379 [2.0000]	111.9% { 121.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 709370	(6.93 , N/A) (N/A , -0.02 , N/A)	446.1	N/A	2.0782 [2.0000]	103.9% { 112.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 891529	(7.75 , N/A) (N/A , -0.01 , N/A)	543.7	N/A	2.2534 [2.0000]	112.7% { 120.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 381001	(8.48 , N/A) (N/A , -0.01 , N/A)	495.0	N/A	1.0623 [1.0000]	106.2% { 120.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 451566	(9.16 , N/A) (N/A , -0.01 , N/A)	396.5	N/A	1.1298 [1.0000]	113.0% { 111.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 570846	(9.67 , N/A) (N/A , 0.00 , N/A)	516.1	N/A	1.1551 [1.0000]	115.5% { 105.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

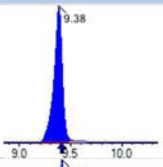
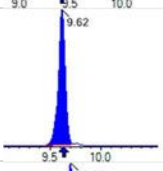
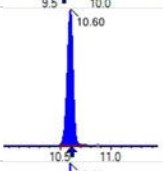
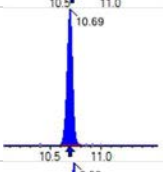
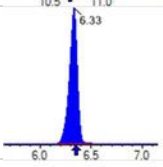
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 661679	(9.88 , N/A) (N/A , 0.00 , N/A)	420.2	N/A	1.3944 [1.0000]	139.4% { 130.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 469111	(10.13 , N/A) (N/A , 0.00 , N/A)	645.5	N/A	1.2350 [1.0000]	123.5% { 115.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2021426	(5.91 , N/A) (N/A , 0.00 , N/A)	590.3	N/A	2.2708 [2.0000]	113.5% { 124.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1093830	(7.85 , N/A) (N/A , -0.02 , N/A)	596.9	N/A	1.9608 [2.0000]	98.0% { 111.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1729997	(9.29 , N/A) (N/A , -0.01 , N/A)	460.0	N/A	2.1457 [2.0000]	107.3% { 113.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 964479	(5.66 , N/A) (N/A , 0.00 , N/A)	763.2	N/A	5.5507 [4.0000]	138.8% { 156.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 927342	(7.43 , N/A) (N/A , -0.01 , N/A)	632.5	N/A	3.6182 [4.0000]	90.5% { 103.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 947849	(8.82 , N/A) (N/A , -0.02 , N/A)	404.5	N/A	3.9470 [4.0000]	98.7% { 118.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 1080001	(10.19 , N/A) (N/A , 0.00 , N/A)	1036.7	N/A	1.0117 [2.0000]	50.6% { 53.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 120828	(10.63 , N/A) (N/A , 0.00 , N/A)	531.9	N/A	0.6304 [2.0000]	31.5% { 31.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 120156	(10.72 , N/A) (N/A , 0.00 , N/A)	366.3	N/A	0.6649 [2.0000]	33.2% { 32.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCA0105-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-01-09.dam

Quant Method: 1633 - S2023-01-09B
Path: S2023-01-10A (10)
Acquired: 2023/01/10 - 16:56

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1026147	(9.38 , N/A) (N/A , -0.01 , N/A)	399.6	N/A	4.0610 [4.0000]	101.5% { 120.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 880912	(9.62 , N/A) (N/A , -0.01 , N/A)	78.0	N/A	4.4340 [4.0000]	110.8% { 110.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 294399	(10.60 , N/A) (N/A , 0.00 , N/A)	632.6	N/A	10.0094 [20.0000]	50.0% { 36.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 140597	(10.69 , N/A) (N/A , -0.01 , N/A)	650.0	N/A	10.3721 [20.0000]	51.9% { 33.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1693339	(6.33 , N/A) (N/A , -0.01 , N/A)	537.0	N/A	8.9862 [8.0000]	112.3% { 111.5% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC			Work Order:	23A0033
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Batch:	BCA0105	Batch Matrix:	Water	Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW03-WGN01LF-2301W1	23A0033-01	01/09/23 09:35	552.06	2.00
AF-RHMW02-WGN01LF-2301W1	23A0033-02	01/09/23 09:35	555.78	2.00
AF-RHMW225401-WGN01B-2301W1	23A0033-03	01/09/23 09:35	529.76	2.00
Blank	BCA0105-BLK1	01/09/23 09:35	500.00	2.00
LCS	BCA0105-BS1	01/09/23 09:35	500.00	2.00
MRL Check	BCA0105-MRL1	01/09/23 09:35	500.00	2.00

PREPARATION BENCH SHEET
Organics

Print Date/Time: 01/11/2023 2:59 pm

BCA0105

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)
23A0174 1633 - mix C 2023-01-11

Surrogate Solution(s)
23A0098 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
23A0033-01	AF-RHMW03-WGN01LF-2301W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	552.056	2		200	"Report relevant surrogates"
23A0033-01RE1	AF-RHMW03-WGN01LF-2301W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	552.056	2		200	"Report relevant surrogates"
23A0033-02	AF-RHMW02-WGN01LF-2301W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	555.78	2		200	"Report relevant surrogates"
23A0033-02RE1	AF-RHMW02-WGN01LF-2301W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	555.78	2		200	"Report relevant surrogates"
23A0033-03	AF-RHMW225401-WGN01B-2301 W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	529.76	2		200	"Report relevant surrogates"
23A0033-03RE1	AF-RHMW225401-WGN01B-2301 W1	01/10/2023	02/02/2023	1/9/2023 9:35:00AM	529.76	2		200	"Report relevant surrogates"
BCA0105-BLK1	Blank			1/9/2023 9:35:00AM	500	2	0	200	
BCA0105-BS1	LCS			1/9/2023 9:35:00AM	500	2	200	200	
BCA0105-MRL1	MRL Check			1/9/2023 9:35:00AM	500	2	20	200	

tart Date/Time _____

topDate/Time _____

Reagents

Standard	Description	LotNum
22K0511	Reagent -0.3M Formic Acid	M13H051
22L0094	Reagent - 0.05MFA wash	x
22L0224	Am. Ac. preservative	P28I056
23A0118	Reagent - 1.0% Ammonia Hydroxide	219481

atch Comments:

piking Witnessed By _____ Date _____

Preparation Reviewed By _____ Date _____

Extracts Received By _____ Date _____

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PREPARATION BENCH SHEET
Organics

Print Date/Time: 01/11/2023 2:59 pm

BCA0105

(Continued)

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

Spiking Solution(s)	
23A0174	1633 - mix C 2023-01-11

Surrogate Solution(s)	
23A0098	MPFAC-HIF-ES 20.0ng/mL

Spiked by: DAG 1/9/23 10:00AM
Witness: PHF
Balance #:
Cartridge:
Concentration:

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Spiking Witnessed By _____ Date _____

Preparation Reviewed By _____ Date _____

Extracts Received By _____ Date _____

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INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00089	Instrument:	Saphira
Calibration:	2302005		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC00089-CCB1	S2023-01-10A (2)	01/10/23 14:08
Low Cal Check	SC00089-LCV1	S2023-01-10A (3)	01/10/23 14:21
Calibration Check	SC00089-CCV1	S2023-01-10A (4)	01/10/23 14:34
Calibration Blank	SC00089-CCB2	S2023-01-10A (7)	01/10/23 15:13
Blank	BCA0105-BLK1	S2023-01-10A (8)	01/10/23 16:30
LCS	BCA0105-BS1	S2023-01-10A (9)	01/10/23 16:43
MRL Check	BCA0105-MRL1	S2023-01-10A (10)	01/10/23 16:56
AF-RHMW03-WGN01LF-2301W1	23A0033-01	S2023-01-10A (11)	01/10/23 17:09
AF-RHMW02-WGN01LF-2301W1	23A0033-02	S2023-01-10A (13)	01/10/23 17:34
AF-RHMW225401-WGN01B-2301W1	23A0033-03	S2023-01-10A (15)	01/10/23 18:00
Calibration Check	SC00089-CCV2	S2023-01-10A (17)	01/10/23 18:26
Calibration Blank	SC00089-CCB3	S2023-01-10A (18)	01/10/23 18:39
Calibration Check	SC00089-CCV3	S2023-01-10A (41)	01/10/23 23:35
Calibration Blank	SC00089-CCB4	S2023-01-10A (42)	01/10/23 23:48
Calibration Check	SC00089-CCV4	S2023-01-10A (57)	01/11/23 03:00

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00101	Instrument:	Saphira
Calibration:	2302005		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SC00101-CAL1	S2023-01-09B (1)	01/09/23 15:03
Cal Standard	SC00101-CAL2	S2023-01-09B (2)	01/09/23 15:16
Cal Standard	SC00101-CAL3	S2023-01-09B (3)	01/09/23 15:29
Cal Standard	SC00101-CAL4	S2023-01-09B (4)	01/09/23 15:42
Cal Standard	SC00101-CAL5	S2023-01-09B (5)	01/09/23 15:55
Cal Standard	SC00101-CAL6	S2023-01-09B (6)	01/09/23 16:08
Cal Standard	SC00101-CAL7	S2023-01-09B (7)	01/09/23 16:21
Cal Standard	SC00101-CAL8	S2023-01-09B (8)	01/09/23 16:34
Initial Cal Blank	SC00101-ICB1	S2023-01-09B (9)	01/09/23 16:46
Secondary Cal Check	SC00101-SCV1	S2023-01-09B (10)	01/09/23 16:59

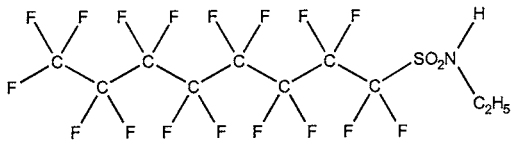
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide
LOT NUMBER: NEtFOSA0821M

STRUCTURE:

CAS #: 4151-50-2



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

INTENDED USE:

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

HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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

UNCERTAINTY:

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

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 ISO 17034 REFERENCE MATERIAL PRODUCER

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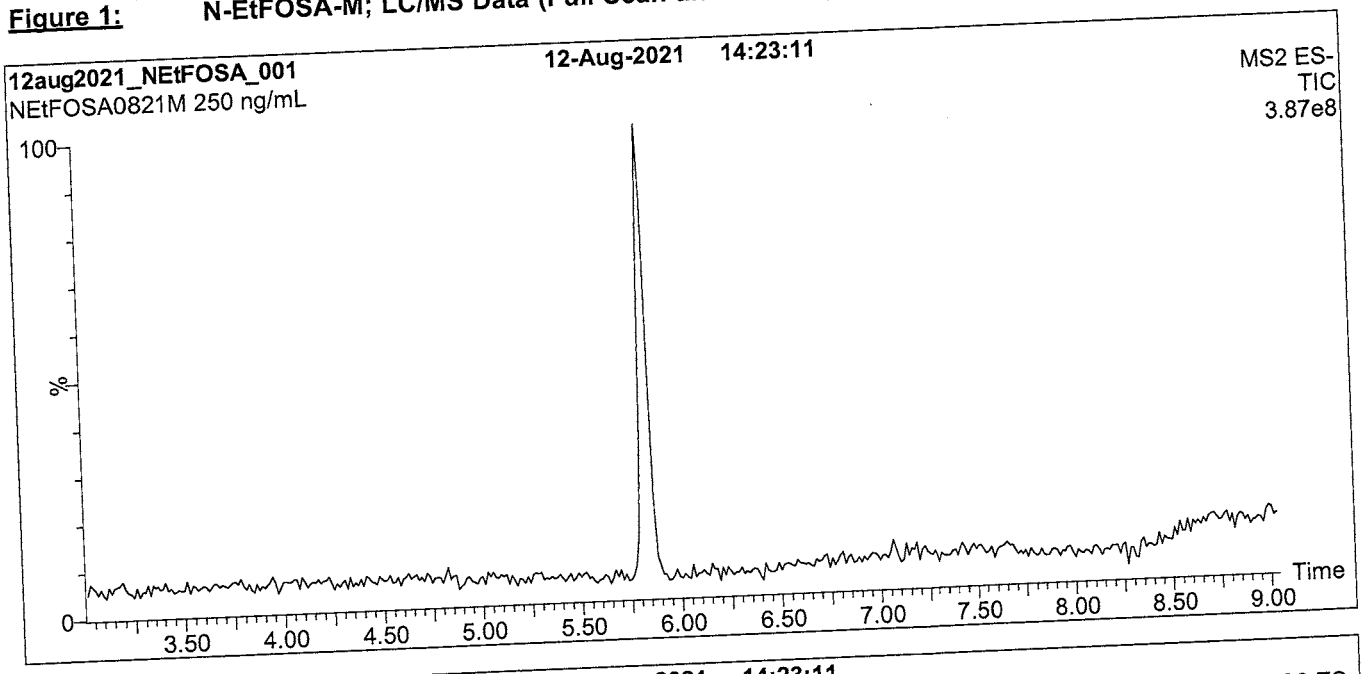
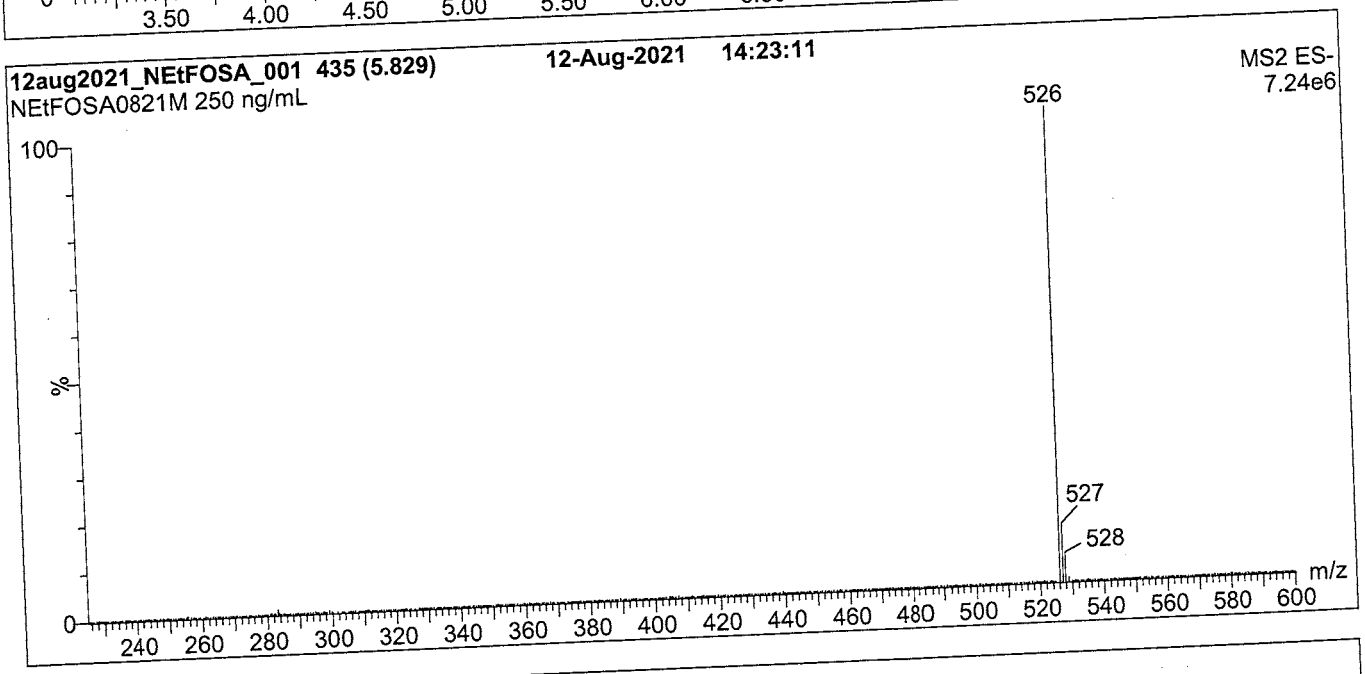
Figure 1: **N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





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

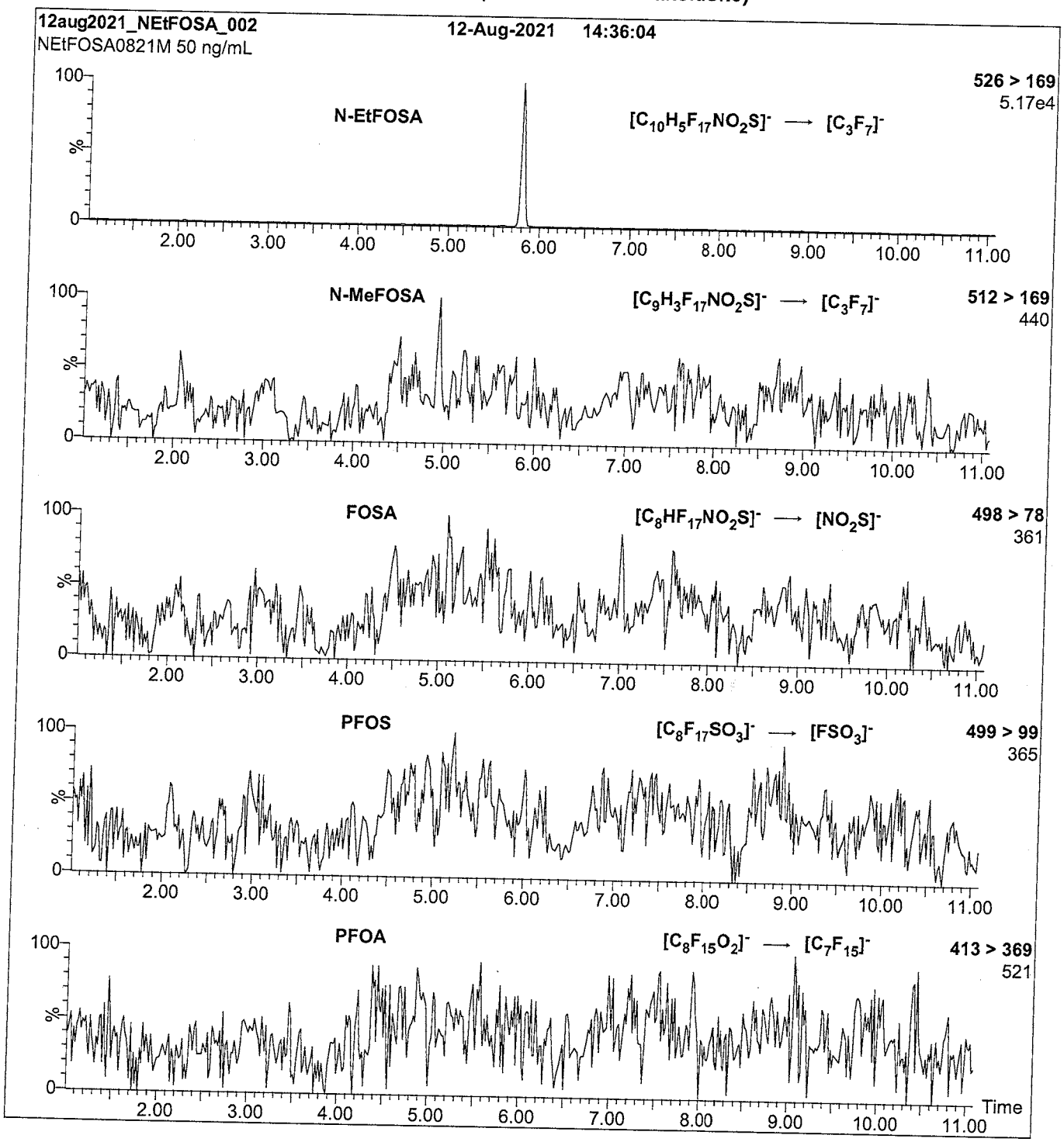
Flow: 300 µL/min

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

Figure 2: **N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (N-EtFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.29e-3
Collision Energy (eV) = 24

Analytical Standard Record

21J0007

Description:	PFAS - SAS N-EtFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Analyte Spike	Prepared:	08/12/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NEtFOSA0821M)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:05 by HGH

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

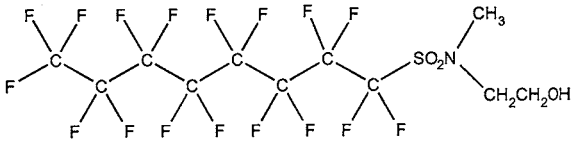
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M

COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/22/2021 (HRGC/LRMS) 09/23/2021 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	09/23/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/28/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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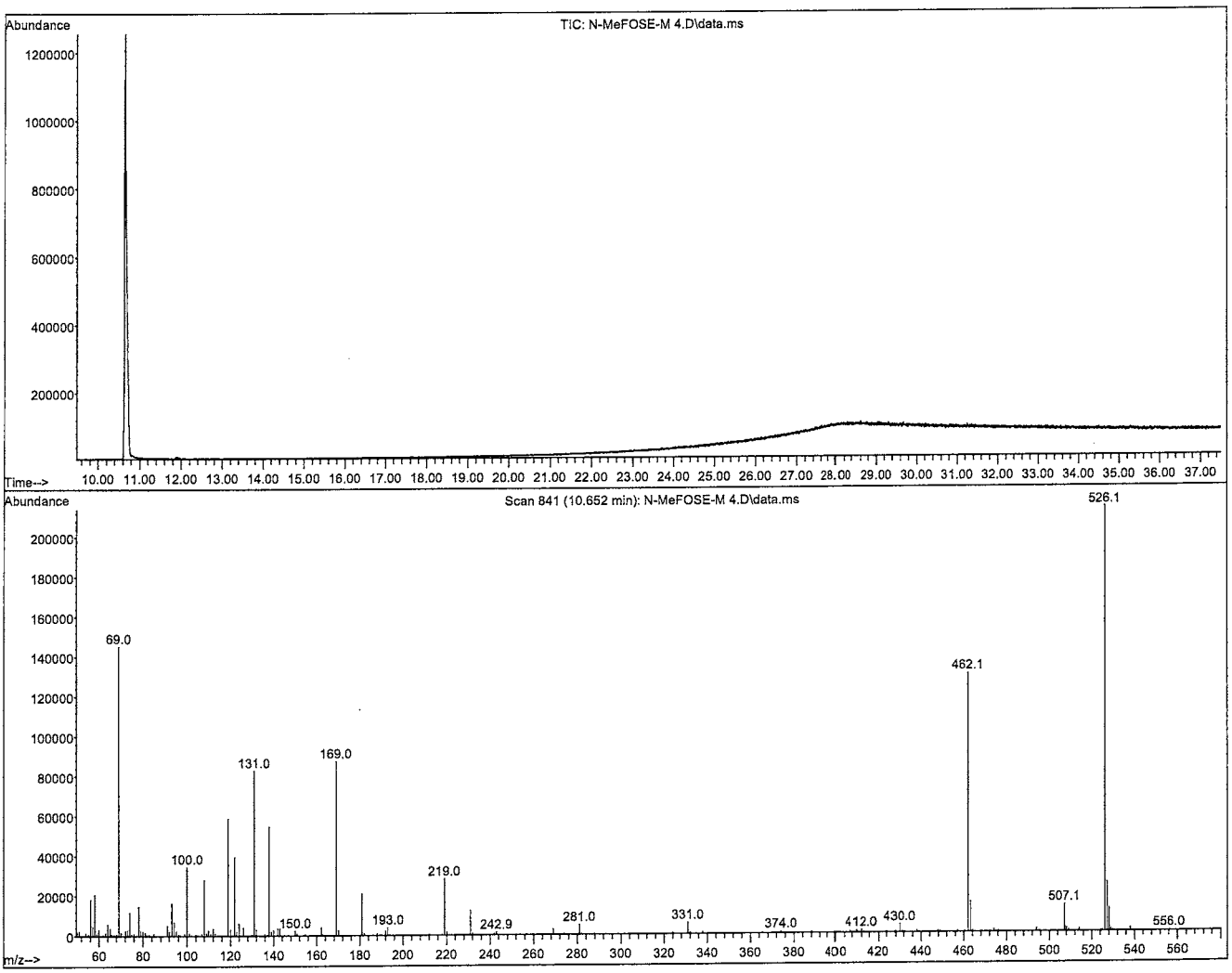
Figure 1: **N-MeFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



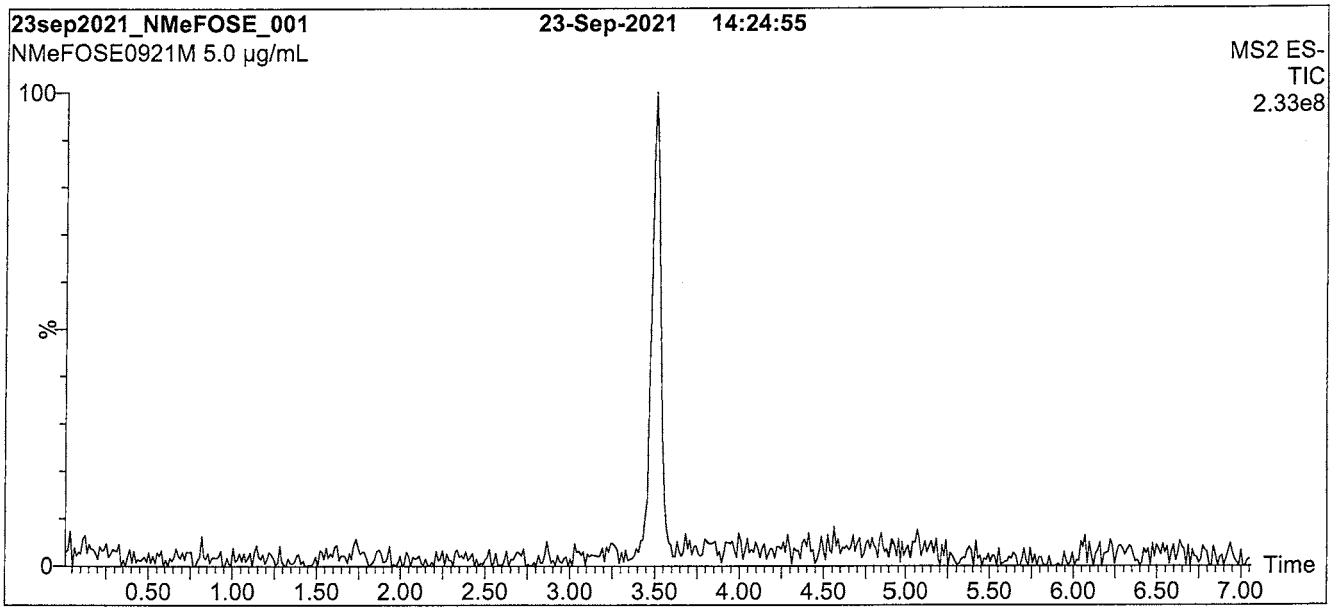
Conditions for Figure 1:

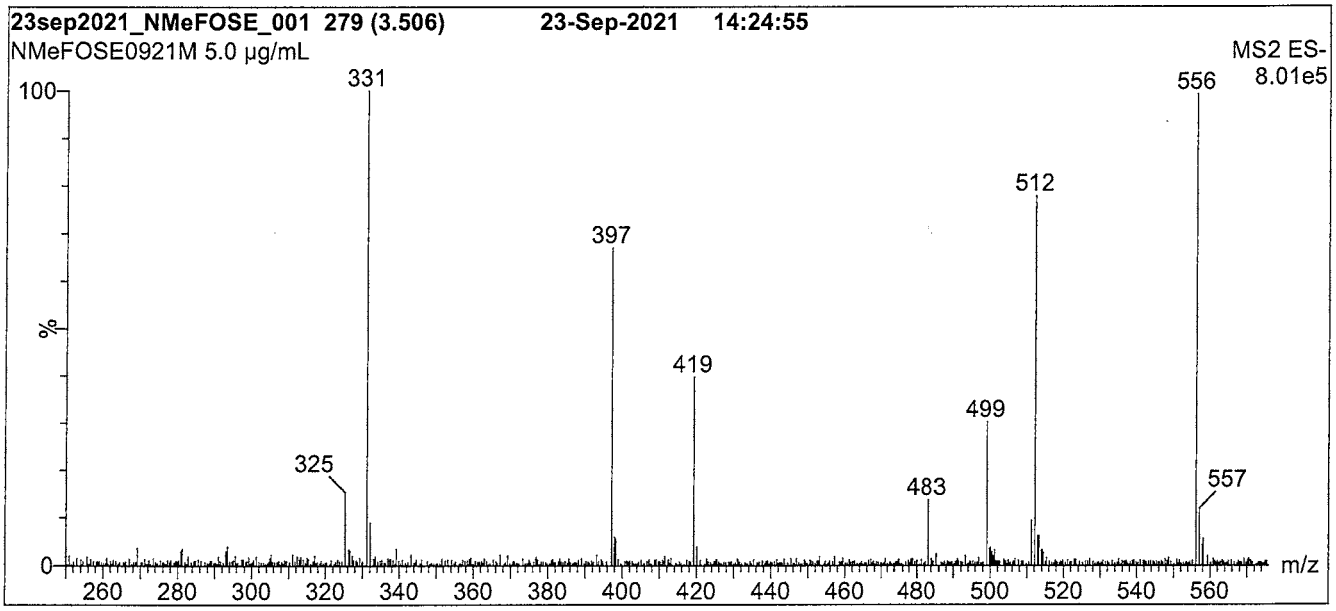
Agilent 7890A HRGC
Agilent 5975C MSD

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

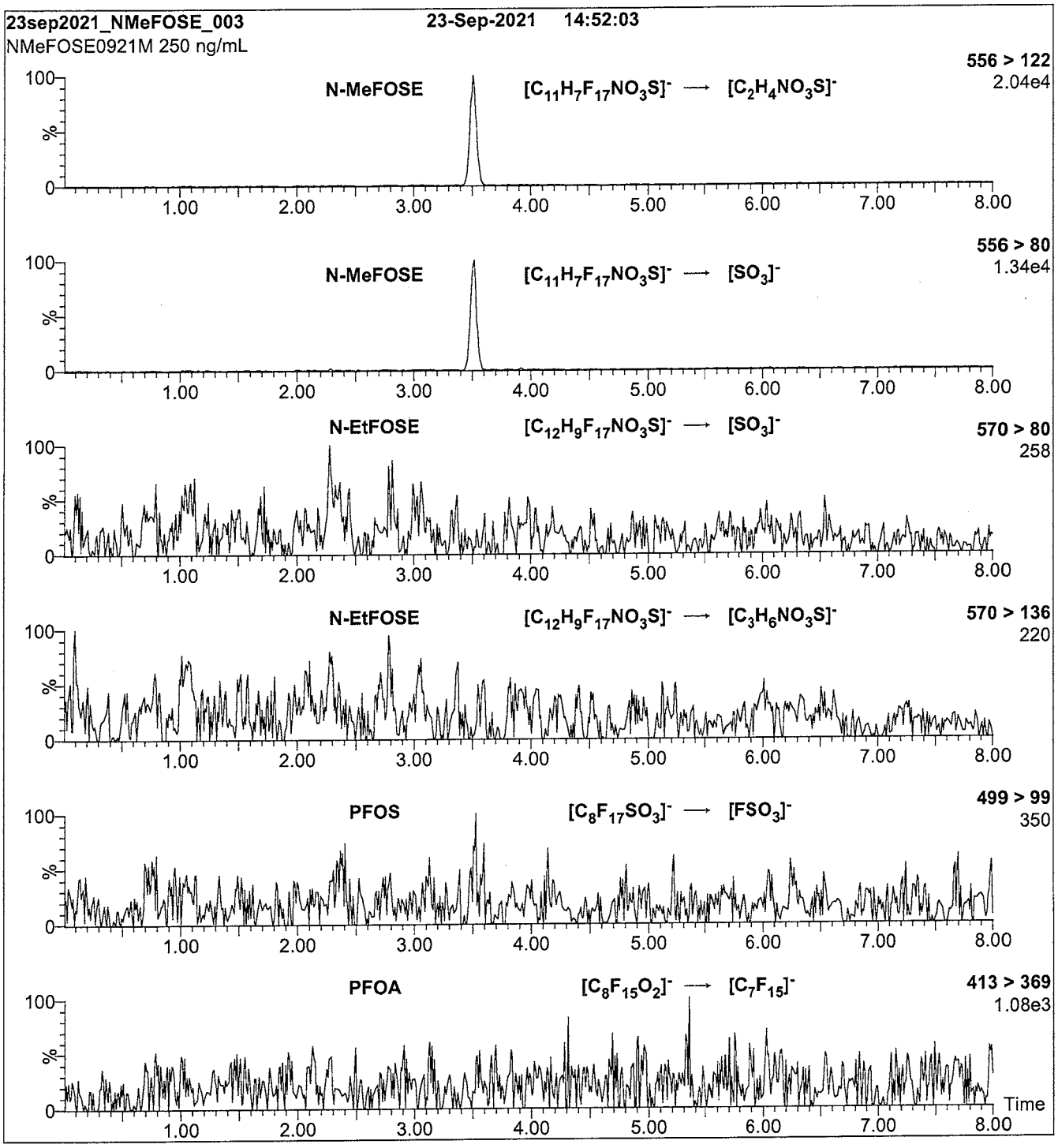
Flow: 300 µL/min

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

21J0014

Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	09/22/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NMeFOSE0921M)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:06 by HGH

Analyte	Parent	CAS Number	Concentration	Units
N-MEFOSE		24448-09-7	50	ug/mL

Analytical Standard Record

21J0014

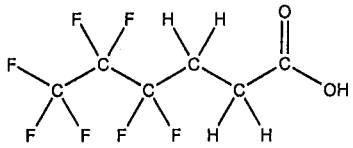
Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	09/22/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: NMeFOSE0921M)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:06 by HGH

Analyte	Parent	CAS Number	Concentration	Units
N-MEFOSE		24448-09-7	50	ug/mL

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



MOLECULAR FORMULA:	$C_6H_5F_7O_2$	**MOLECULAR WEIGHT:**	242.09
CONCENTRATION:	50.0 ± 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.

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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
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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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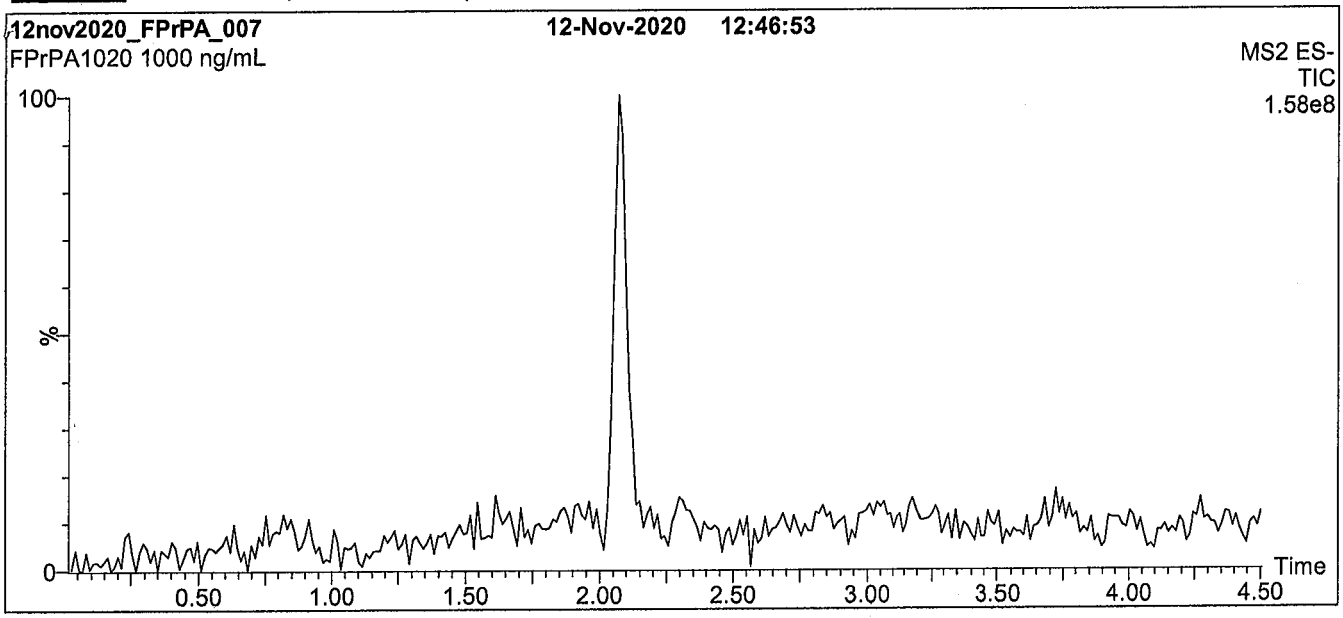
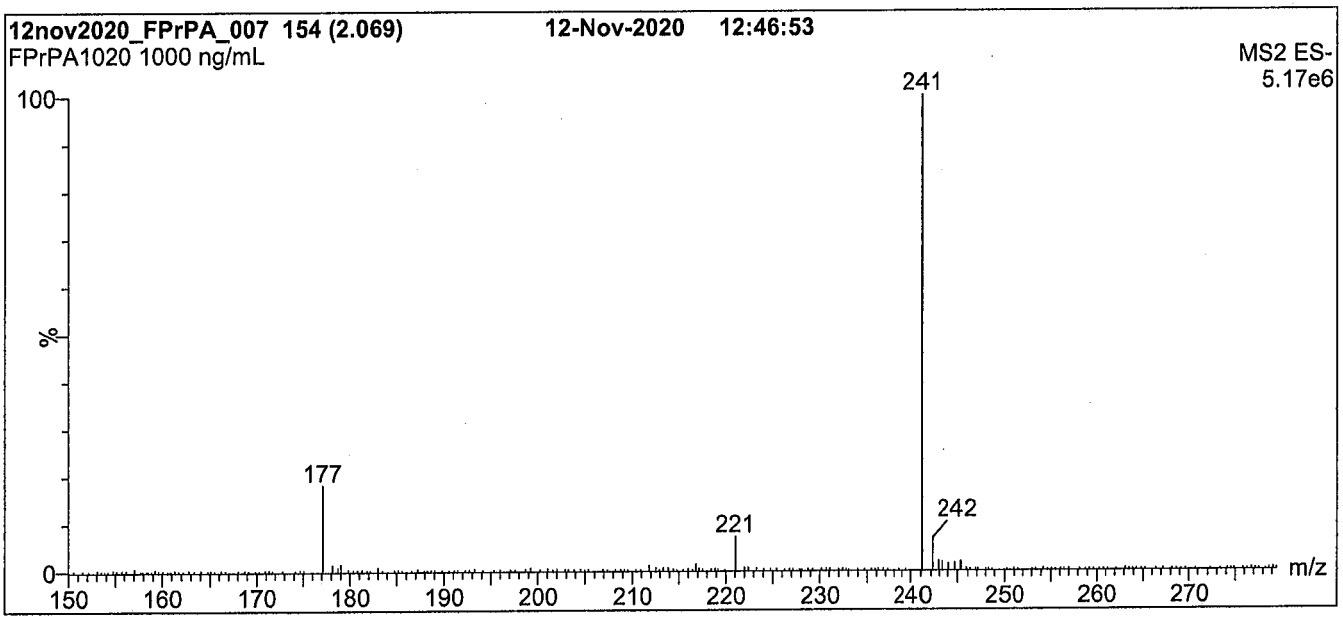
Figure 1: **FPrPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

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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

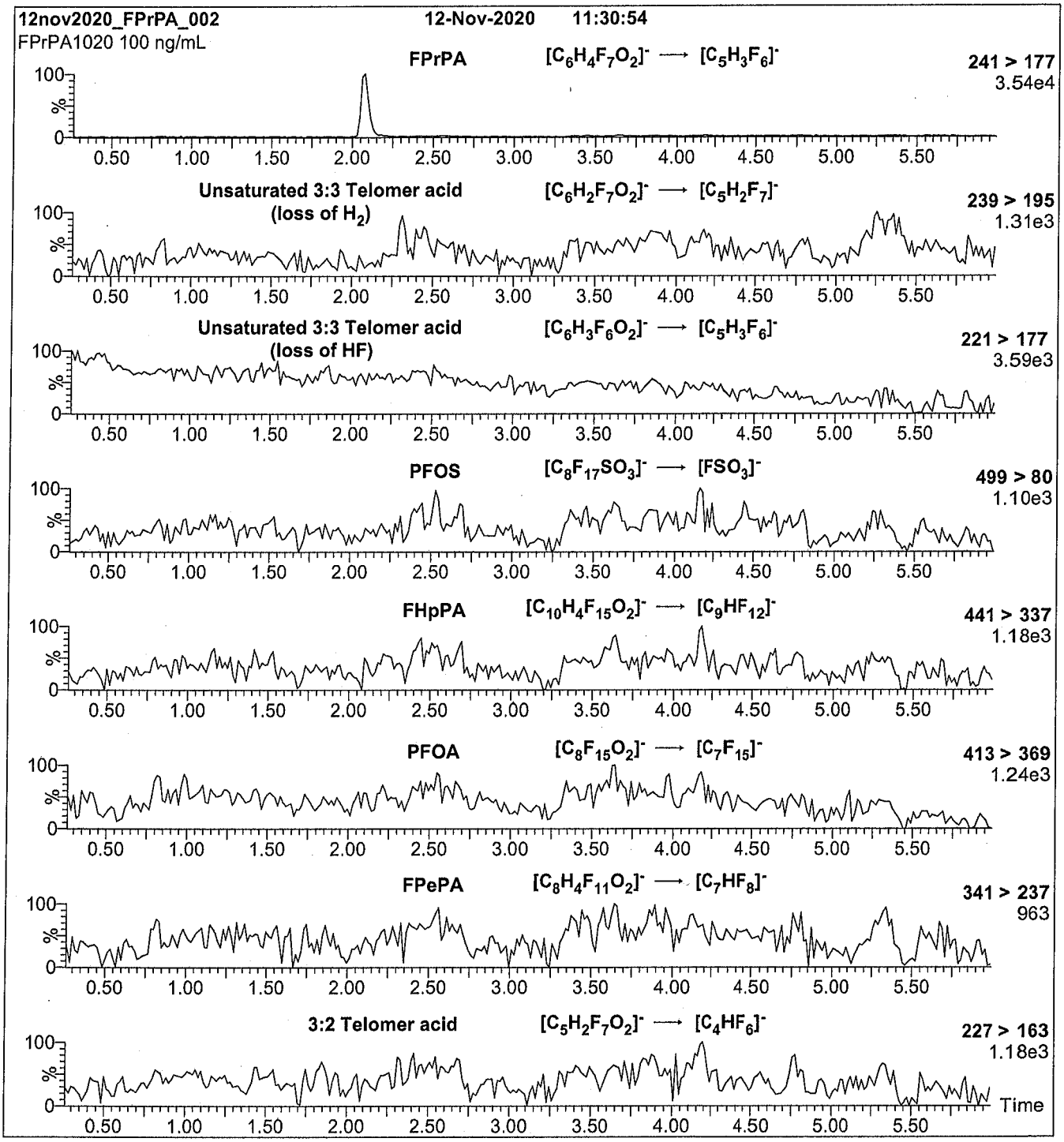
Flow: 300 µL/min

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

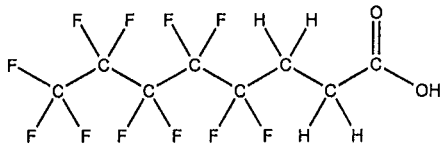
Description:	PFAS - SAS 3:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	3:3 FTCA 50.0ug/mL		

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	FPePA	**LOT NUMBER:**	FPePA1120
COMPOUND:	3-Perfluoropentyl propanoic acid		
STRUCTURE:		**CAS #:**	914637-49-3



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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

INTENDED USE:

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HANDLING:

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:

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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.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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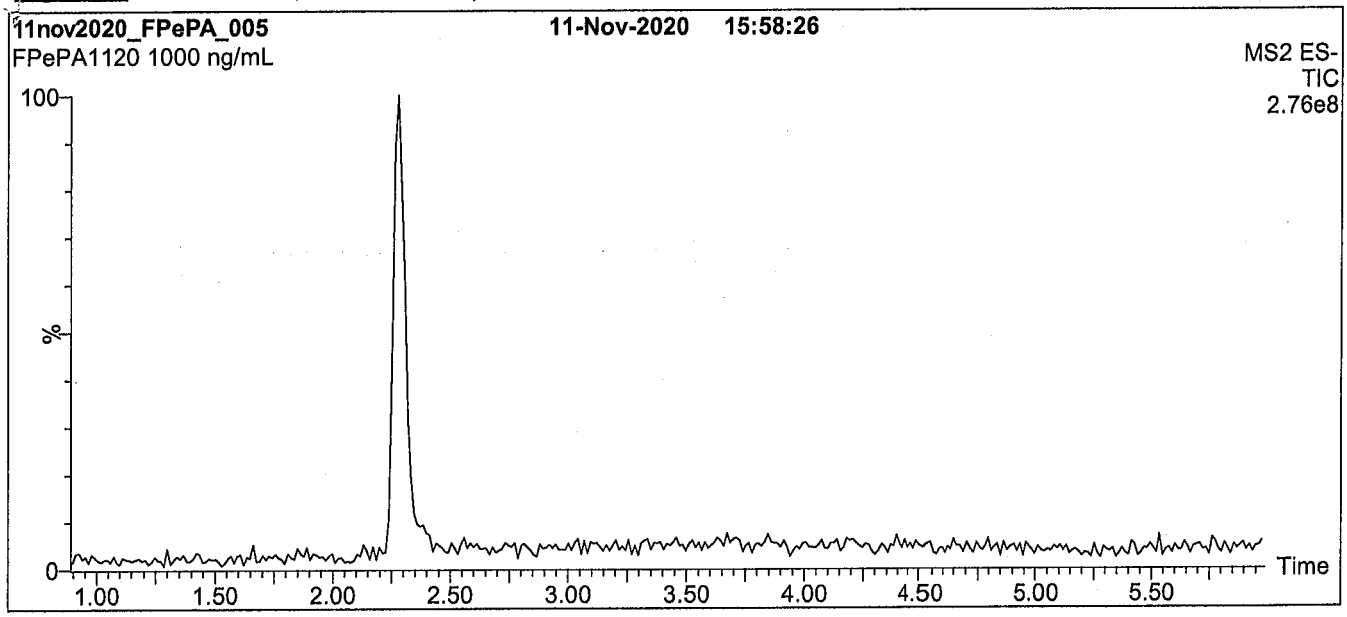
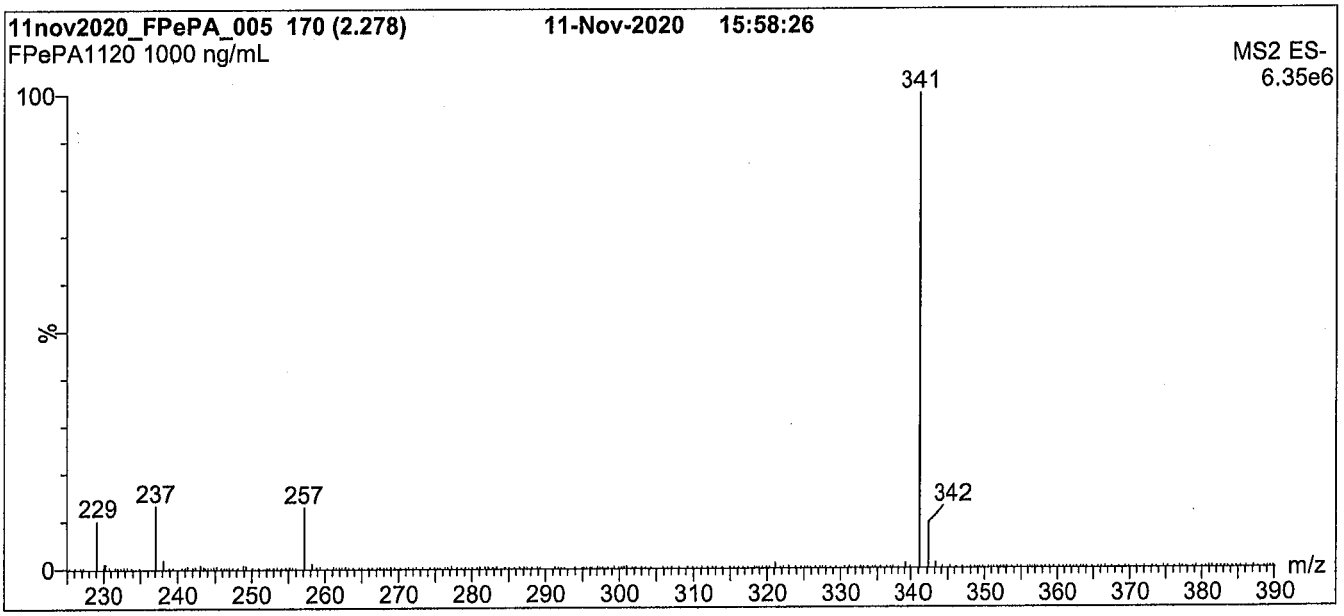
Figure 1: **FPePA; LC/MS Data (TIC and Mass Spectrum)**





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

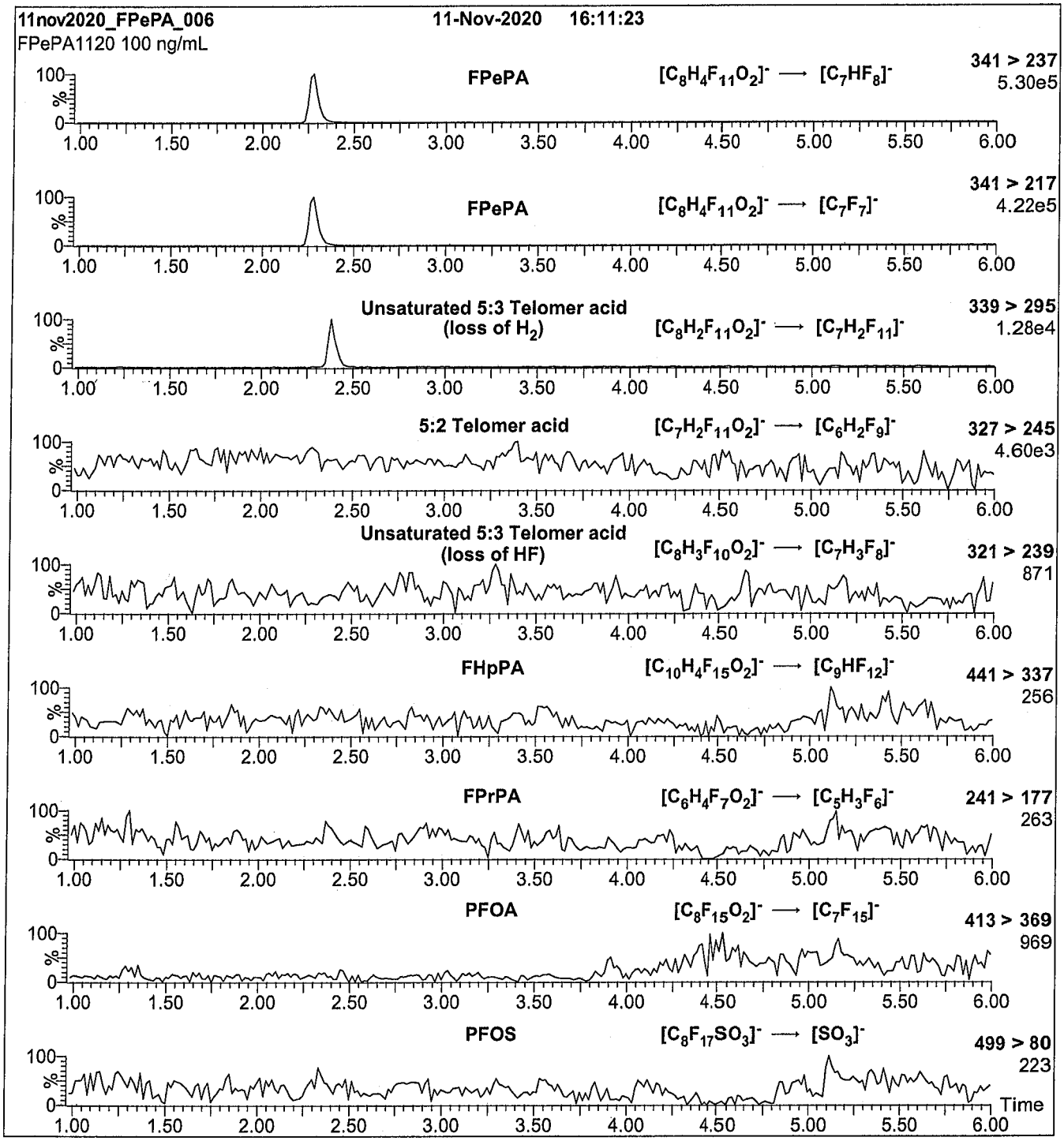
Flow: 300 µL/min

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

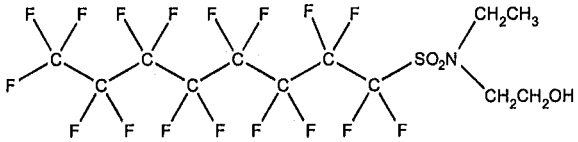
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0921M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

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.

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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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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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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 ISO17034 REFERENCE MATERIAL PRODUCER

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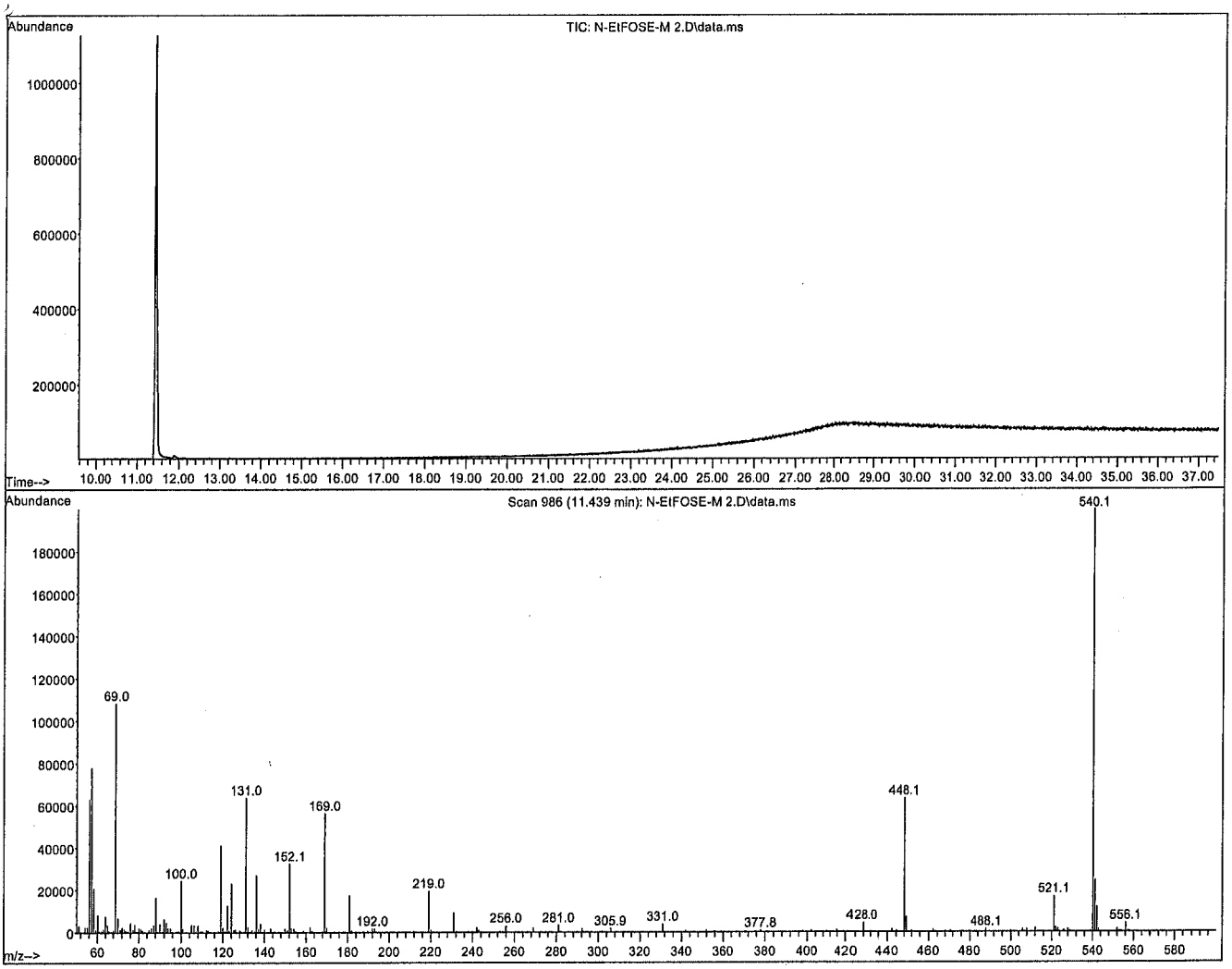
Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



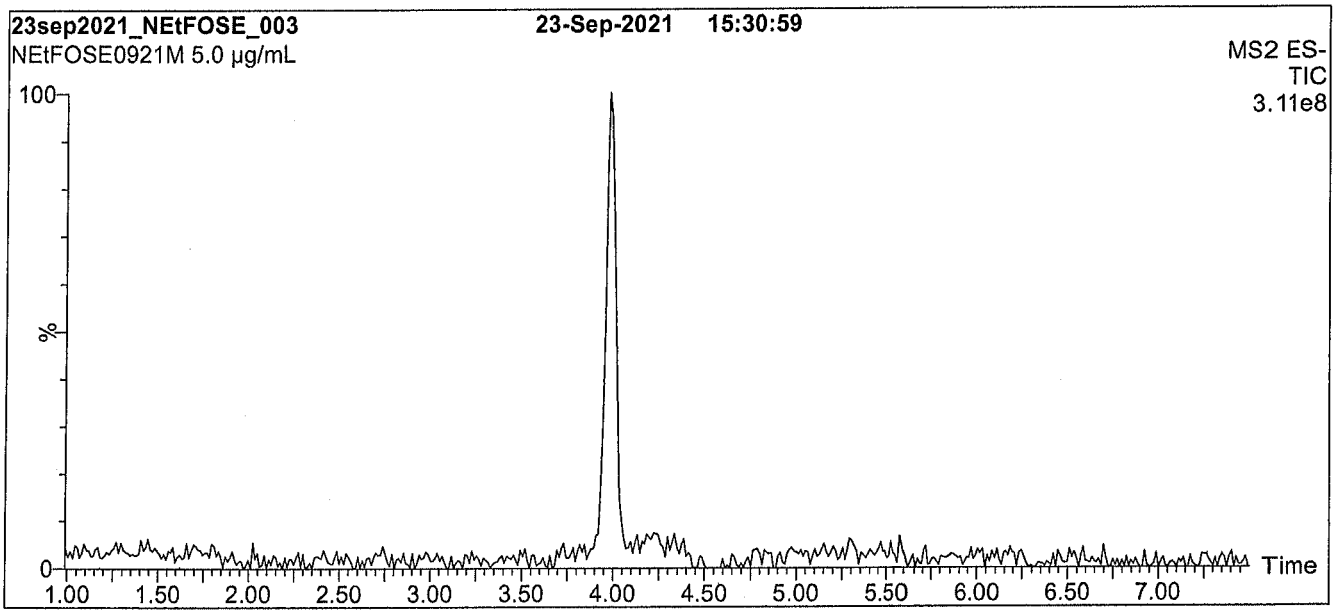
Conditions for Figure 1:

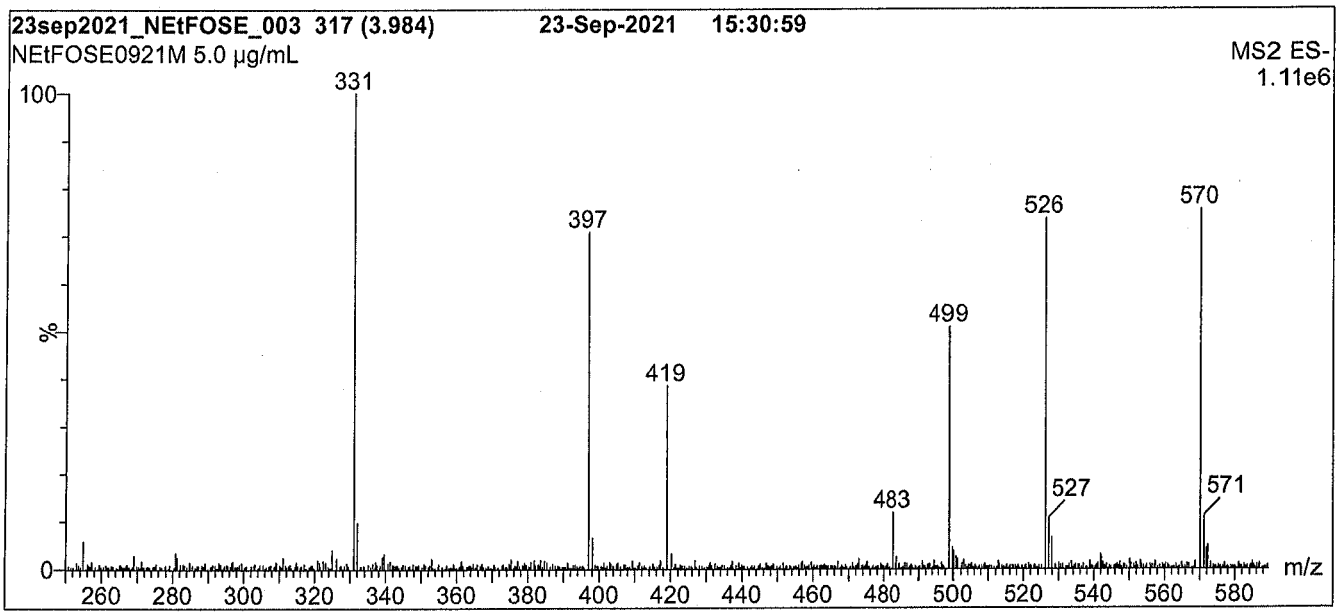
Agilent 7890A HRGC
Agilent 5975C MSD

Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Flow:	Constant at 1 mL/min
Injector:	250°C (Splitless Injection)
Oven:	100°C (5 min)
	10°C/min to 325°C
	325°C (10 min)
Ionization:	EI+
Detector:	230°C
	Full Scan (50-1000 amu)

Figure 2: **N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 2:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% H_2O / 70% MeOH
Ramp to 90% organic over 8 min and hold for
1.5 min before returning to initial conditions in 1 min.
Time: 12 min

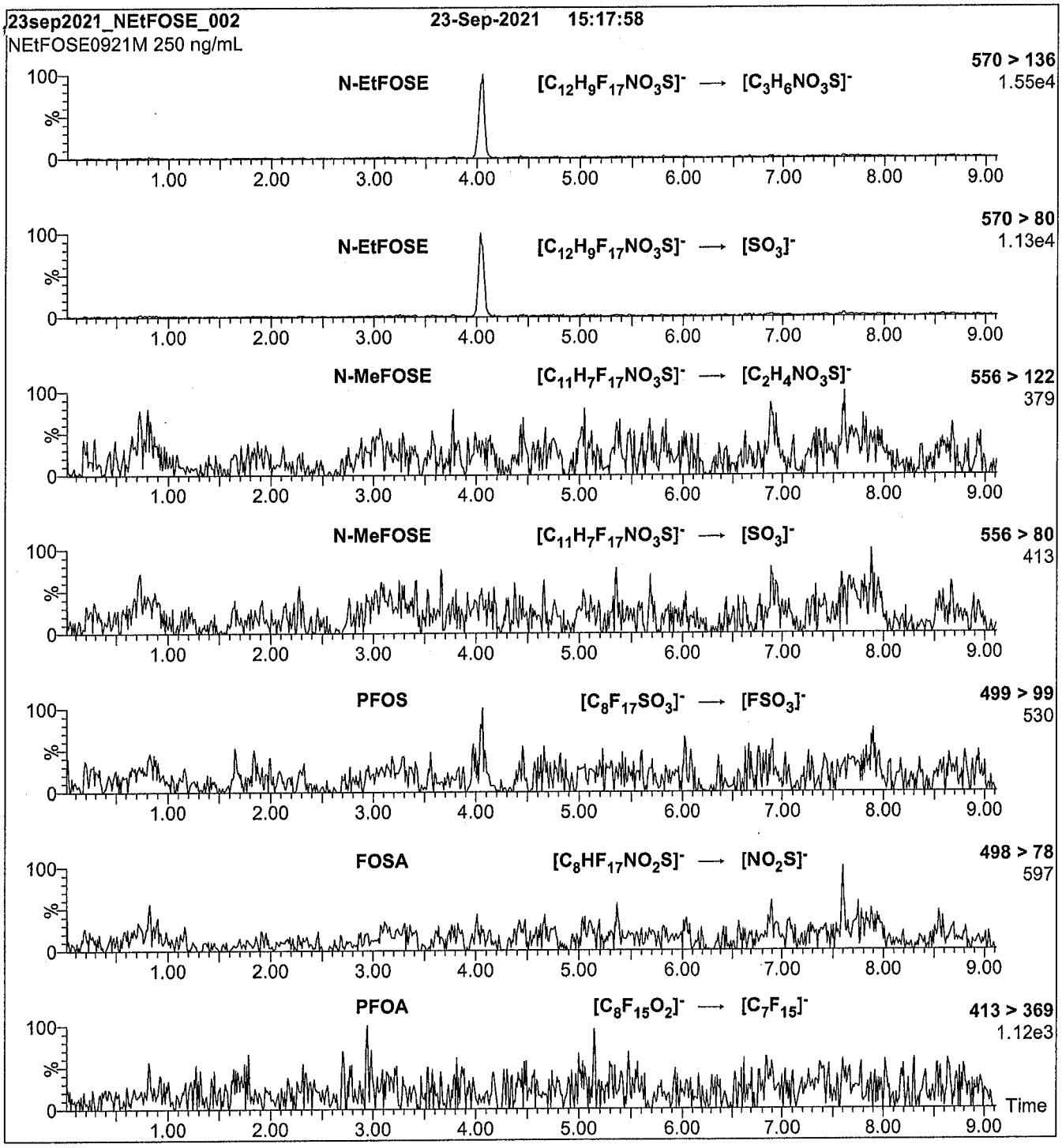
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (L/hr) = 1000

Figure 3: **N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.14e-3
Collision Energy (eV) = 32

Analytical Standard Record

21L0006

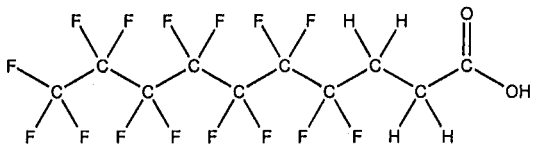
Description:	PFAS - SAS EtFOSE 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 17:22 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
N-ETFOSE		1691-99-2	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.

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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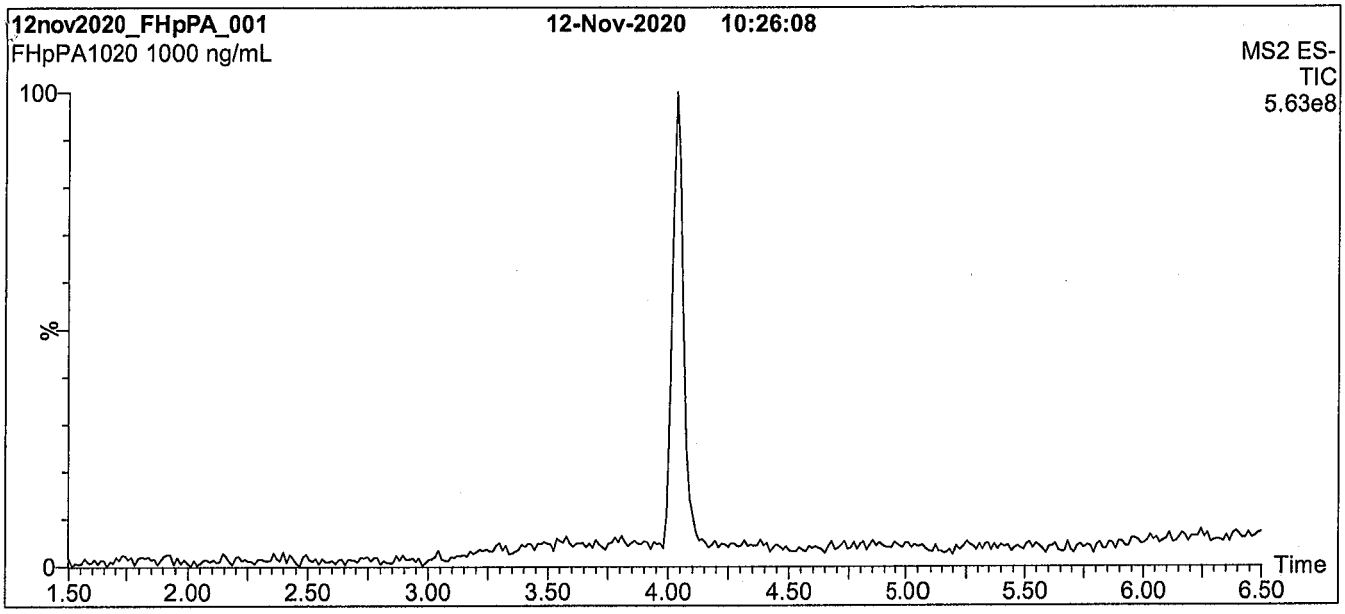
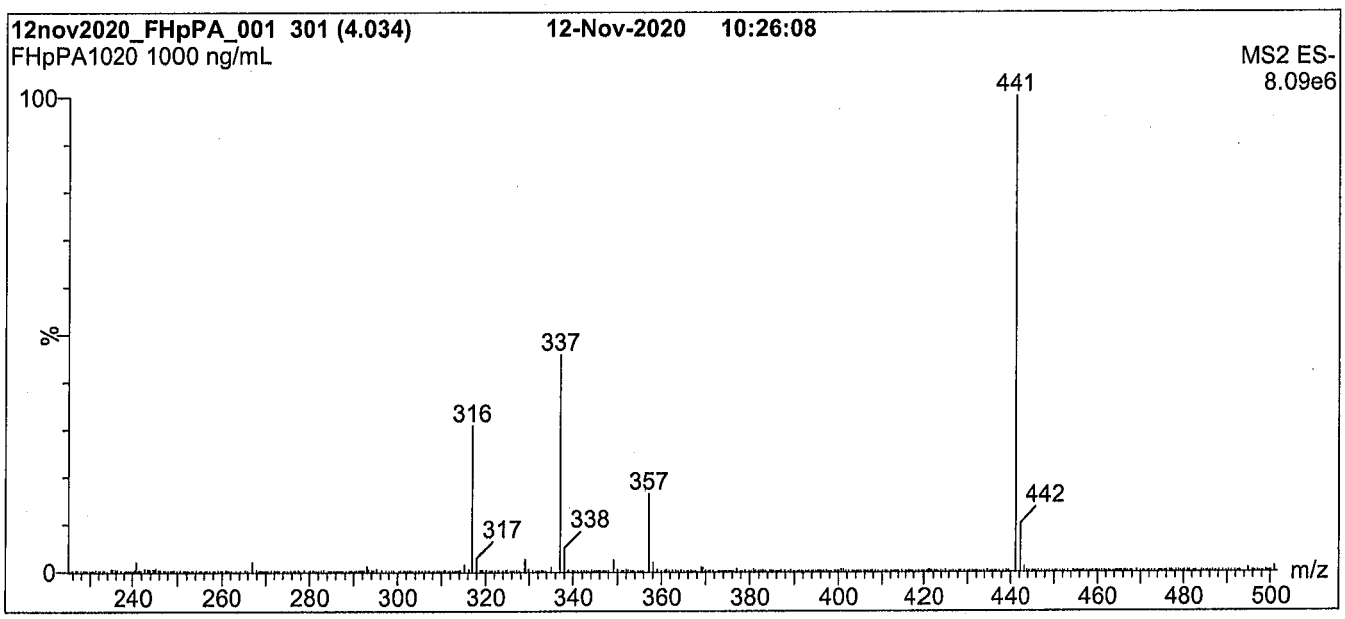
Figure 1: **FHpPA; LC/MS Data (TIC and Mass Spectrum)**





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

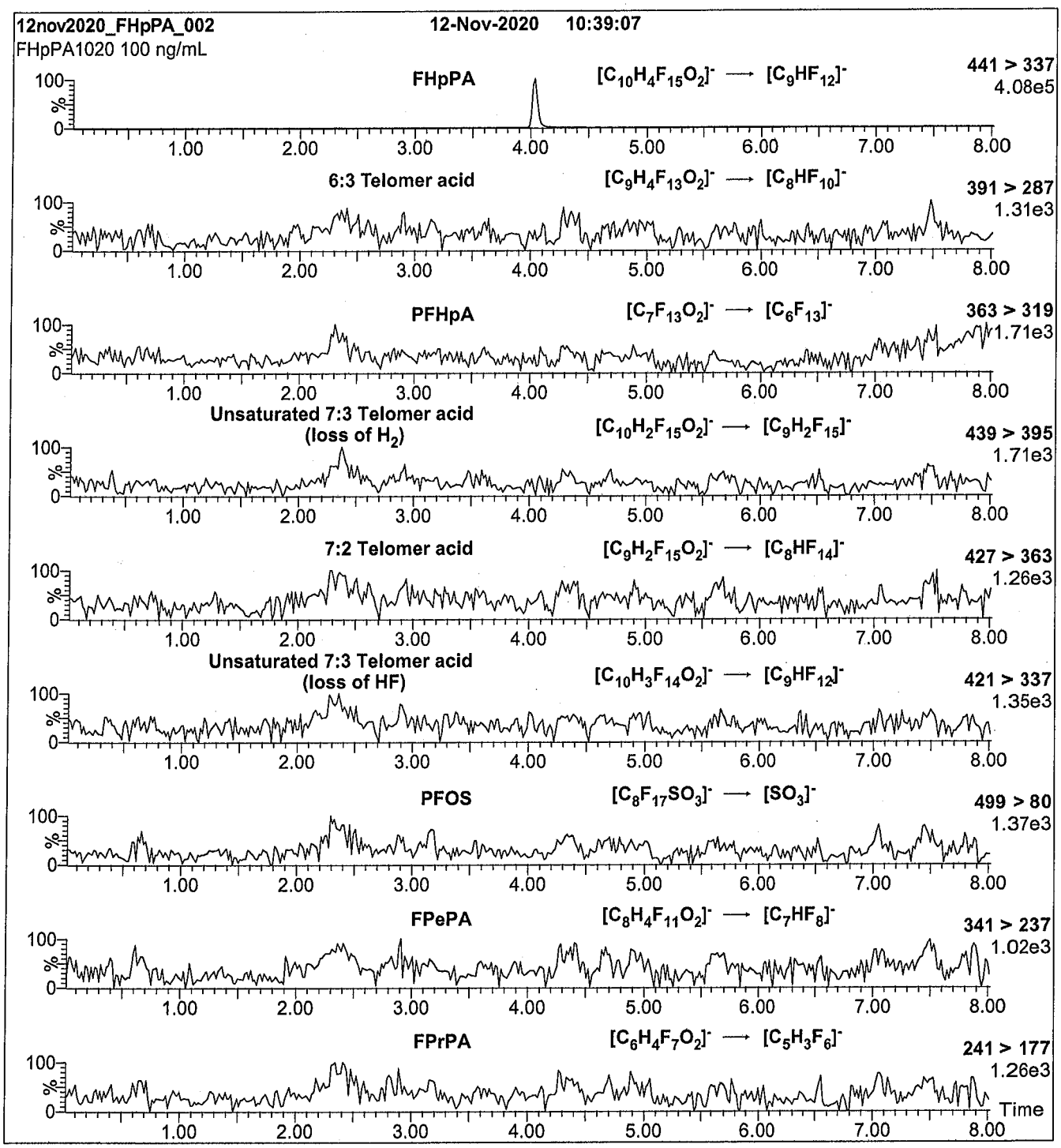
Flow: 300 µL/min

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

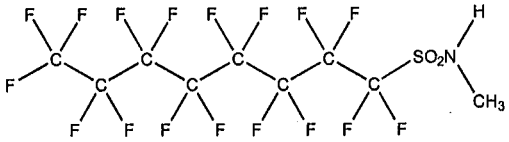
Description:	PFAS - SAS 7:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:16 by HGH
Comments:	7:3 FTCA 50.0ug/mL		

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/03/2021		
EXPIRY DATE: (mm/dd/yyyy)	08/03/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

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

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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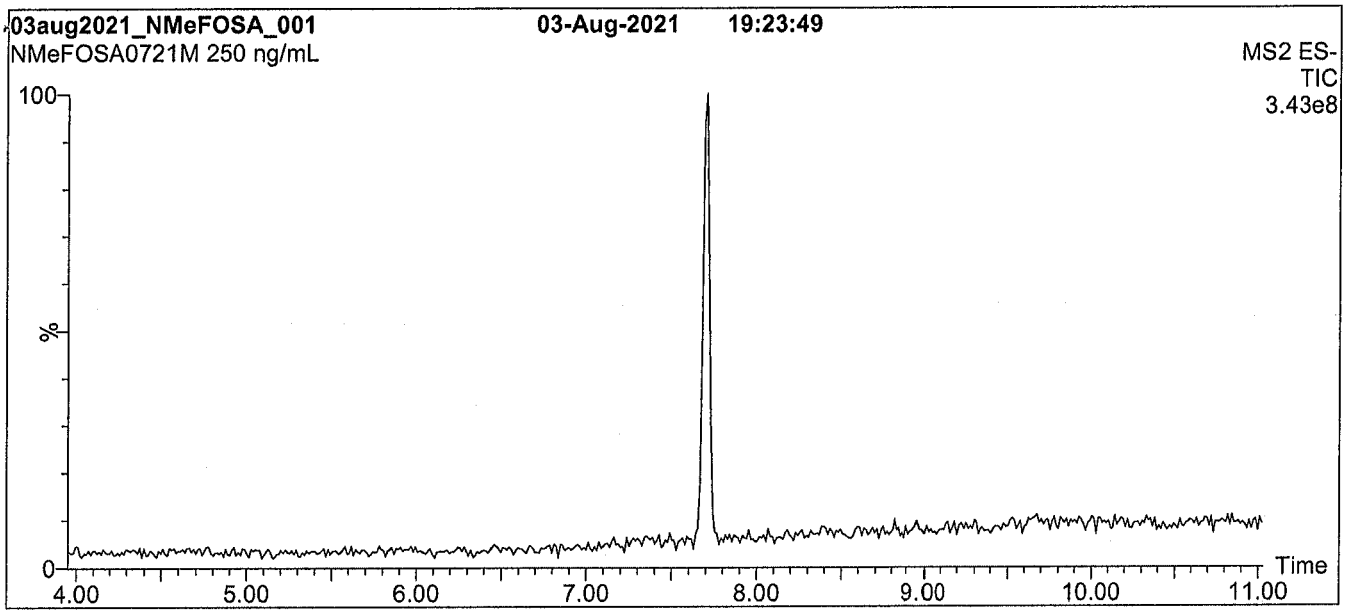
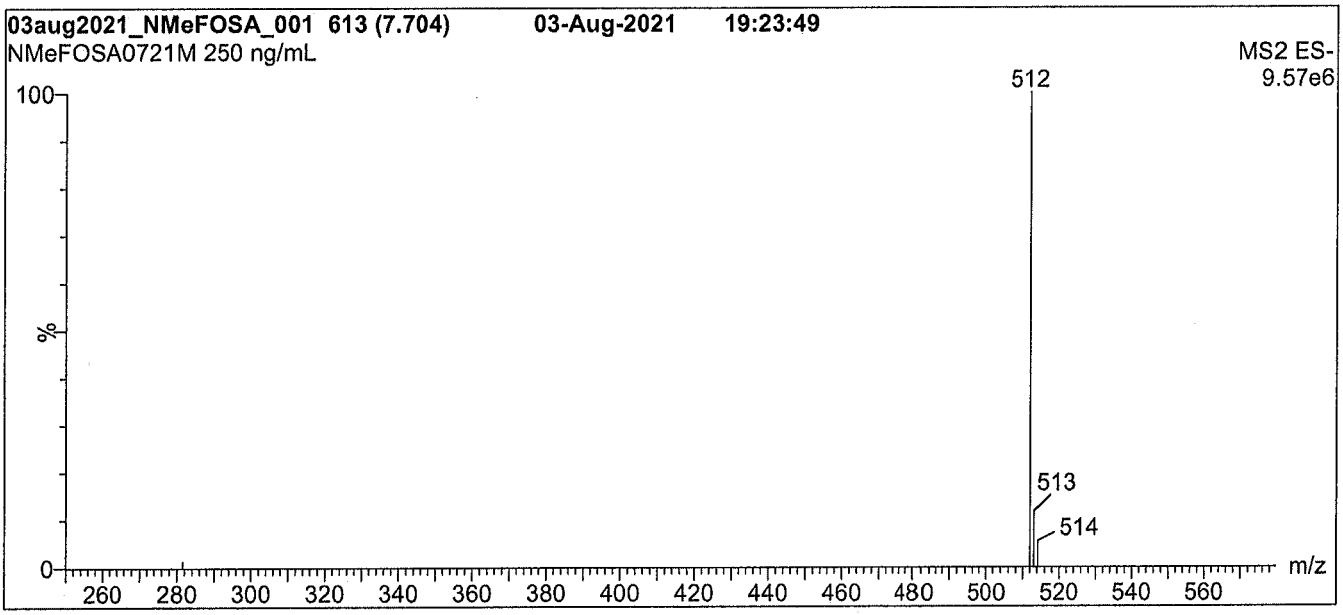
Figure 1: **N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





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

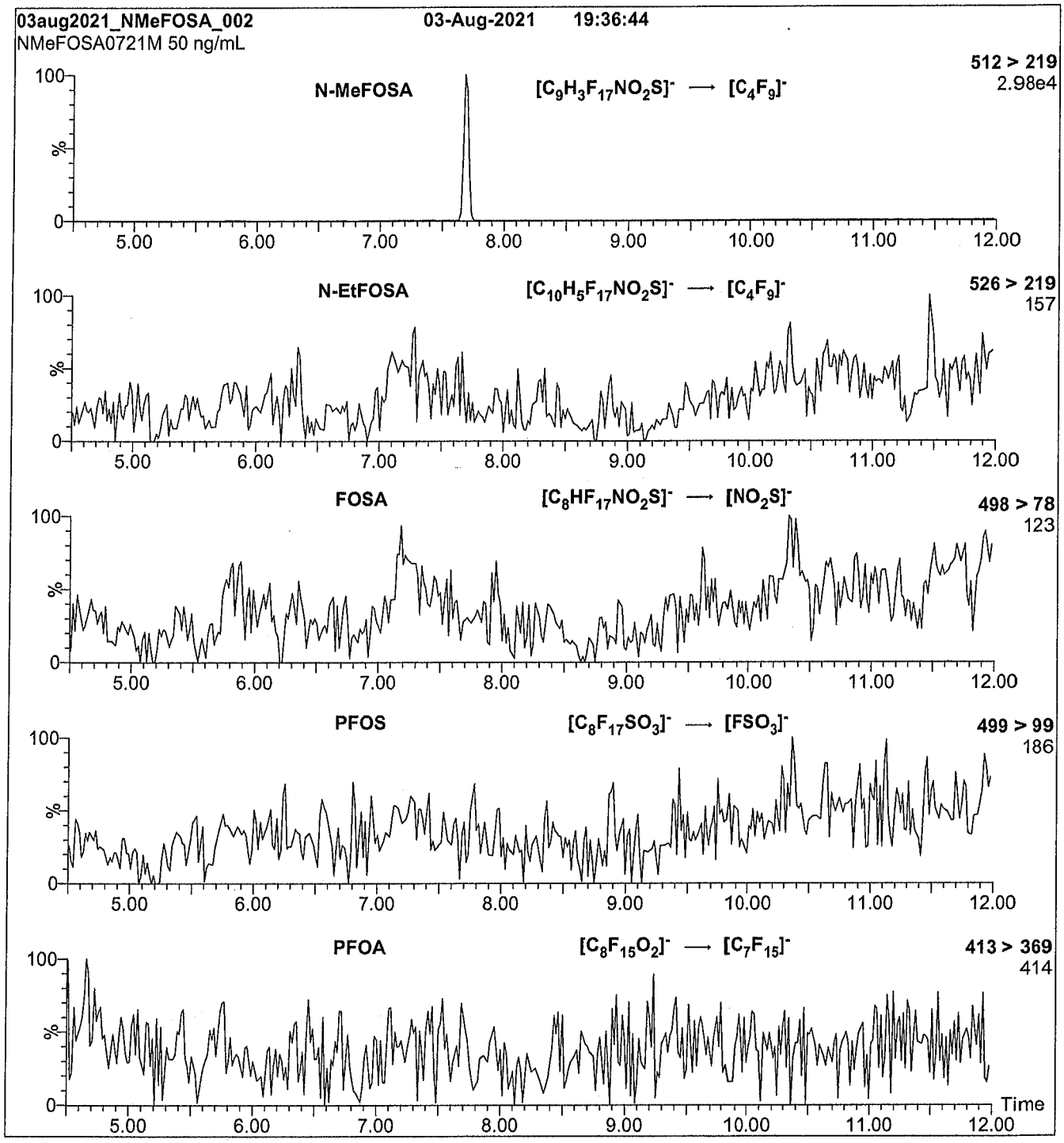
Flow: 300 µL/min

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

21L0008

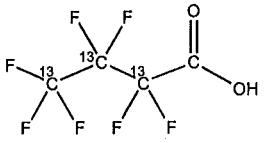
Description:	PFAS - SAS N-MeFOSA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:18 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFBA	**LOT NUMBER:**	M3PFBA0721
COMPOUND:	Perfluoro-n-(2,3,4-$^{13}C_3$)butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99%^{13}C (2,3,4-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	08/19/2021		
EXPIRY DATE: (mm/dd/yyyy)	08/19/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~0.2% of perfluoro-n-($^{13}C_3$)propanoic acid and also contains ~1.0% of perfluoro-n-(1,2,3,4-$^{13}C_4$)butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/25/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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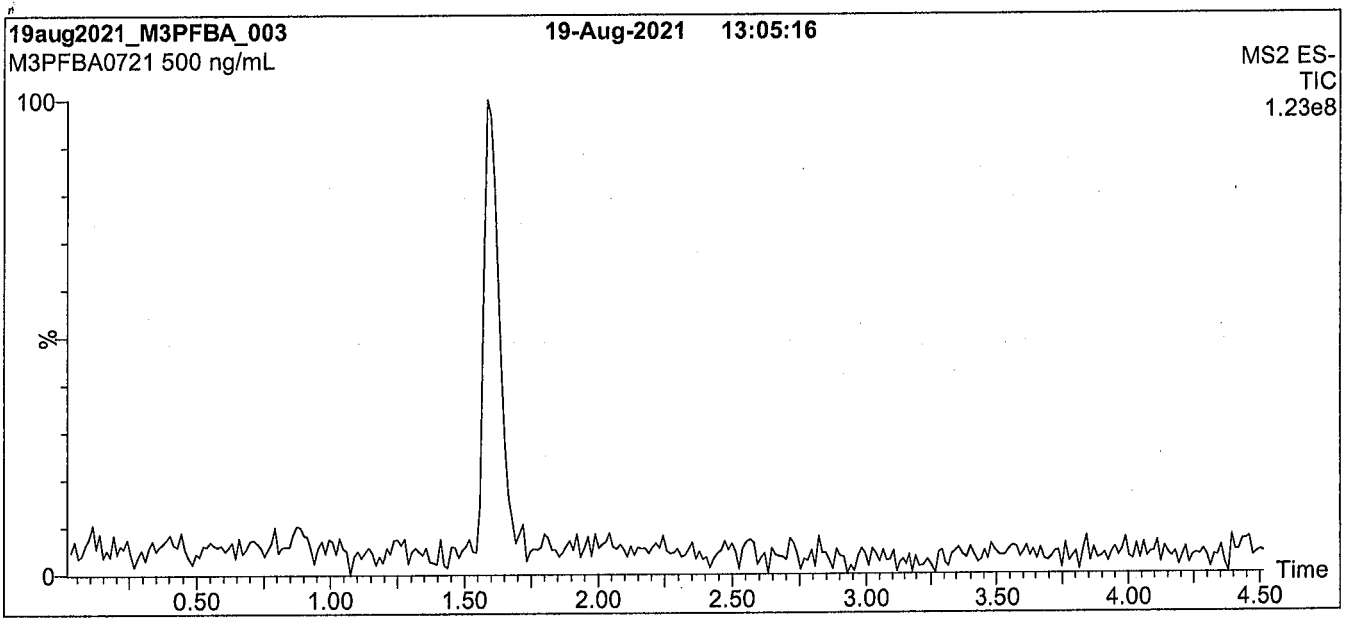
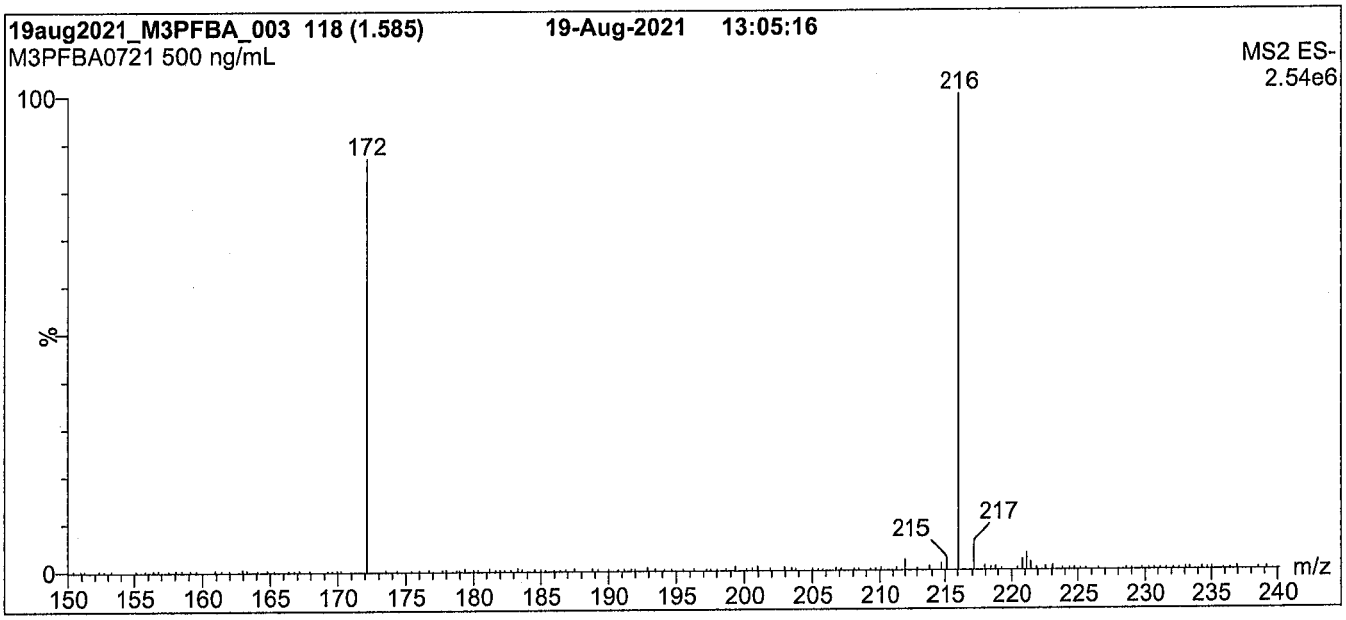
CALA Testing Accreditation No. A1226

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: **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

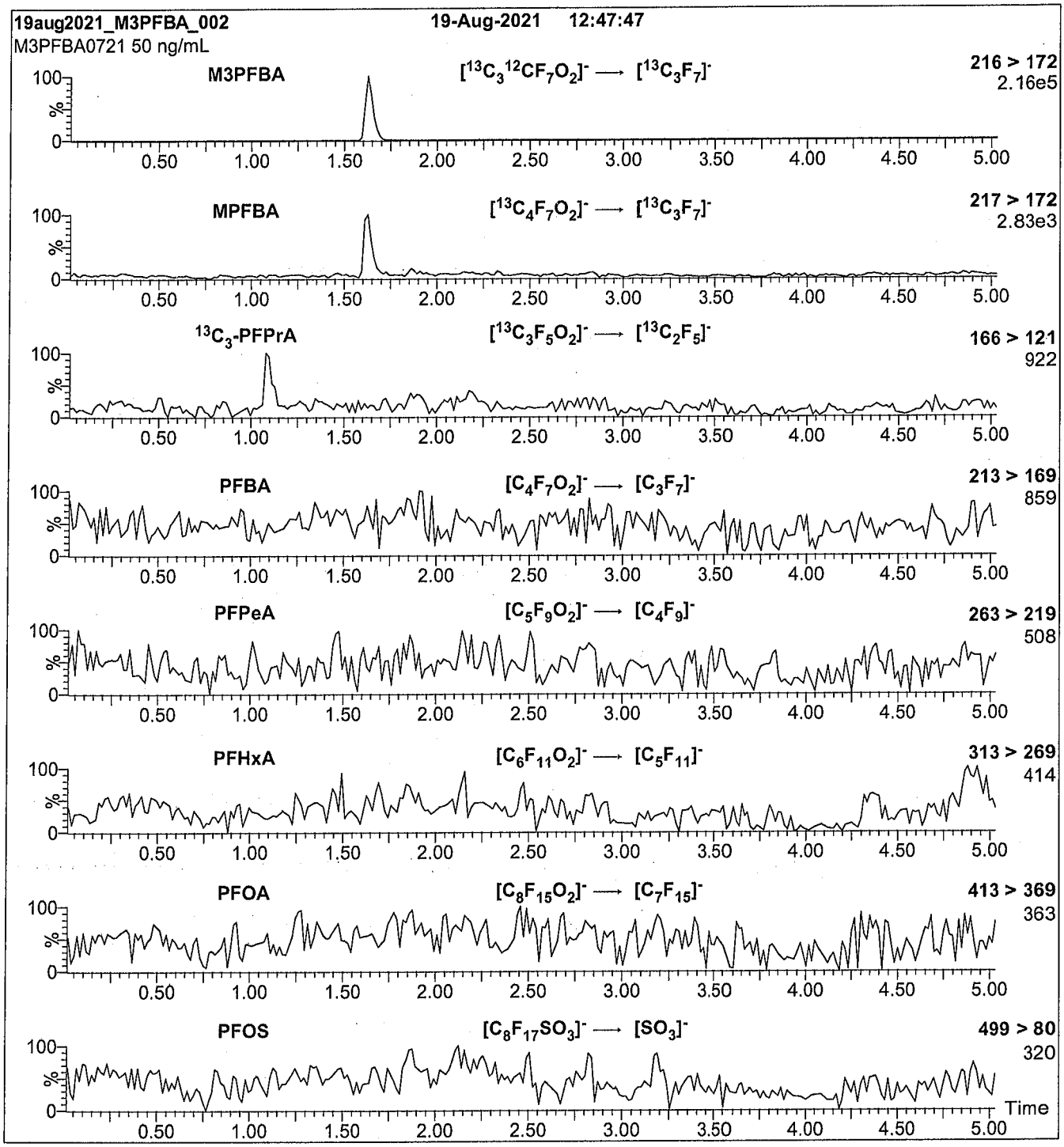
Flow: 300 µL/min

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

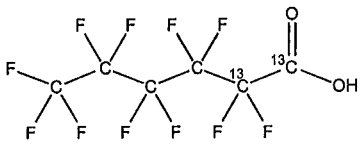
Description:	PFAS - IIS M3PFBA 50ug/mL	Expires:	08/19/2026
Standard Type:	Analyte Spike	Prepared:	08/19/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA0921
COMPOUND:	Perfluoro-n-(1,2-$^{13}C_2$)hexanoic acid		
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

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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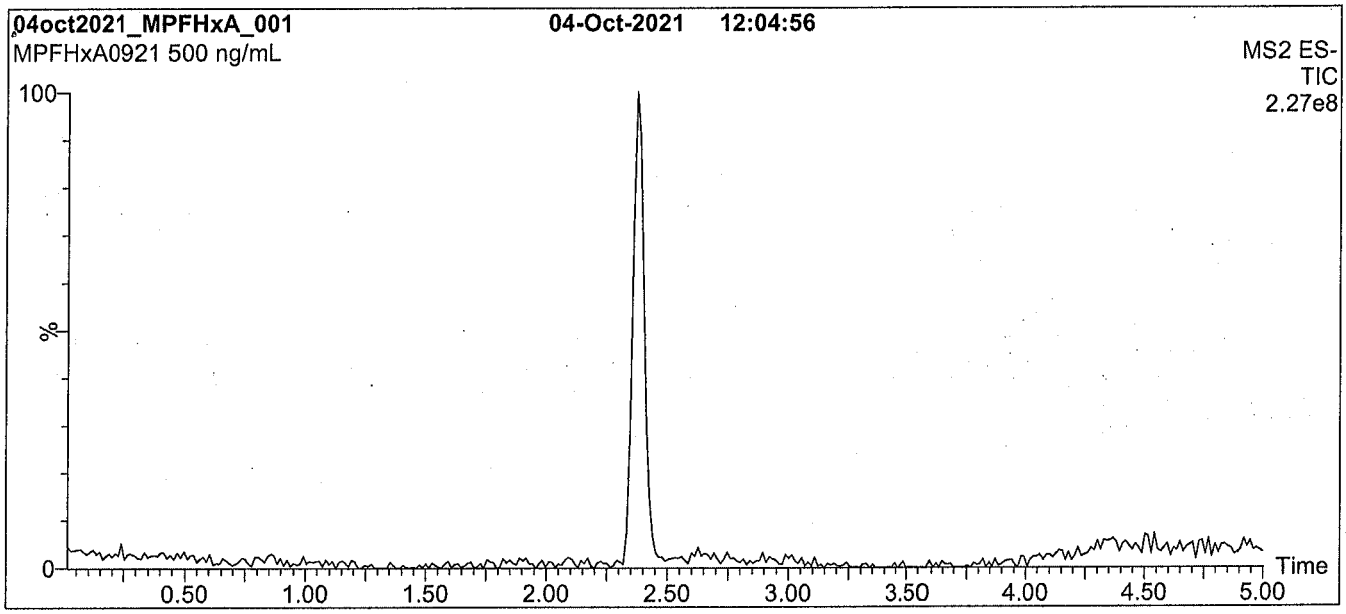
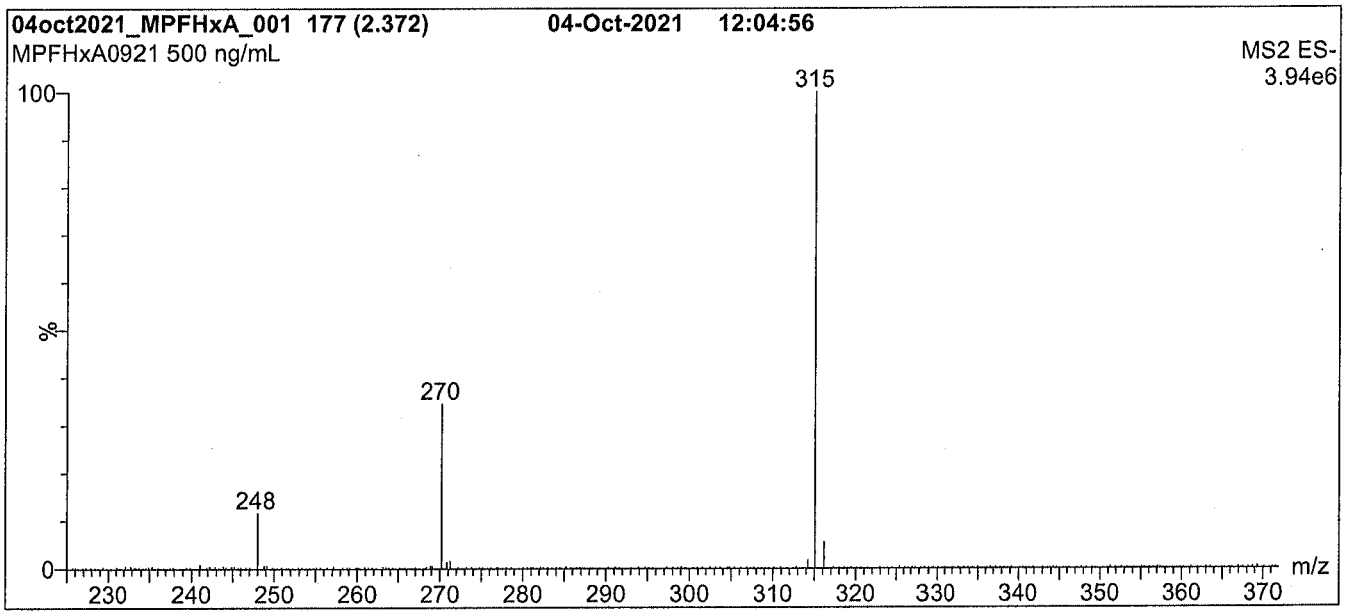
Figure 1: **MPFHxA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 12 min

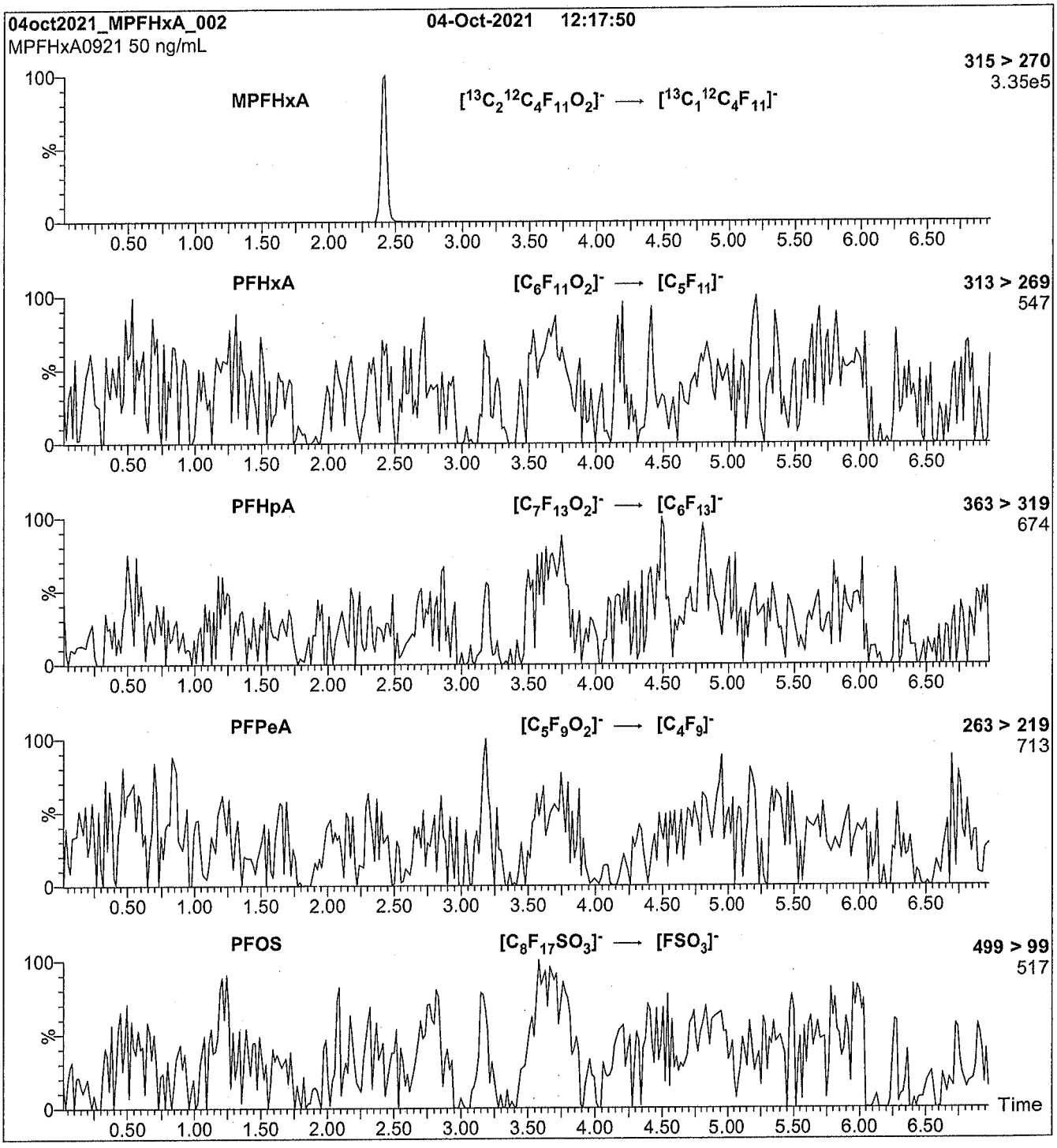
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 8

Analytical Standard Record

22A0117

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

Analytical Standard Record

22A0117

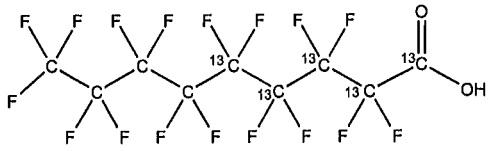
Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA1021
COMPOUND:	Perfluoro-n-(1,2,3,4,5-$^{13}C_5$)nonanoic acid		
STRUCTURE:		**CAS #:**	960315-49-5



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	10/29/2021		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2026		
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:** 11/01/2021 (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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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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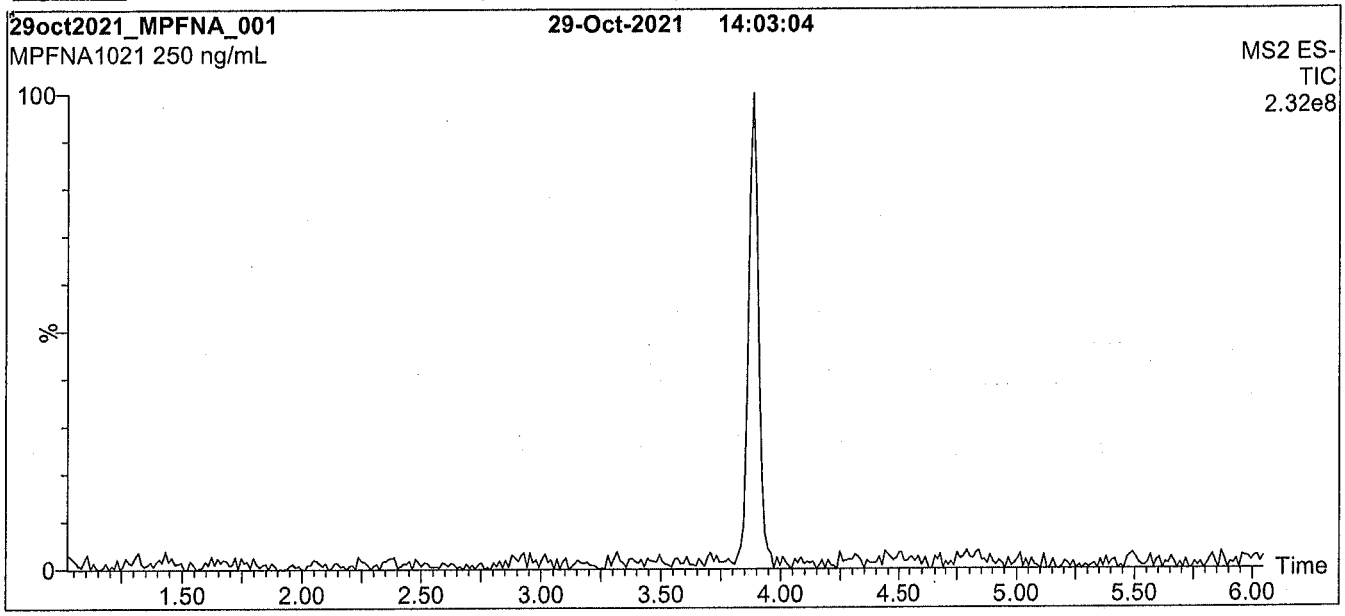
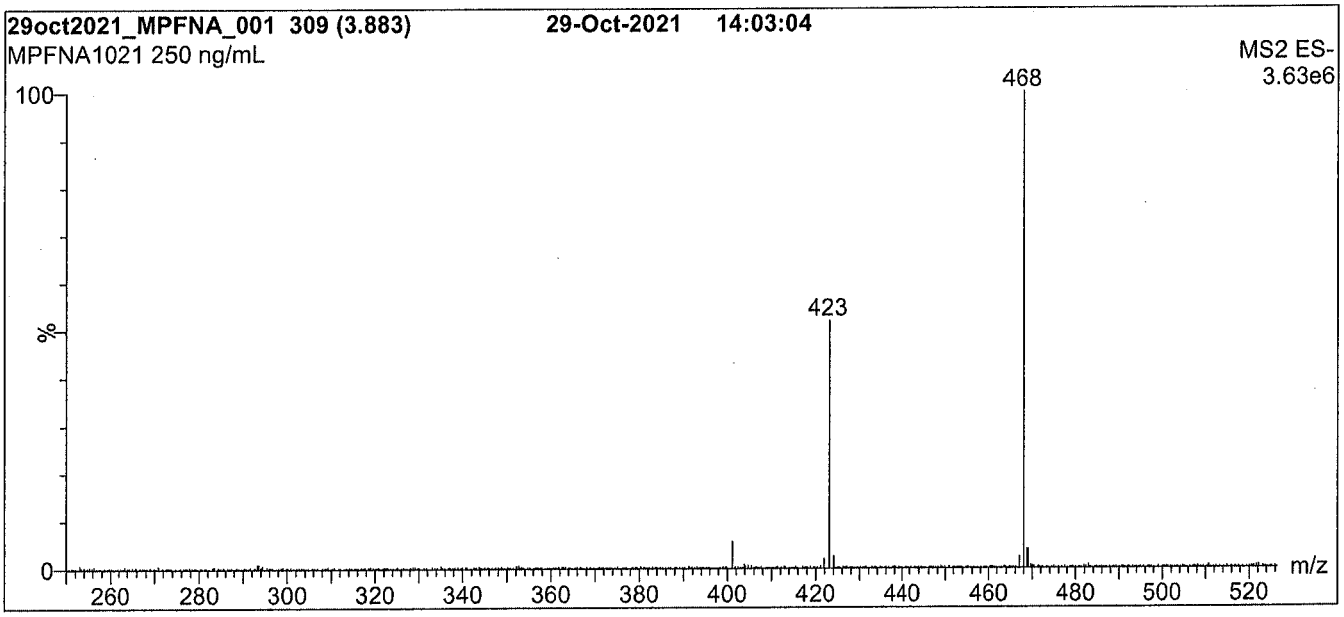
Figure 1: **MPFNA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield 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

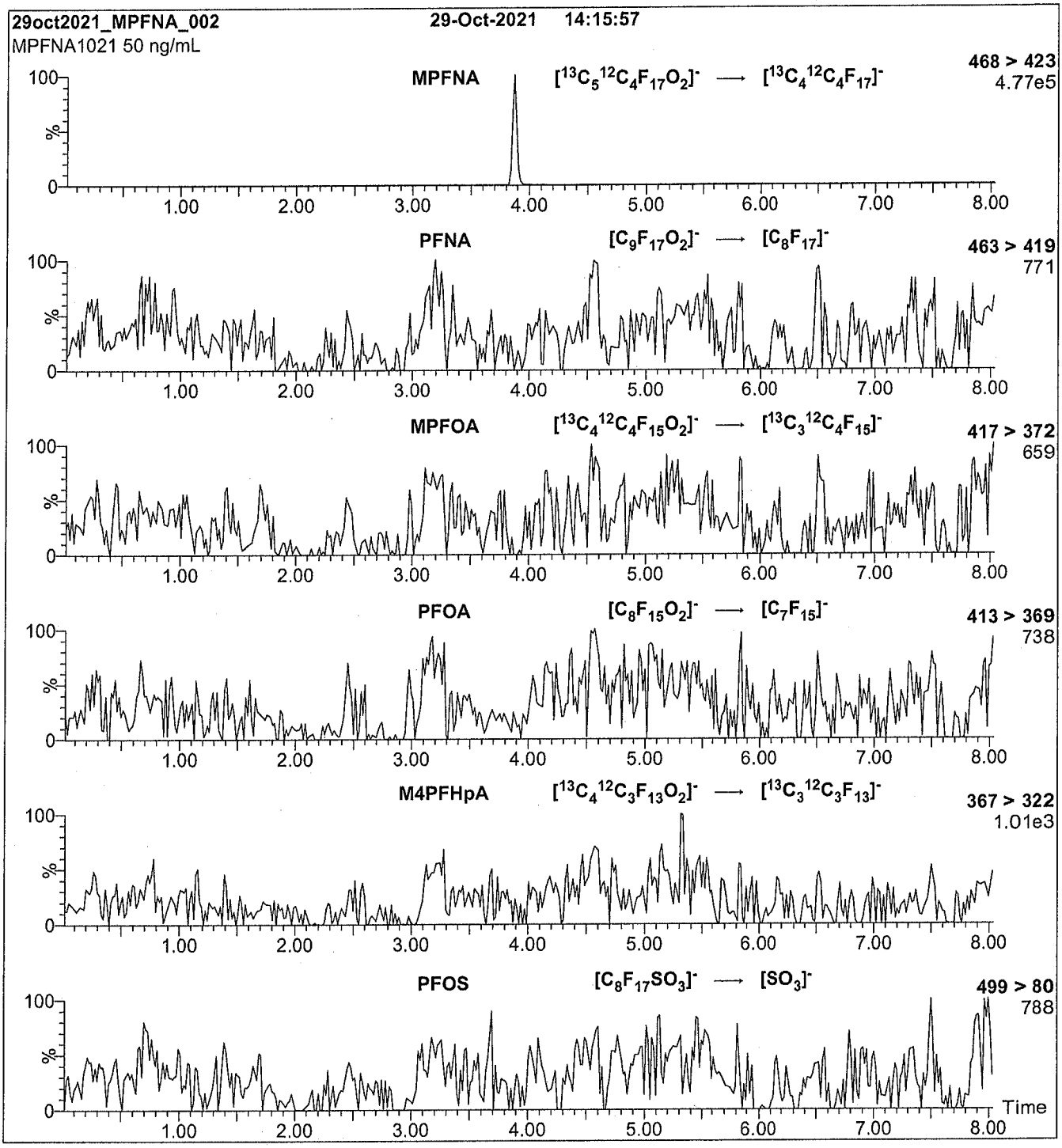
Flow: 300 µL/min

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

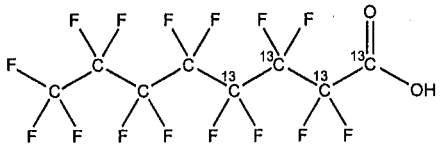
Description:	PFAS - IIS MPFNA 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFOA	**LOT NUMBER:**	MPFOA1121
COMPOUND:	Perfluoro-n-(1,2,3,4-$^{13}C_4$)octanoic acid		
STRUCTURE:		**CAS #:**	960315-48-4



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4HF_{15}O_2$	**MOLECULAR WEIGHT:**	418.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	12/07/2021		
EXPIRY DATE: (mm/dd/yyyy)	12/07/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

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CALA Testing Accreditation No. A1226

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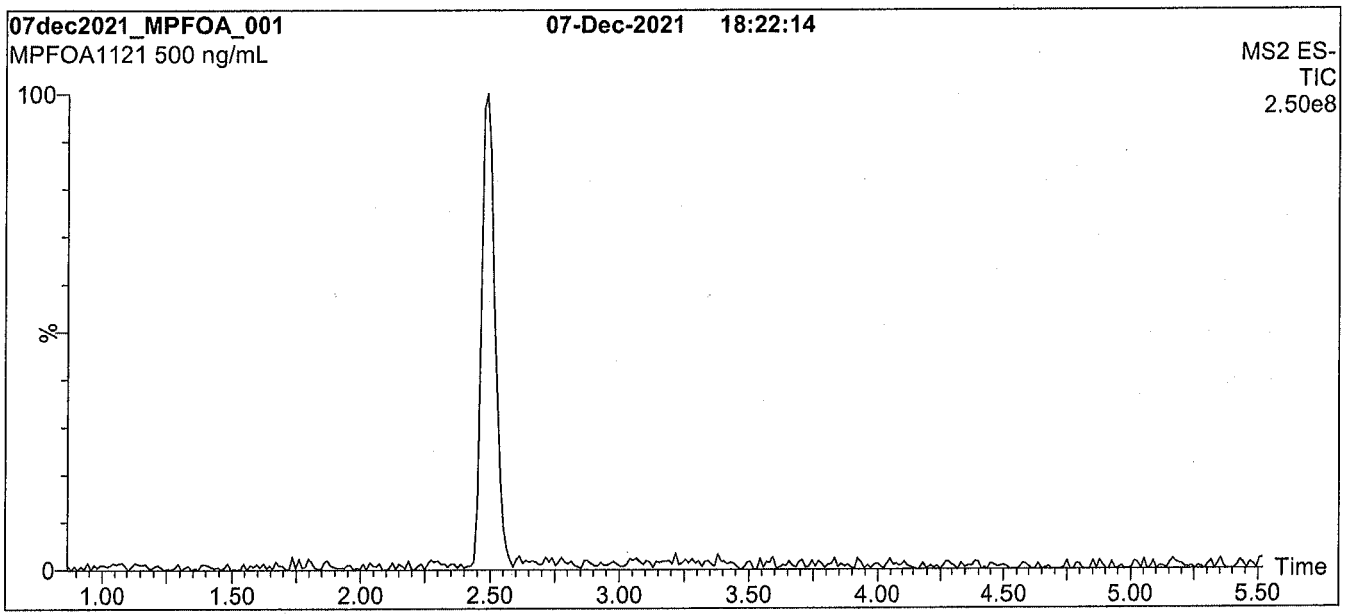
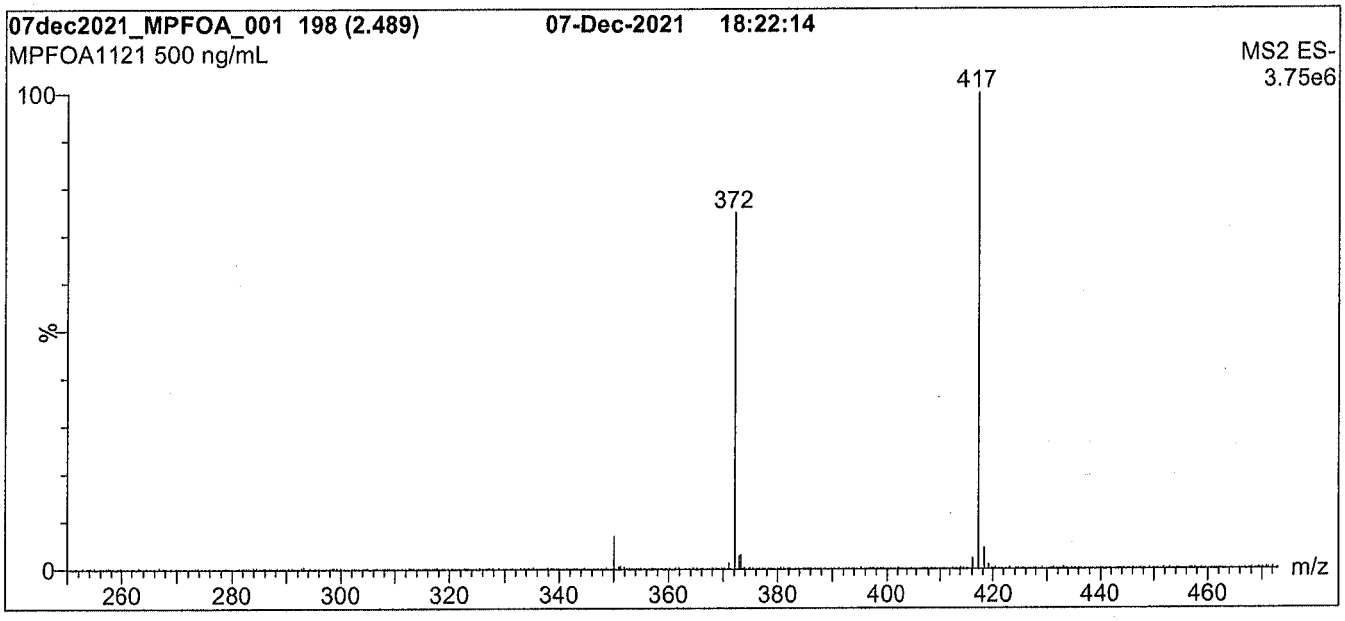




Conditions for Figure 1:

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

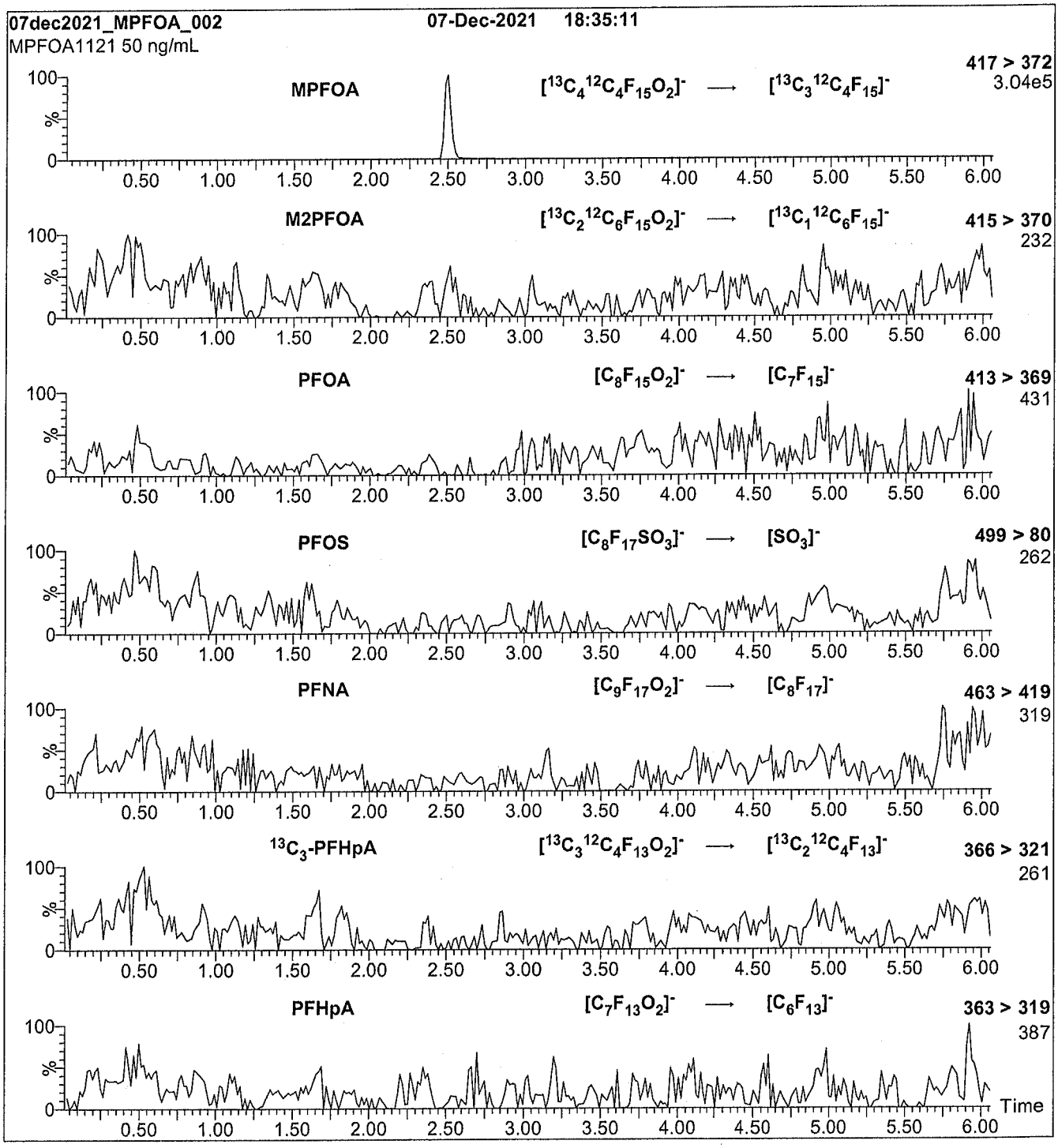
Flow: 300 µL/min

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: **MPFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFOA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 8

Analytical Standard Record

22A0119

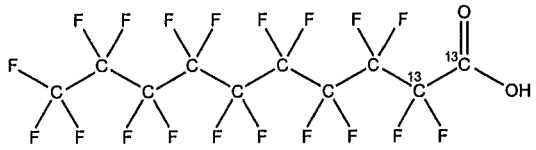
Description:	PFAS - IIS MPFOA 50ug/mL	Expires:	12/07/2026
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C4-PFOA		13C4-PFOA	50	ug/mL

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFDA	**LOT NUMBER:**	MPFDA1221
COMPOUND:	Perfluoro-n-(1,2-$^{13}C_2$)decanoic acid		
STRUCTURE:		**CAS #:**	960315-50-8



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	12/08/2021		
EXPIRY DATE: (mm/dd/yyyy)	12/08/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
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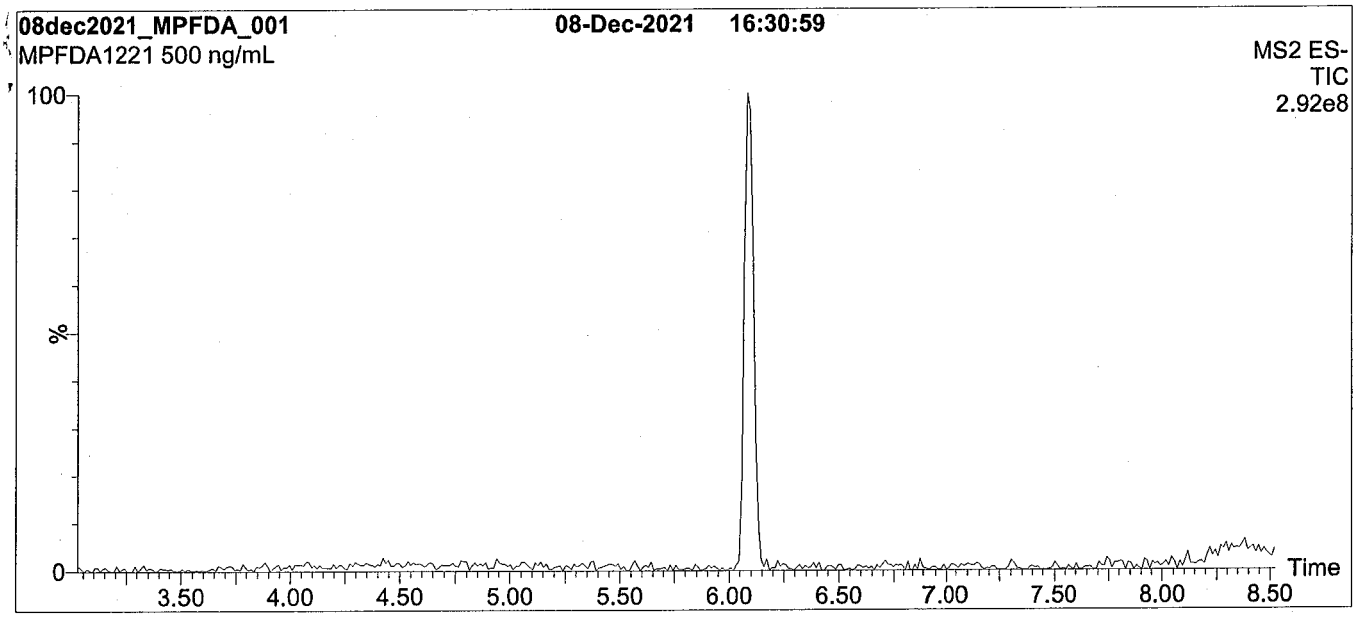
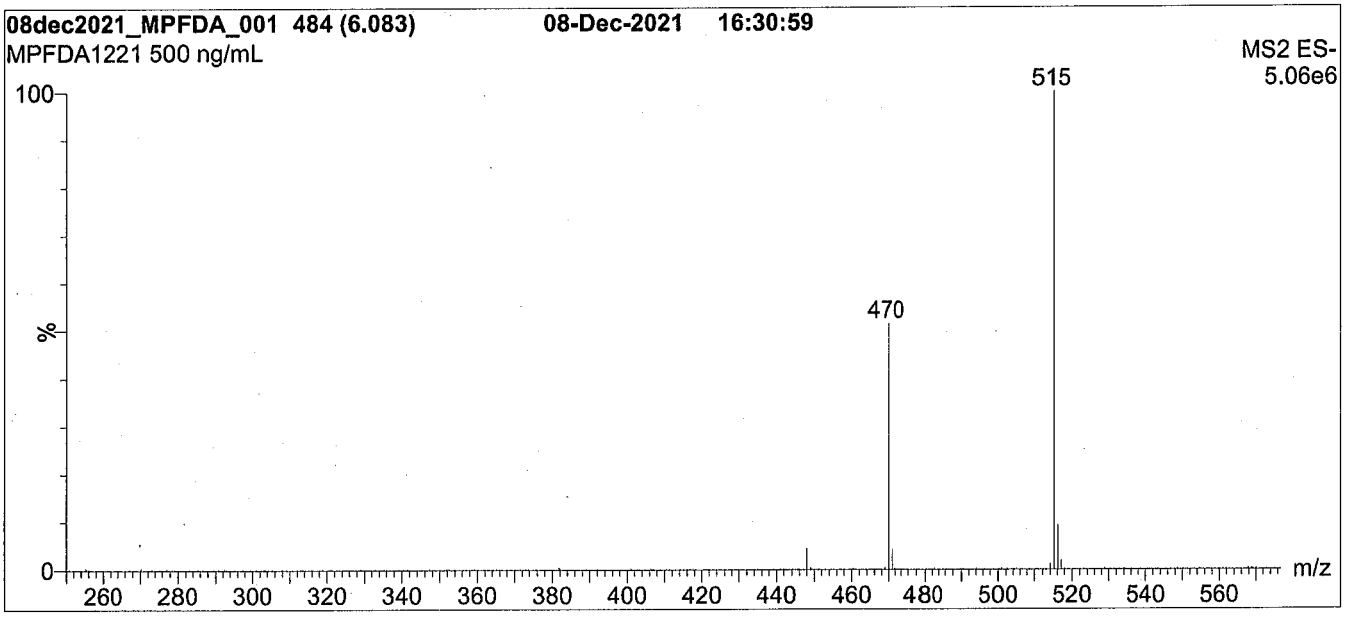




Conditions for Figure 1:

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

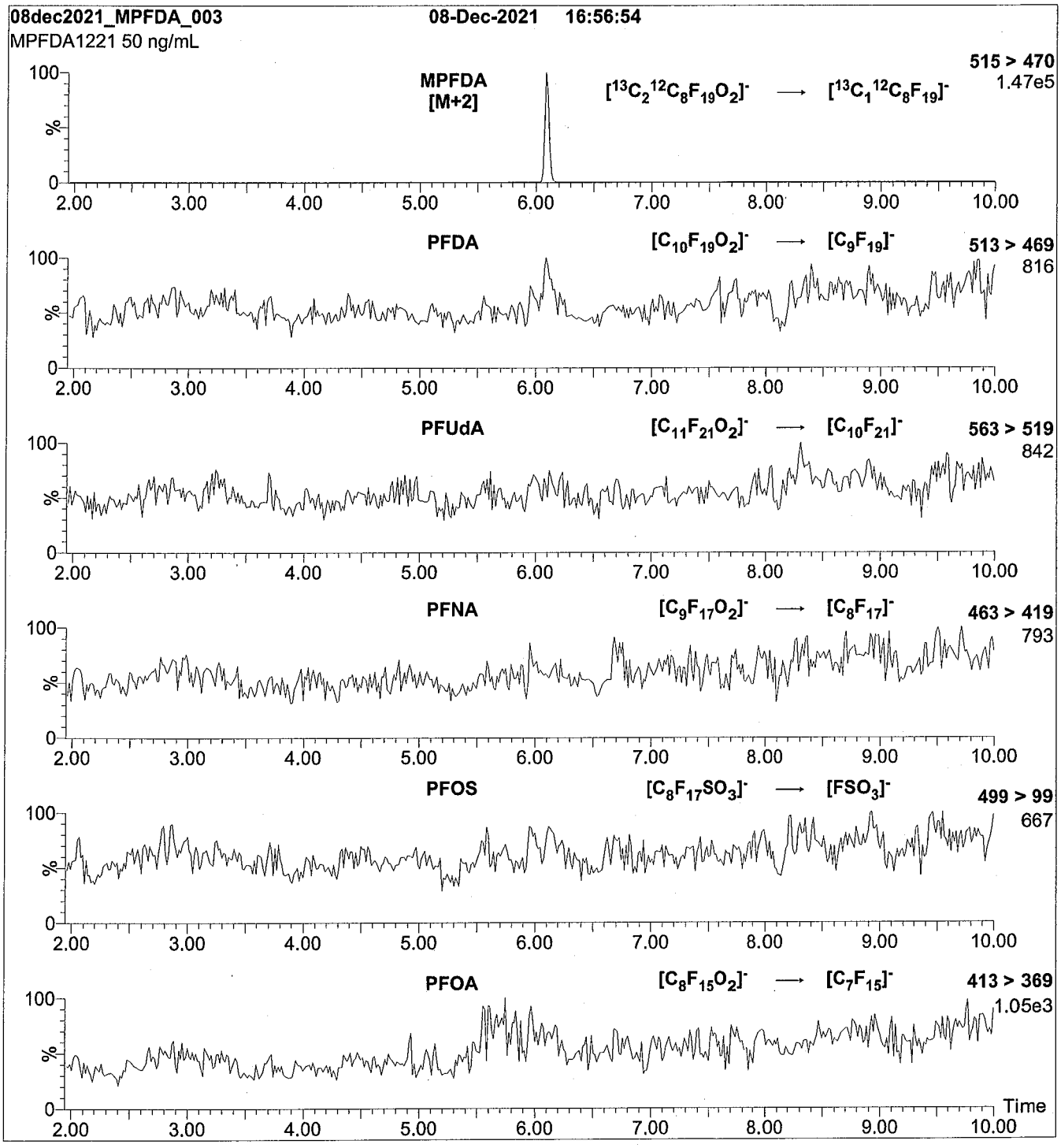
Flow: 300 µL/min

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

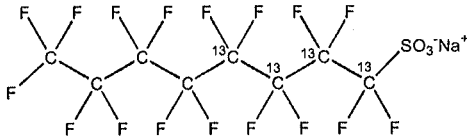
WELLINGTON LABORATORIES

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.

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Certified By: _____ **Date:** 08/19/2021 (mm/dd/yyyy)
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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.

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:

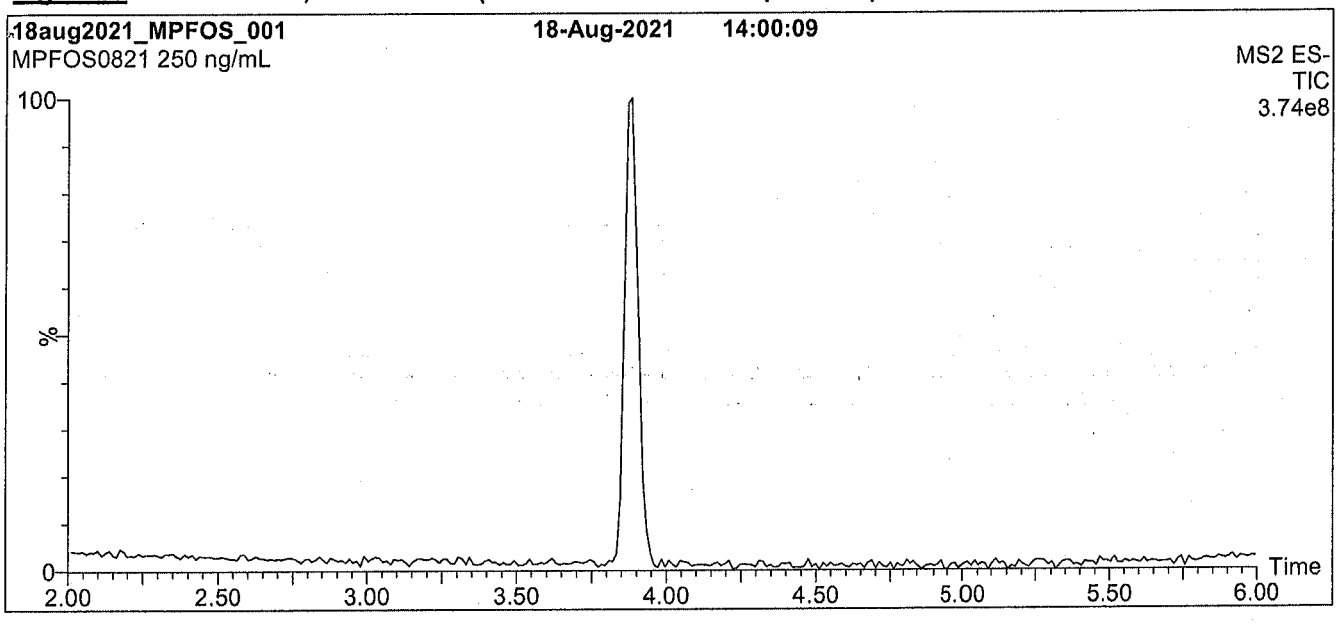
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

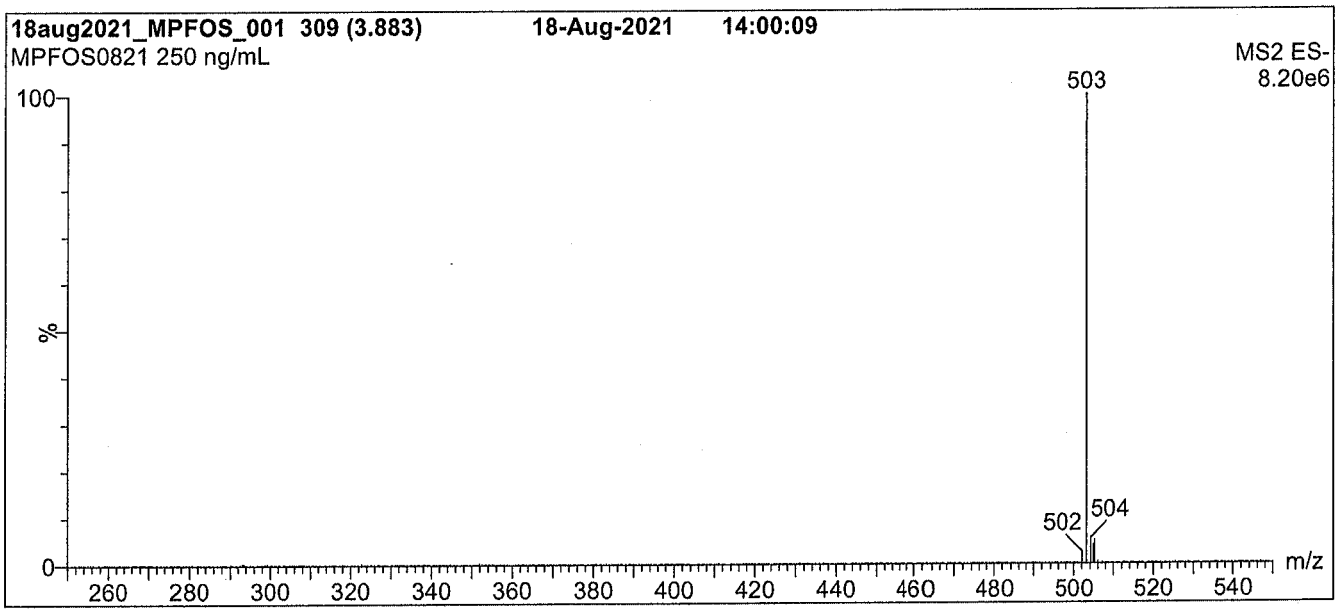
CALA Testing Accreditation No. A1226

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: **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

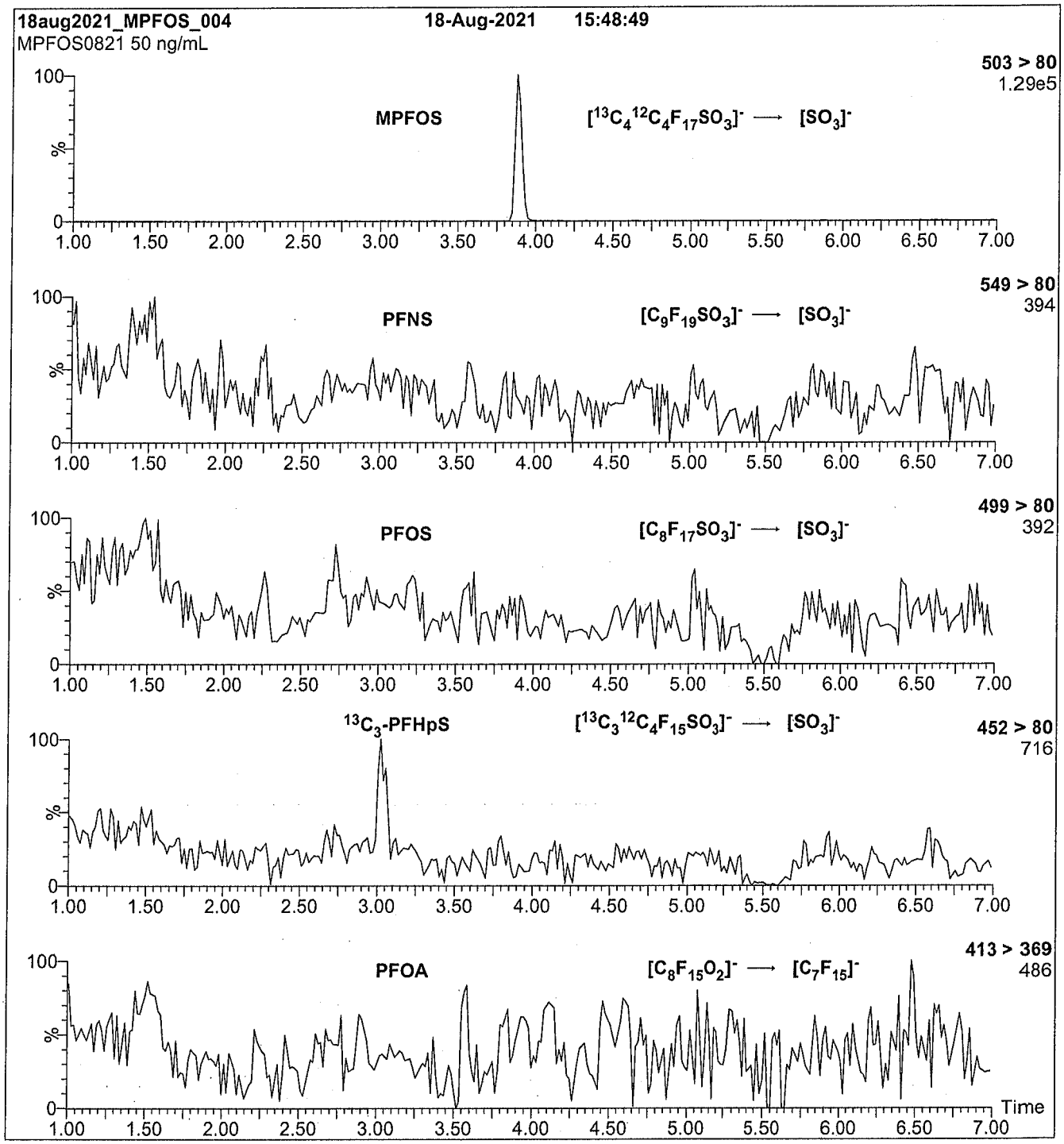
Flow: 300 µL/min

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

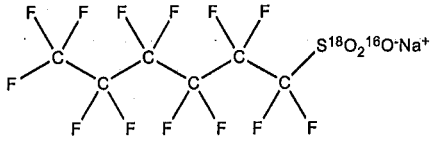
22A0121

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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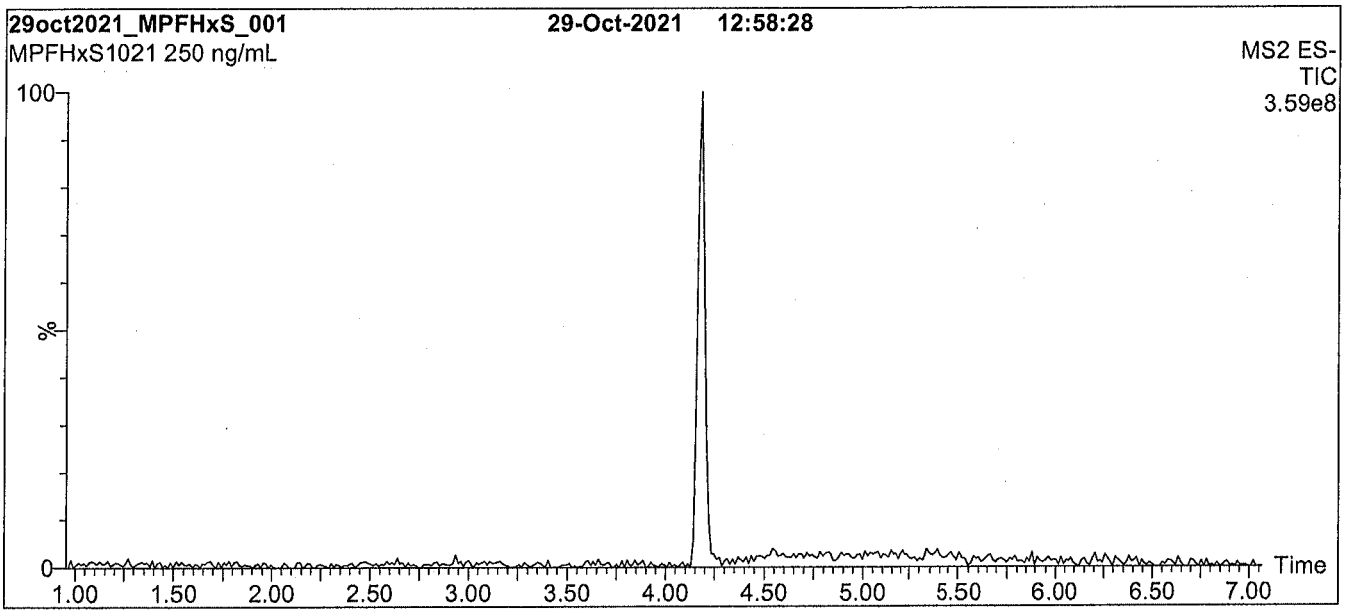

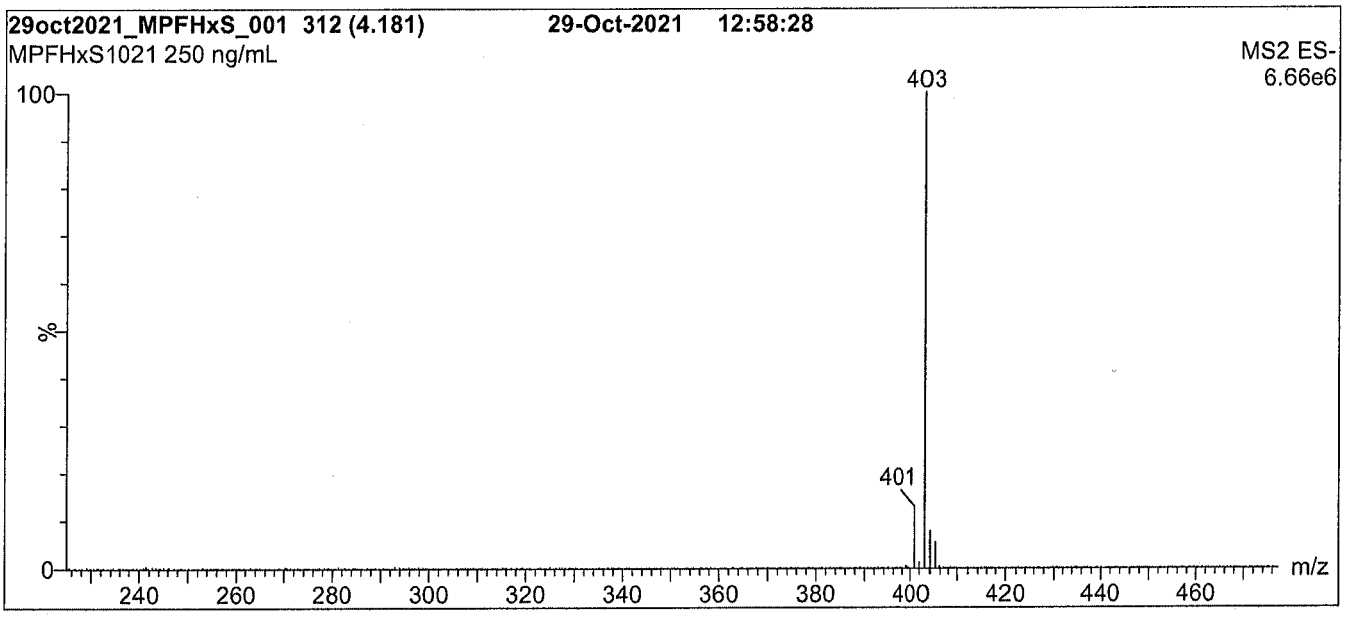

Conditions for Figure 1:

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Waters Xevo TQ-S micro MS

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Column: Acquity UPLC BEH Shield RP_{18}
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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
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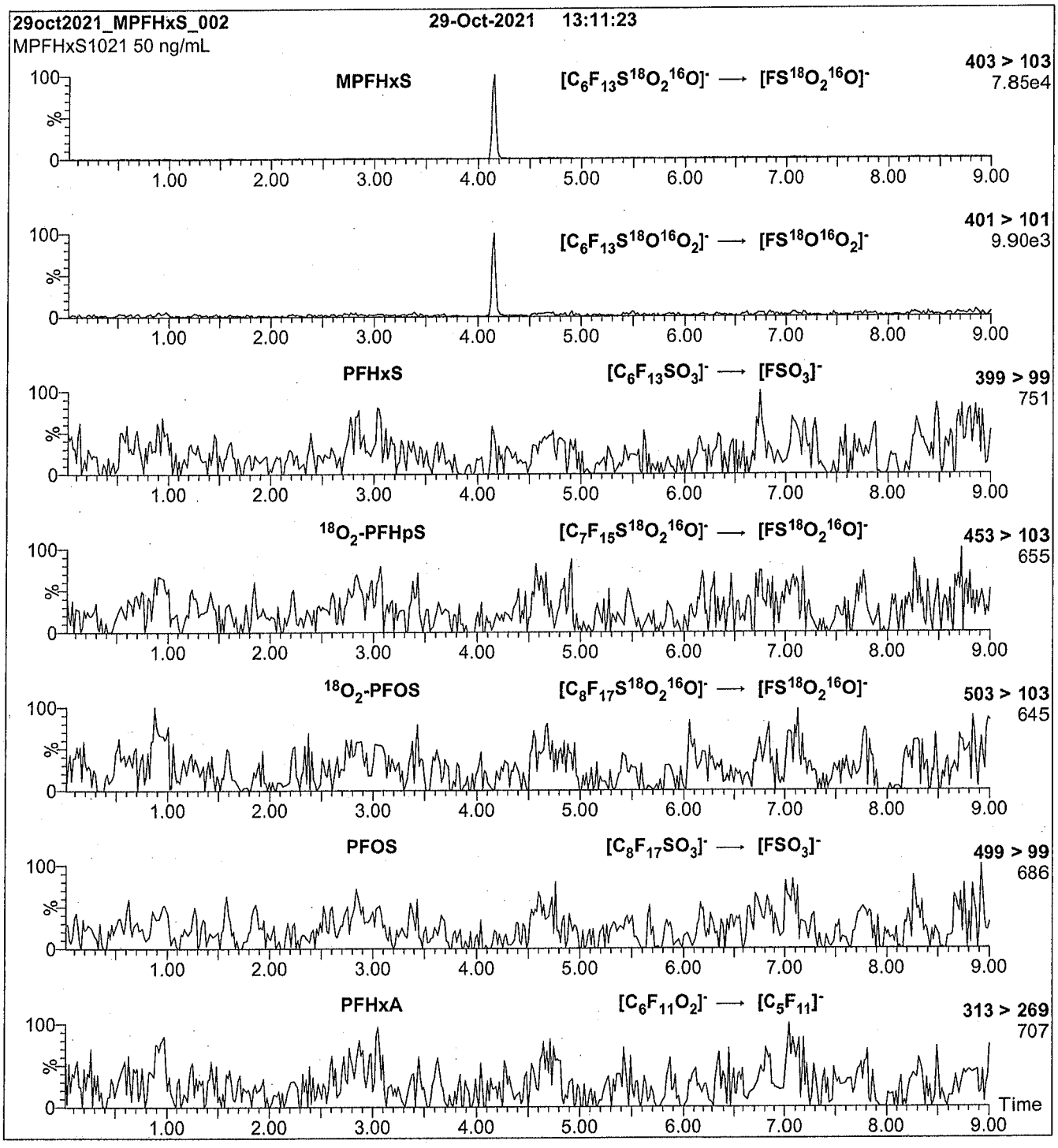
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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
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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

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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

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22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48	by HGH	1.2
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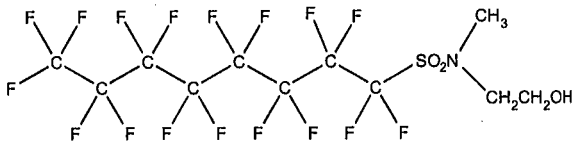
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48	by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48	by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	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.

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Certified By: _____ **Date:** 09/28/2021 (mm/dd/yyyy)
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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,...x_n on which it depends is:

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

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

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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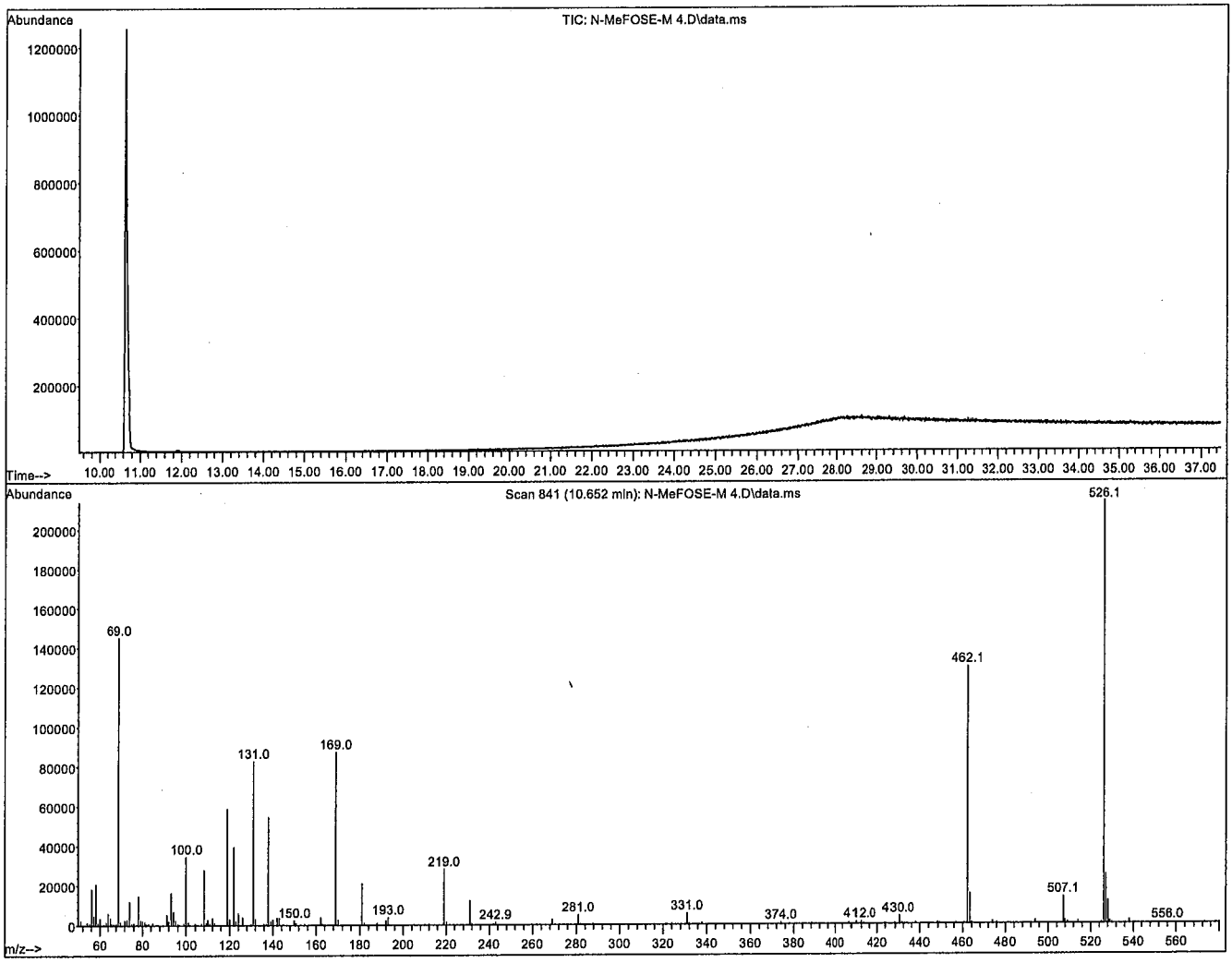
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED 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)**



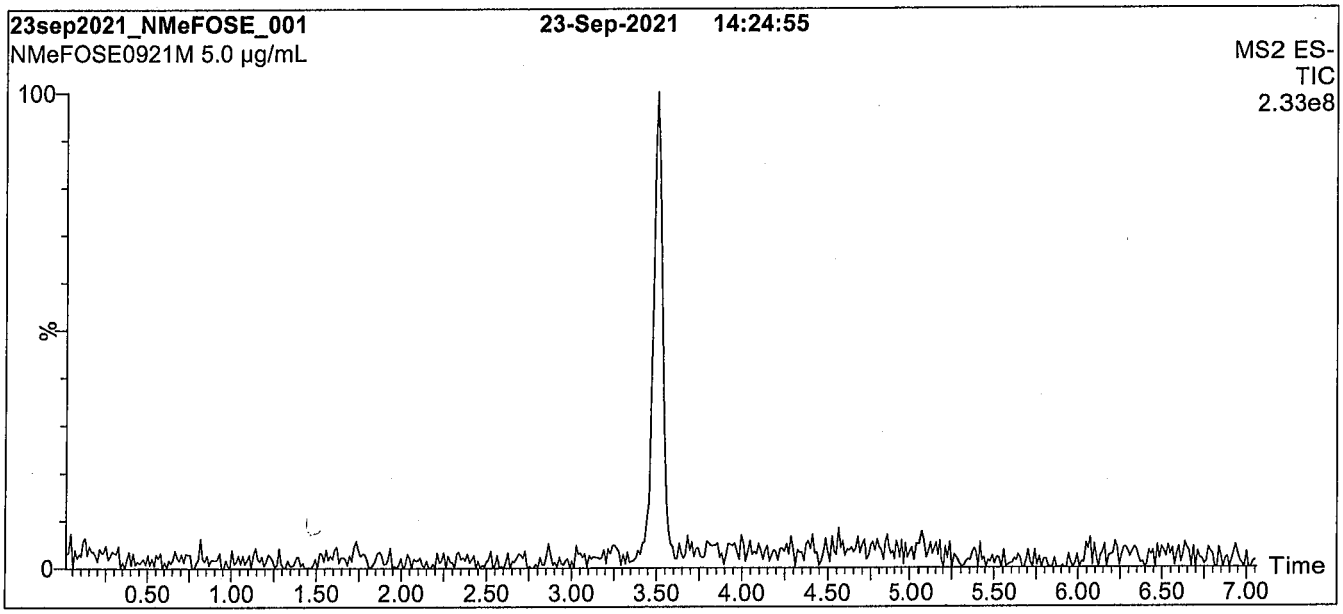
Conditions for Figure 1:

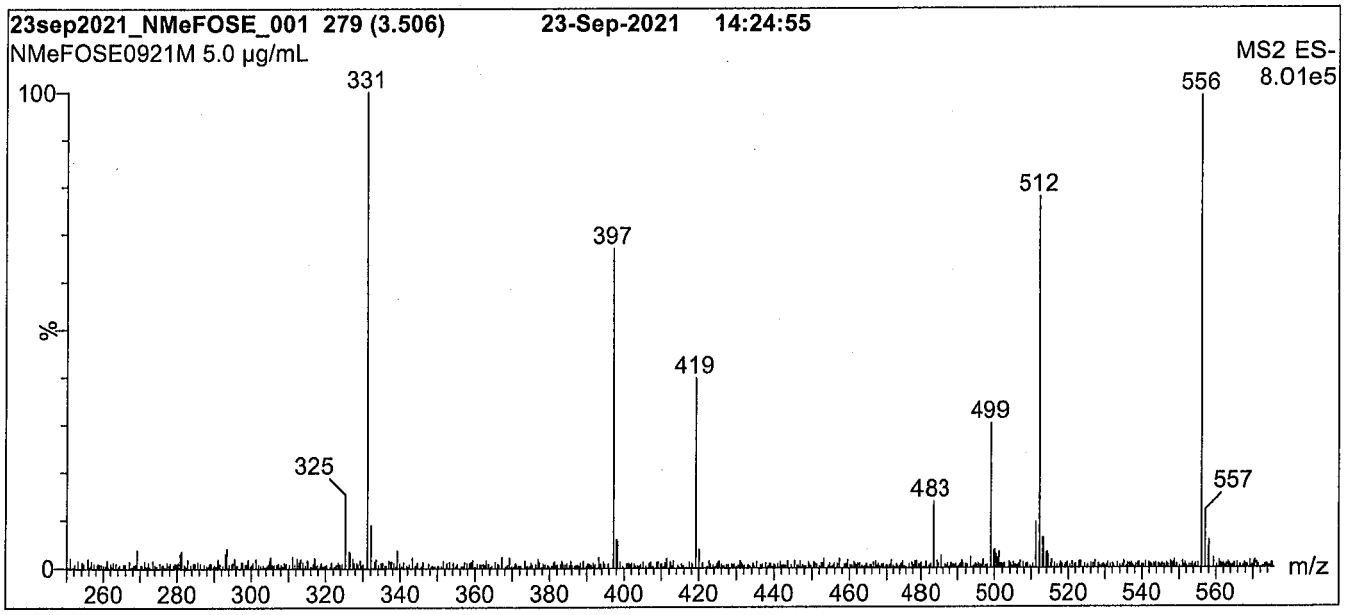
Agilent 7890A HRGC
Agilent 5975C MSD

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

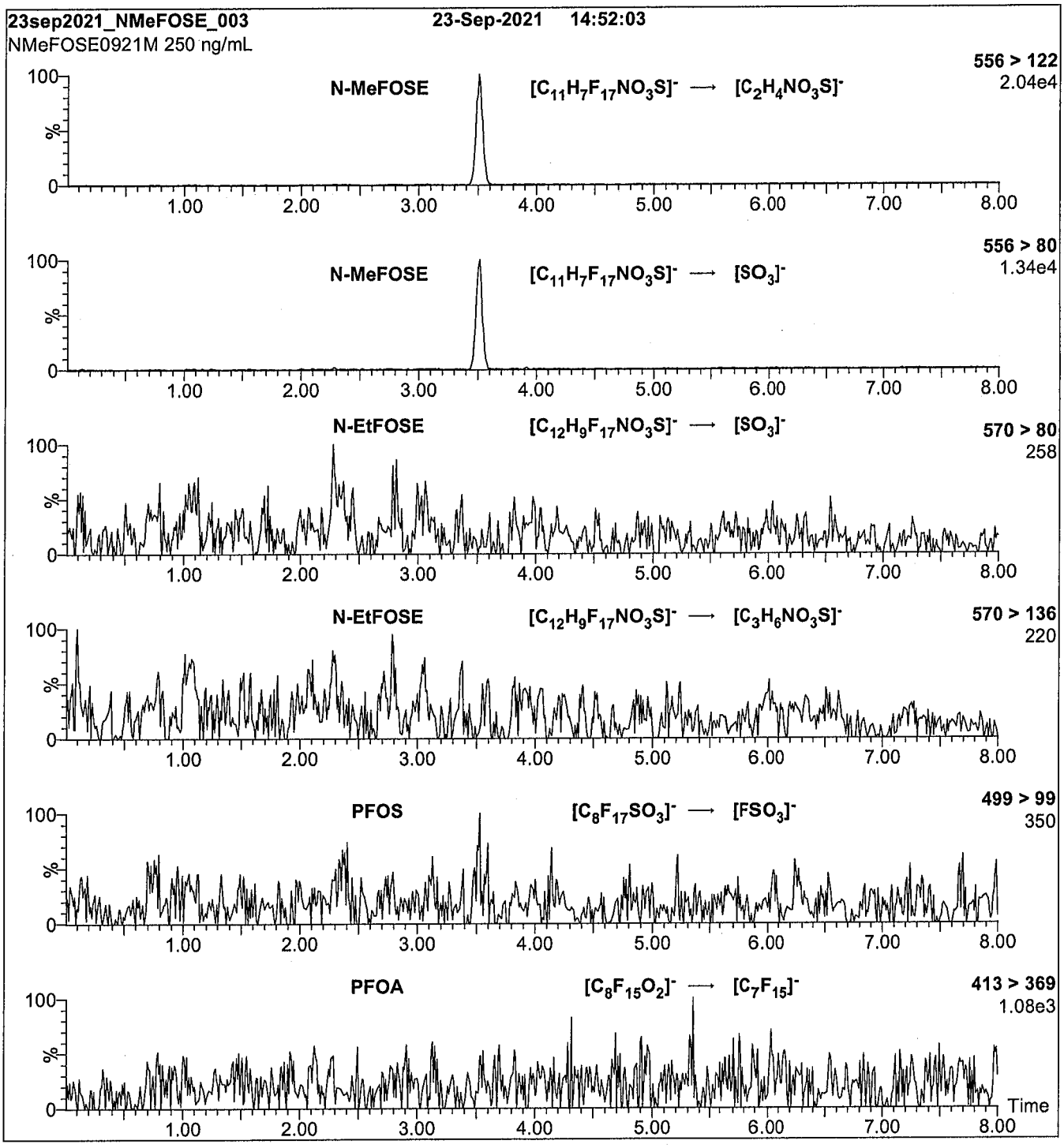
Flow: 300 µL/min

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

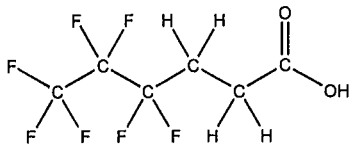
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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

INTENDED USE:

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HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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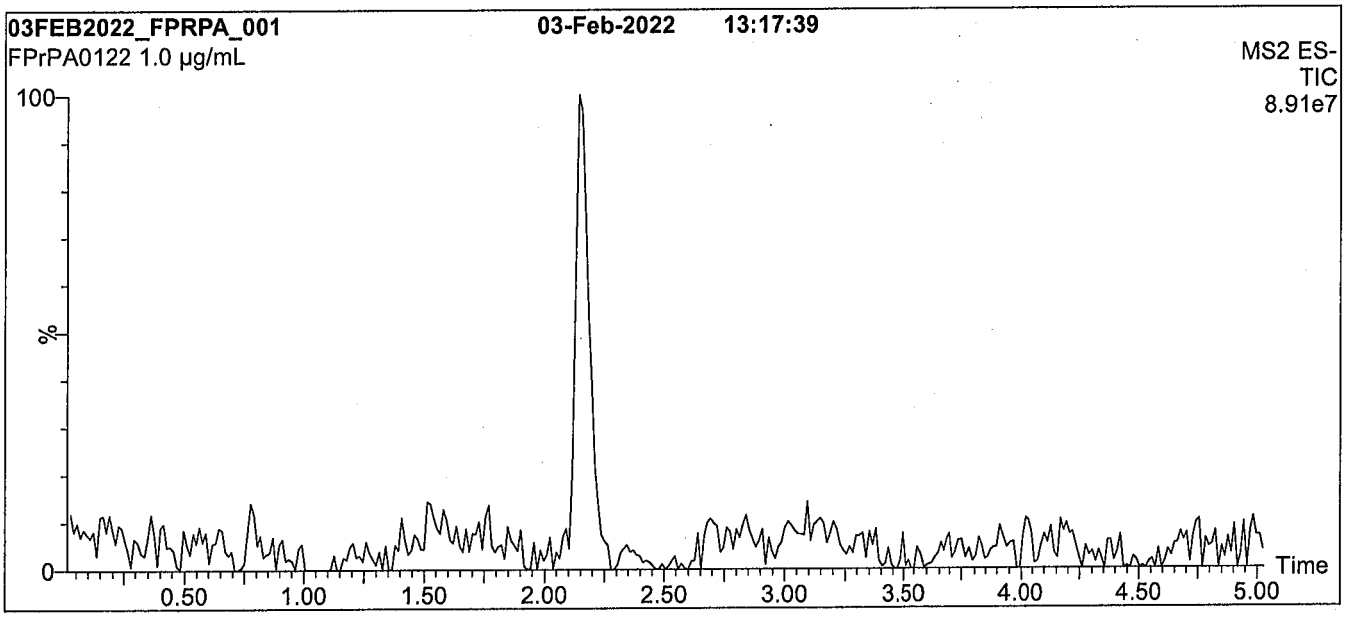
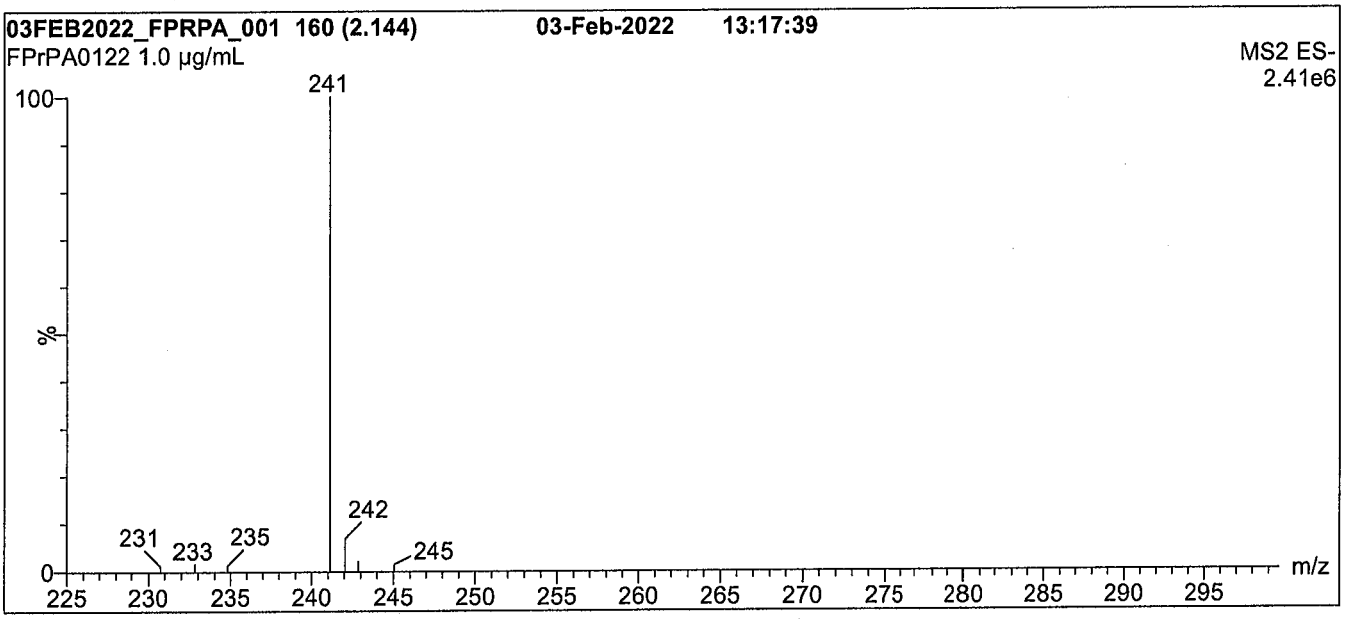
Figure 1: **FPrPA; LC/MS Data (Full Scan and Mass Spectrum)**





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

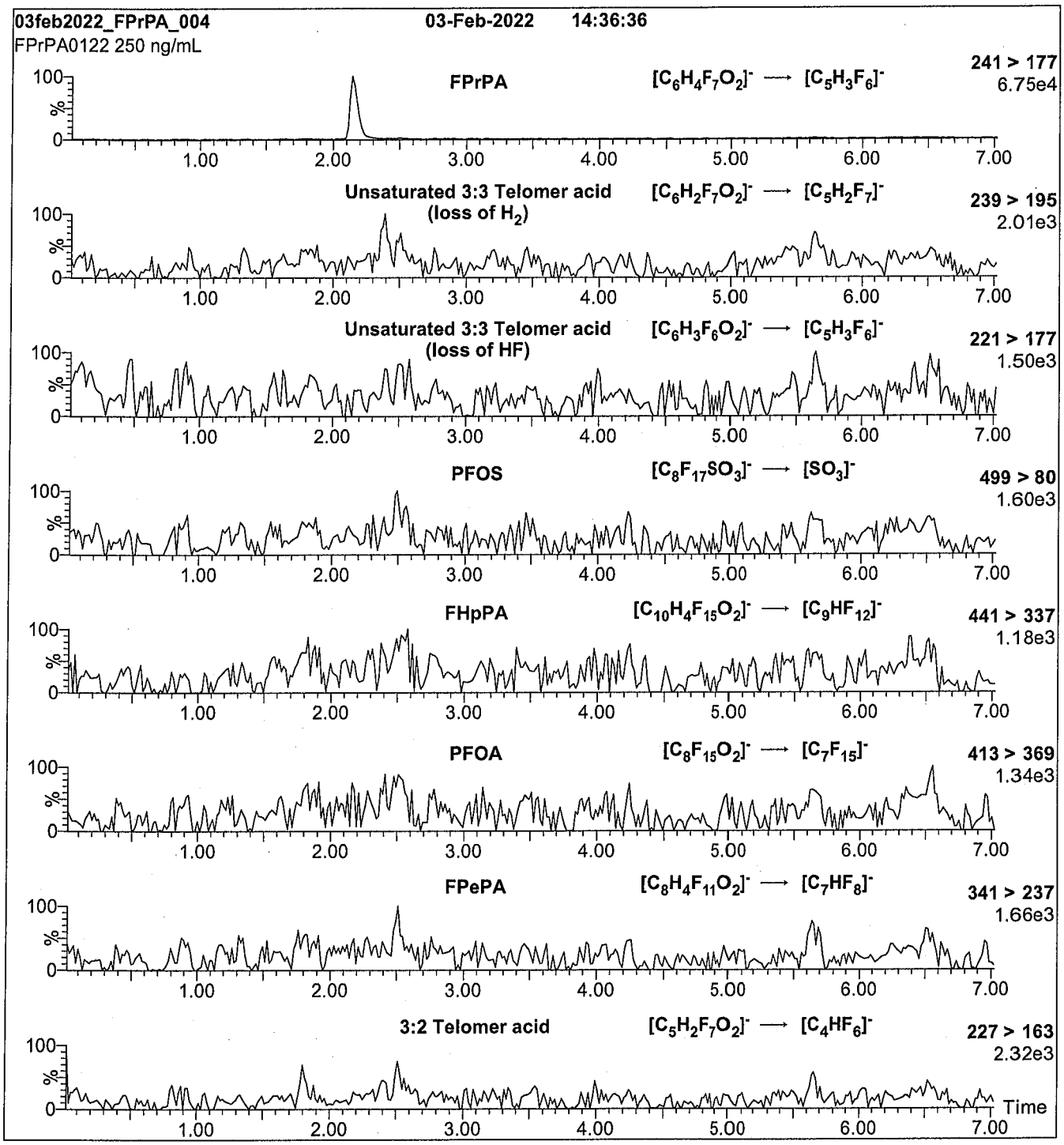
Flow: 300 µL/min

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

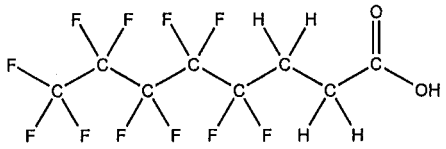
Reviewed By

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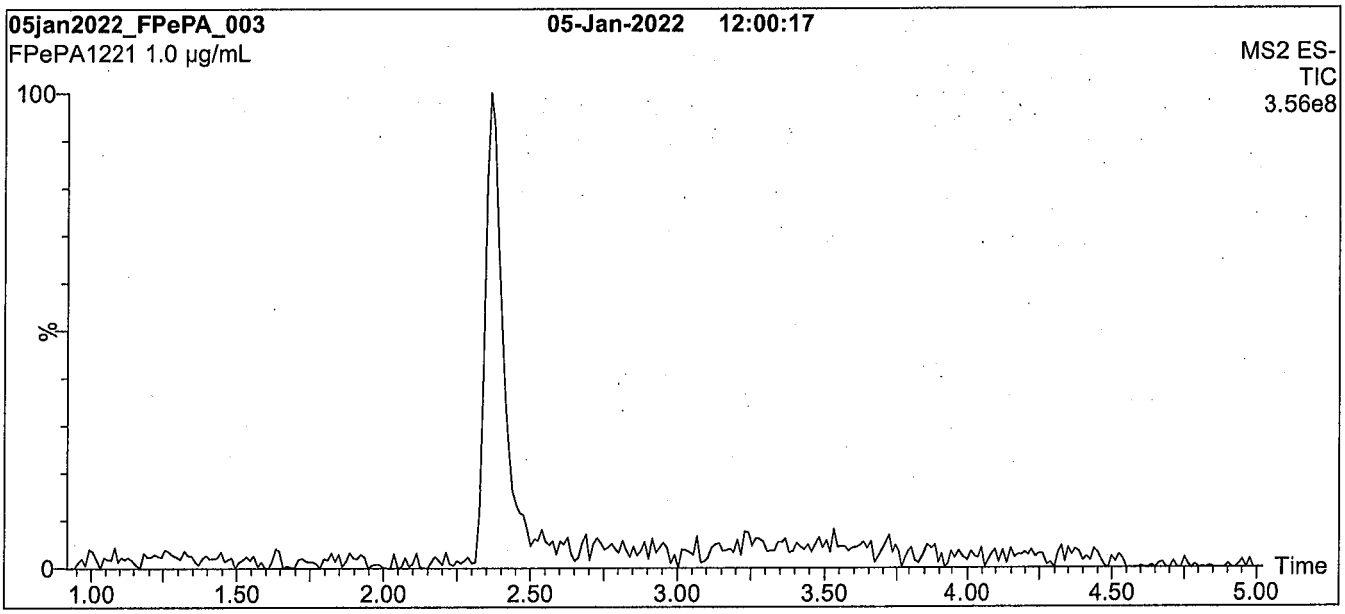
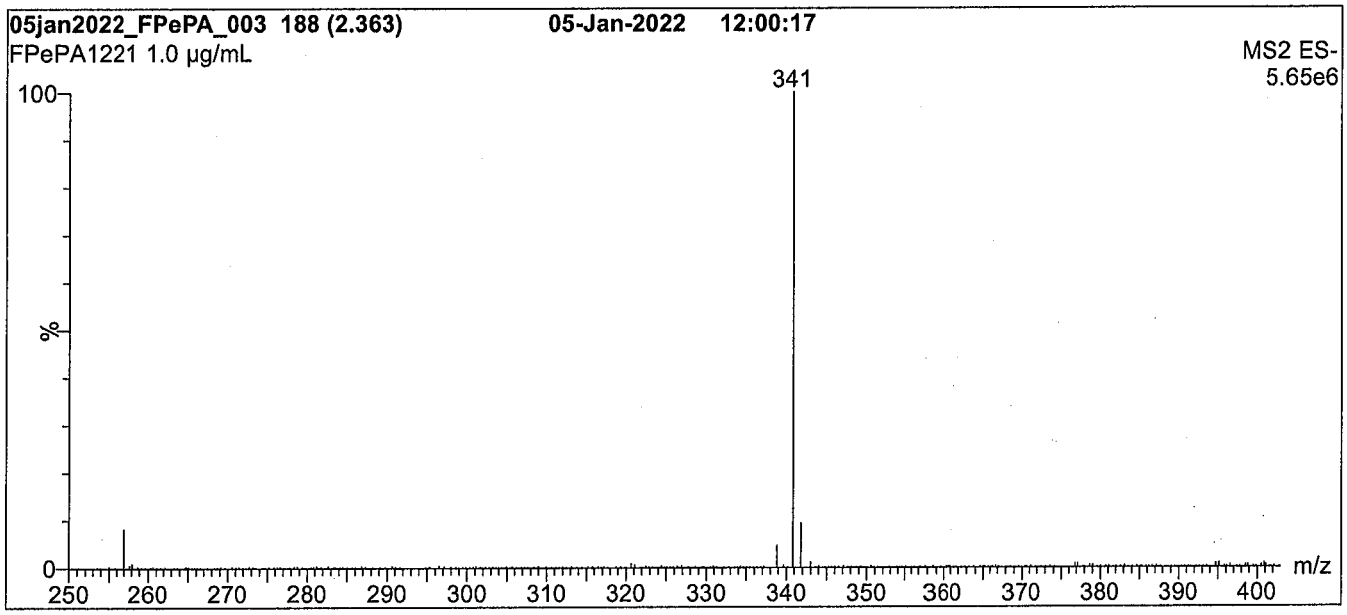
Figure 1: **FPePA; LC/MS Data (Full Scan and Mass Spectrum)**





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

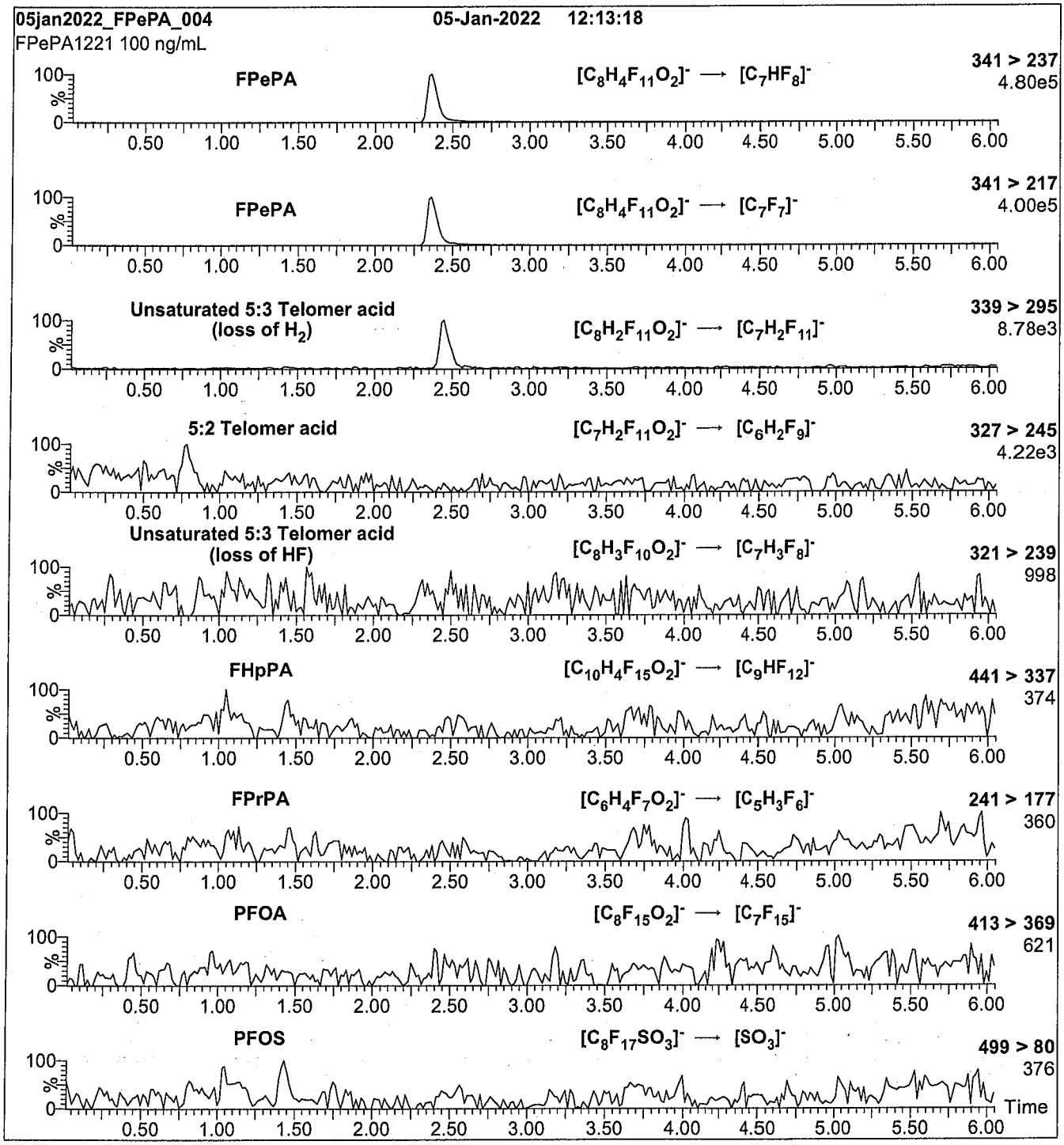
Flow: 300 µL/min

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

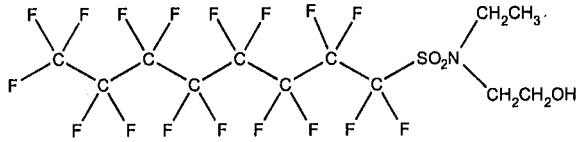
Date

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

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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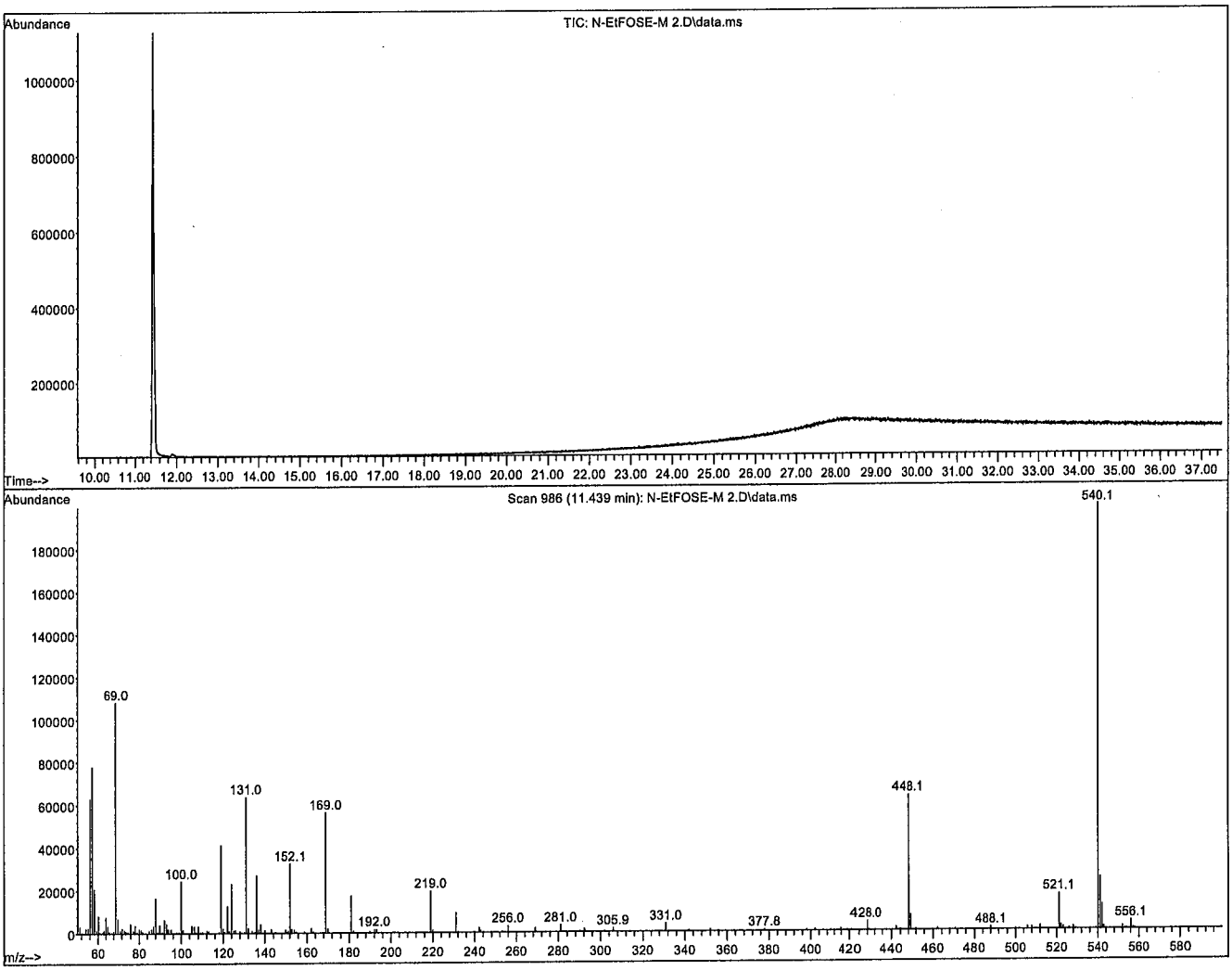
Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



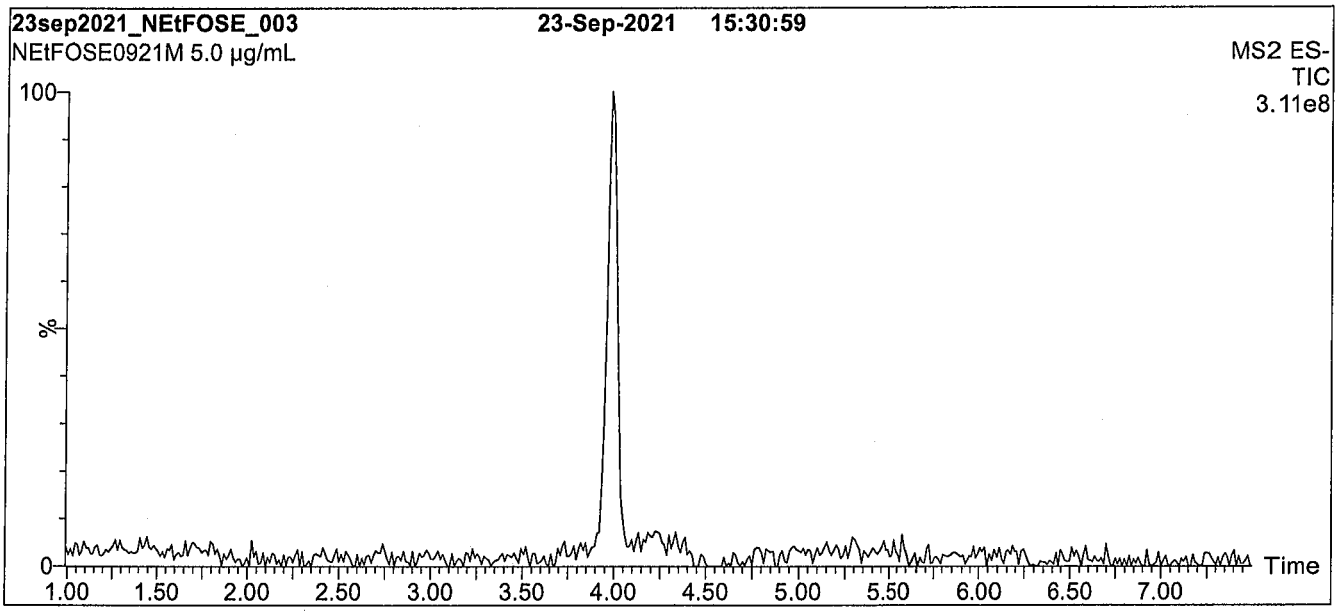
Conditions for Figure 1:

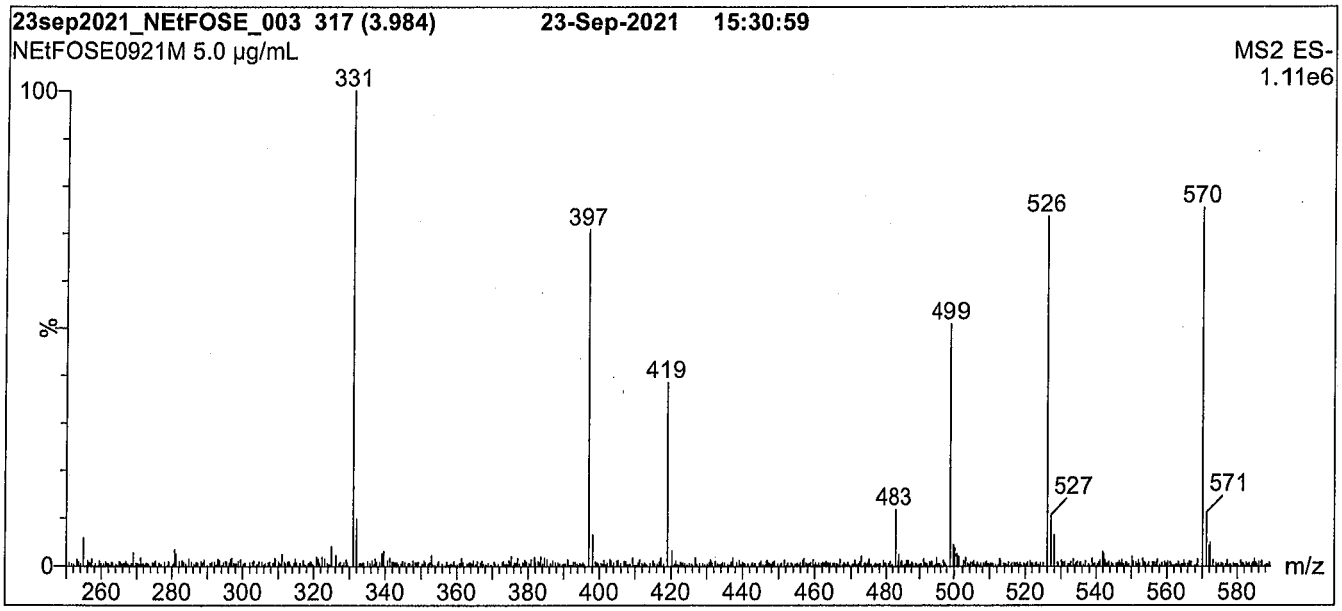
Agilent 7890A HRGC
Agilent 5975C MSD

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

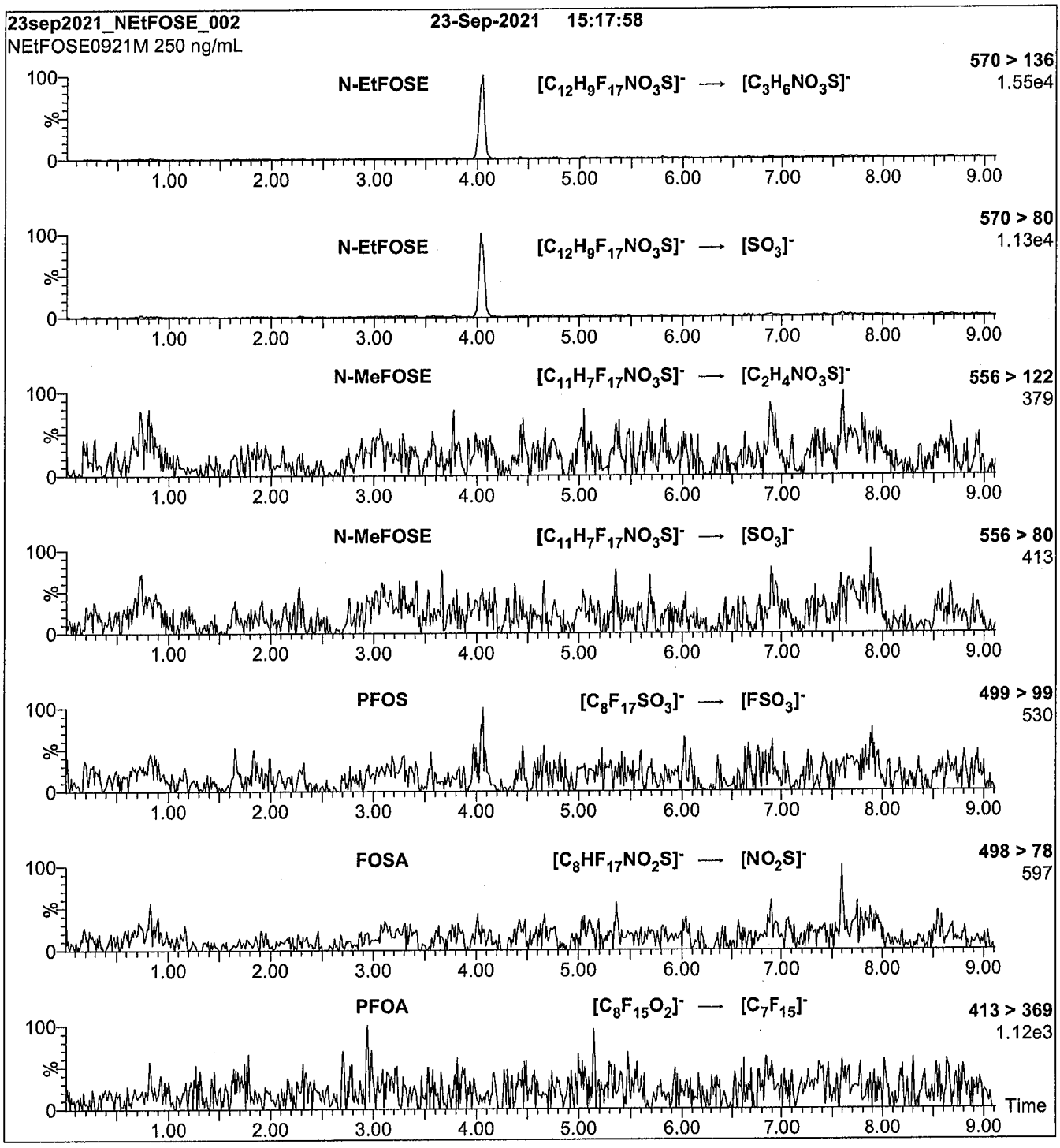
Flow: 300 µL/min

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

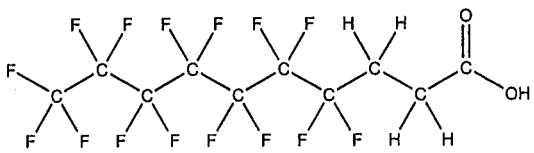
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

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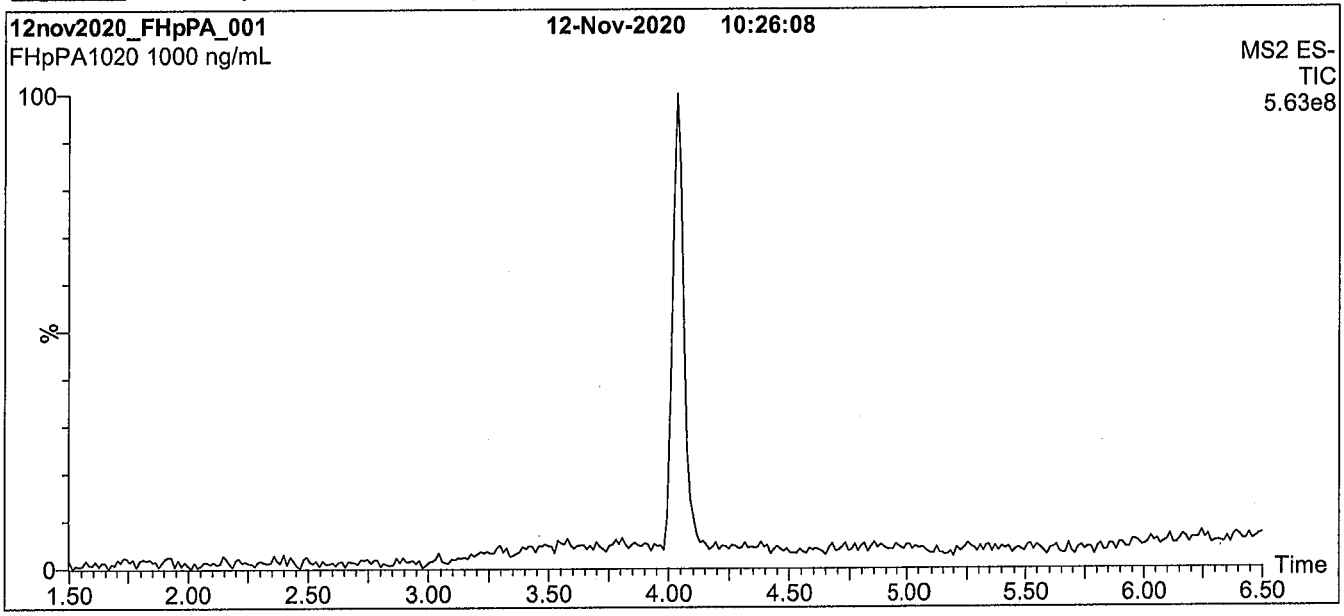
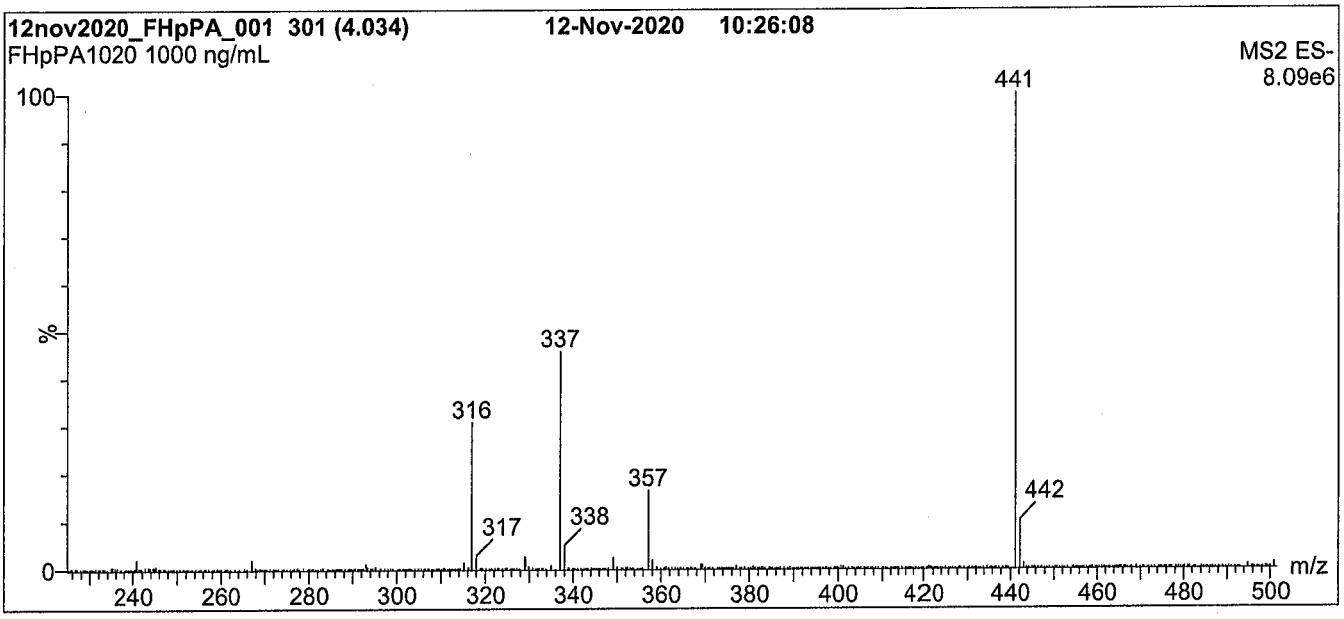
Figure 1: **FHpPA; LC/MS Data (TIC and Mass Spectrum)**





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

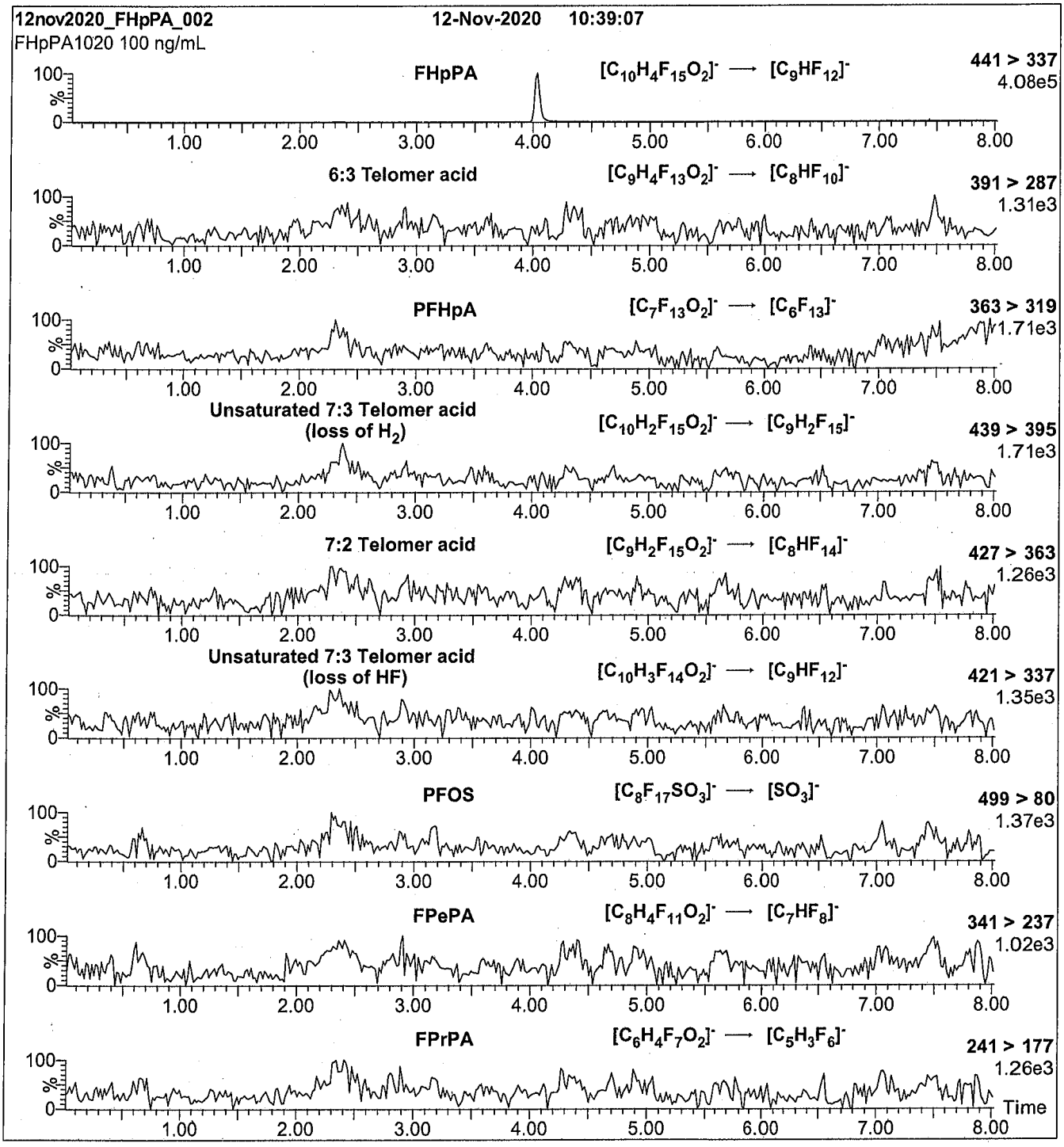
Flow: 300 µL/min

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

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

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

Reviewed By

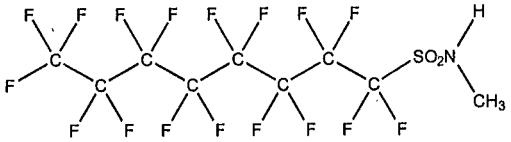
Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSA-M
COMPOUND: N-methylperfluoro-1-octanesulfonamide
LOT NUMBER: NMeFOSA0721M
22C0312

STRUCTURE:
CAS #: 31506-32-8



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/03/2021		
EXPIRY DATE: (mm/dd/yyyy)	08/03/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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CALA Testing Accreditation No. A1226

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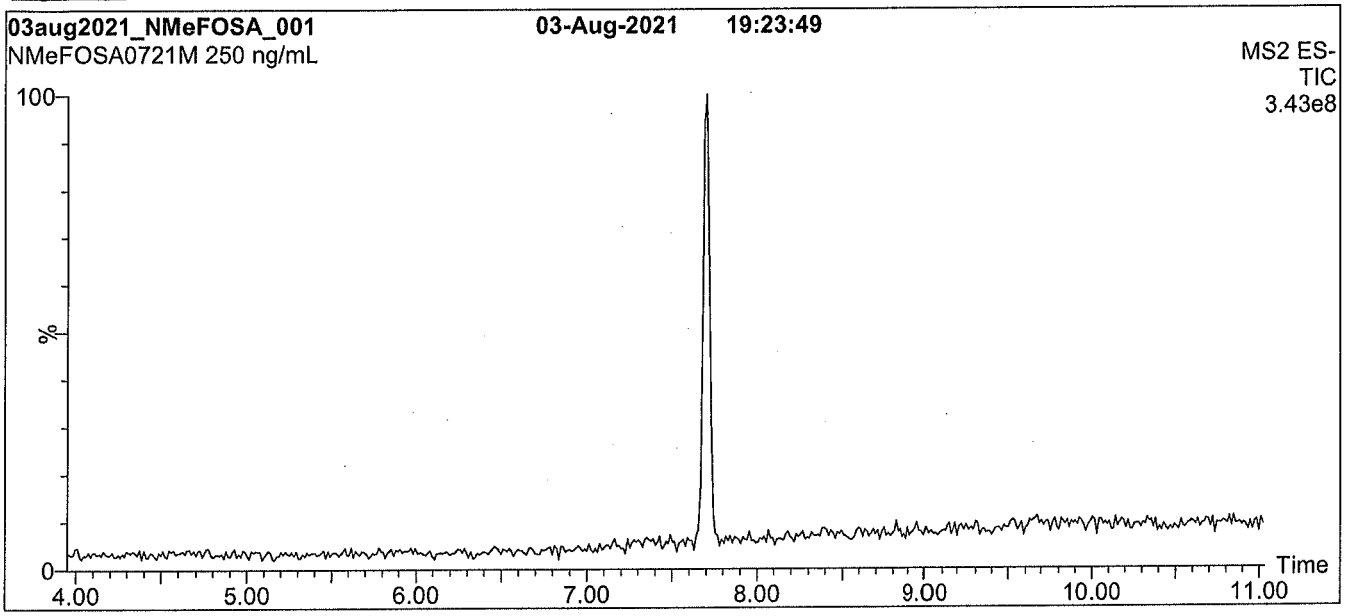
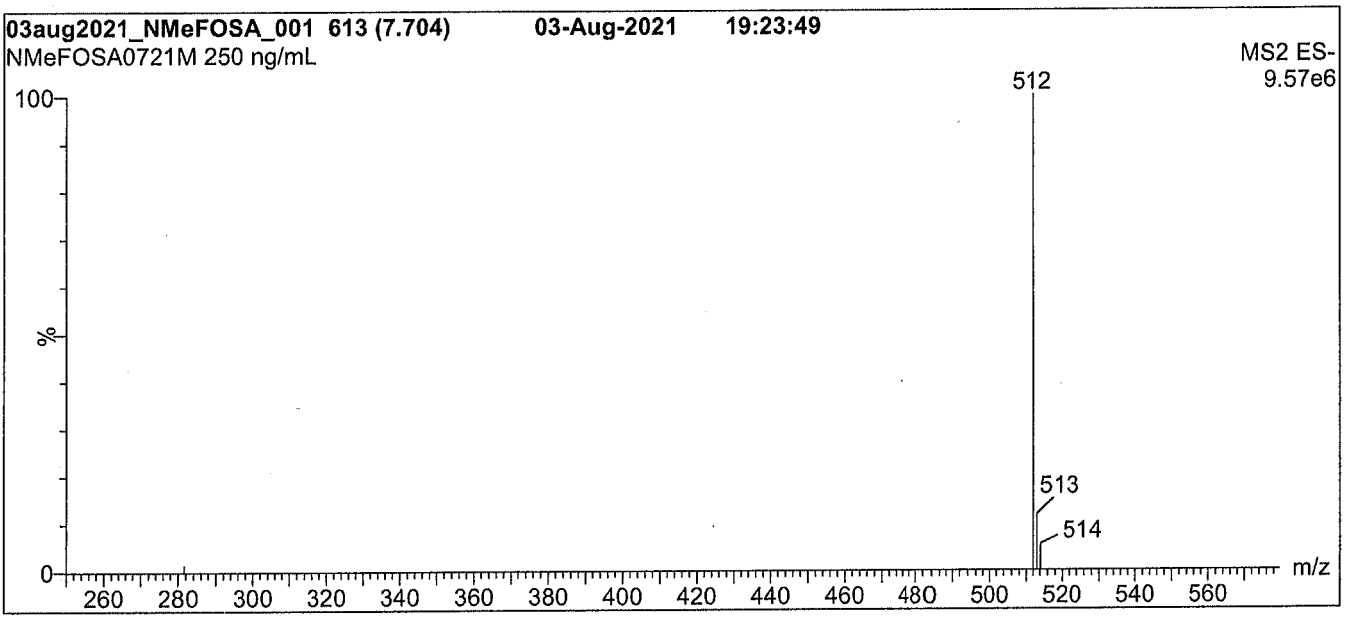
Figure 1: **N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





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

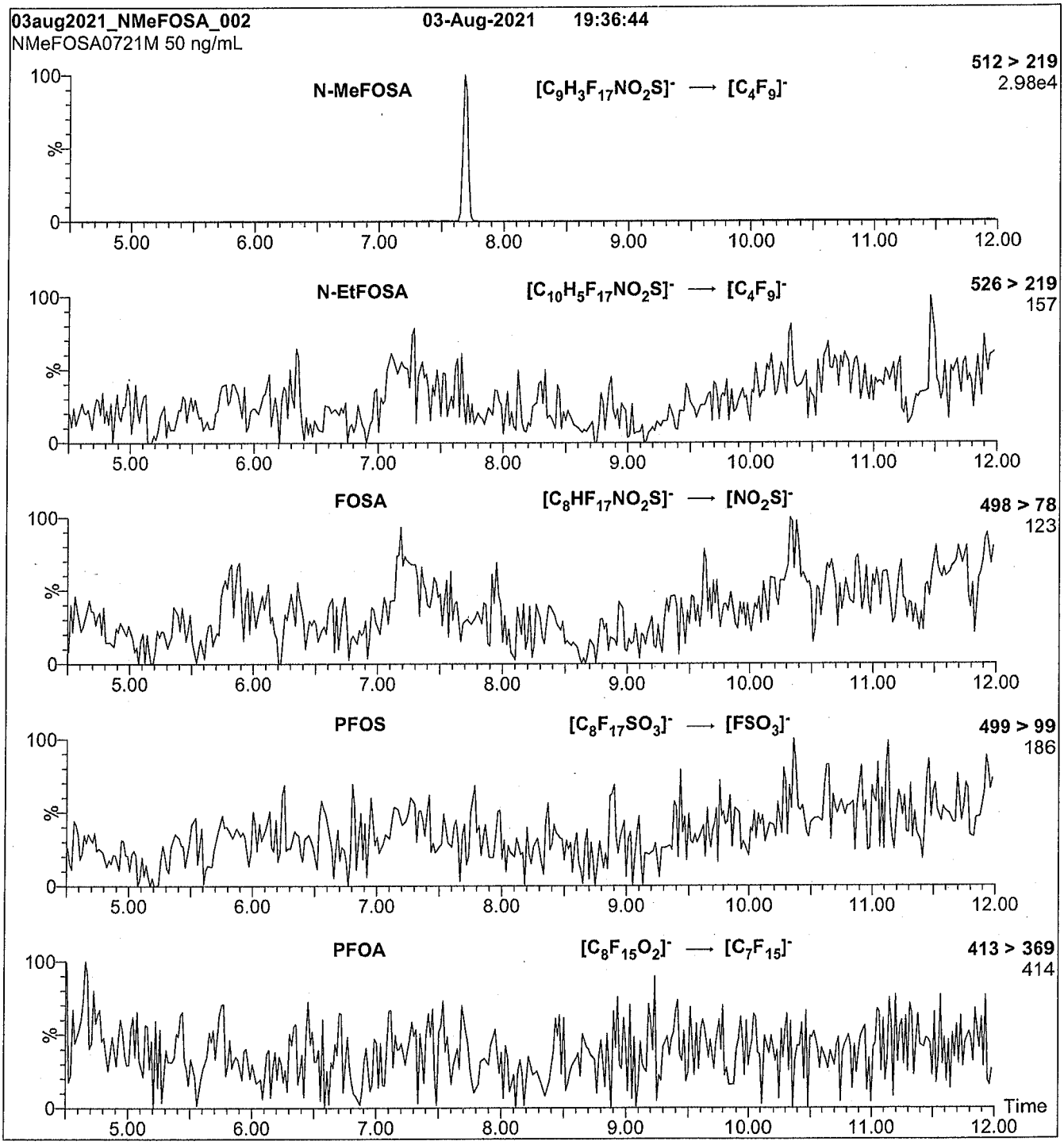
Flow: 300 µL/min

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

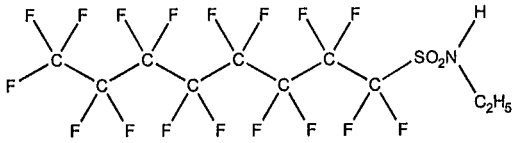
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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:

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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

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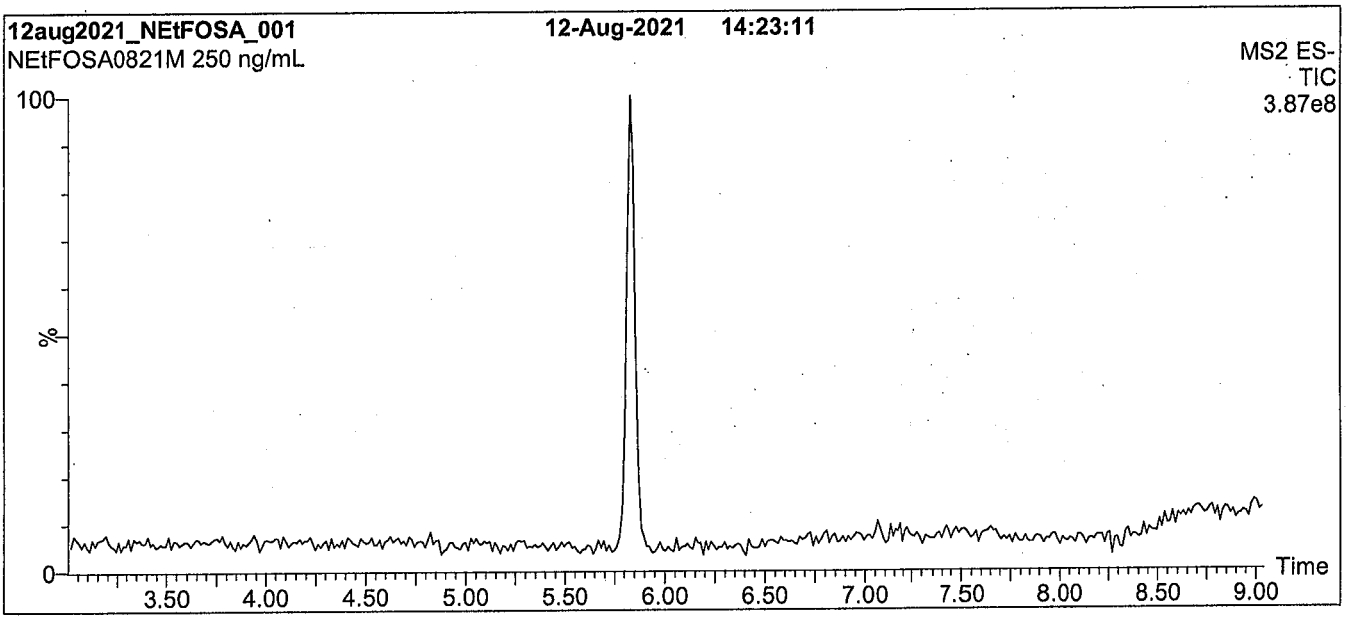

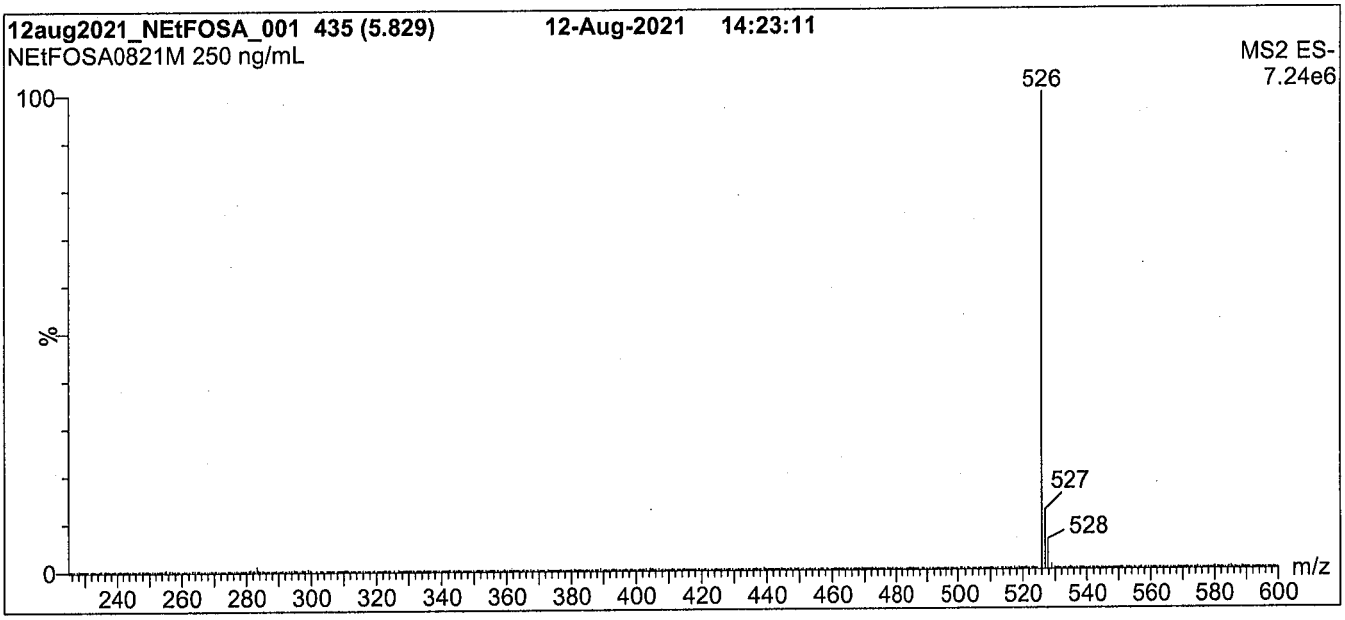

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1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% H_2O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

Analytical Standard Record

22C0313

Description:	PFAS - SAS NEtFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Other	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: NEtFOSA0821M)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF 22F0058

Native Replacement PFAS Solution/Mixture

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

DESCRIPTION:

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

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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

INTENDED USE:

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

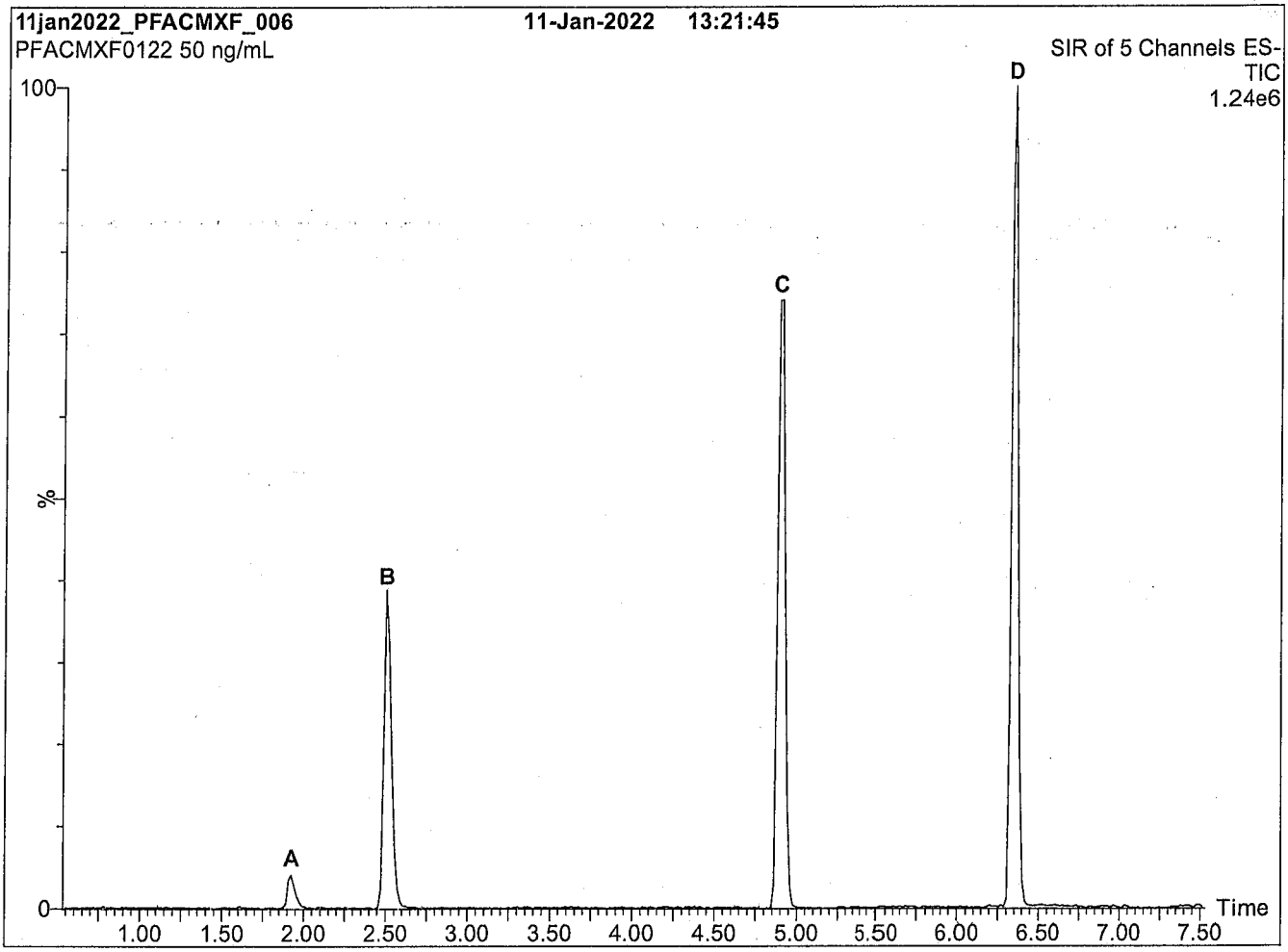
Table A: **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

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

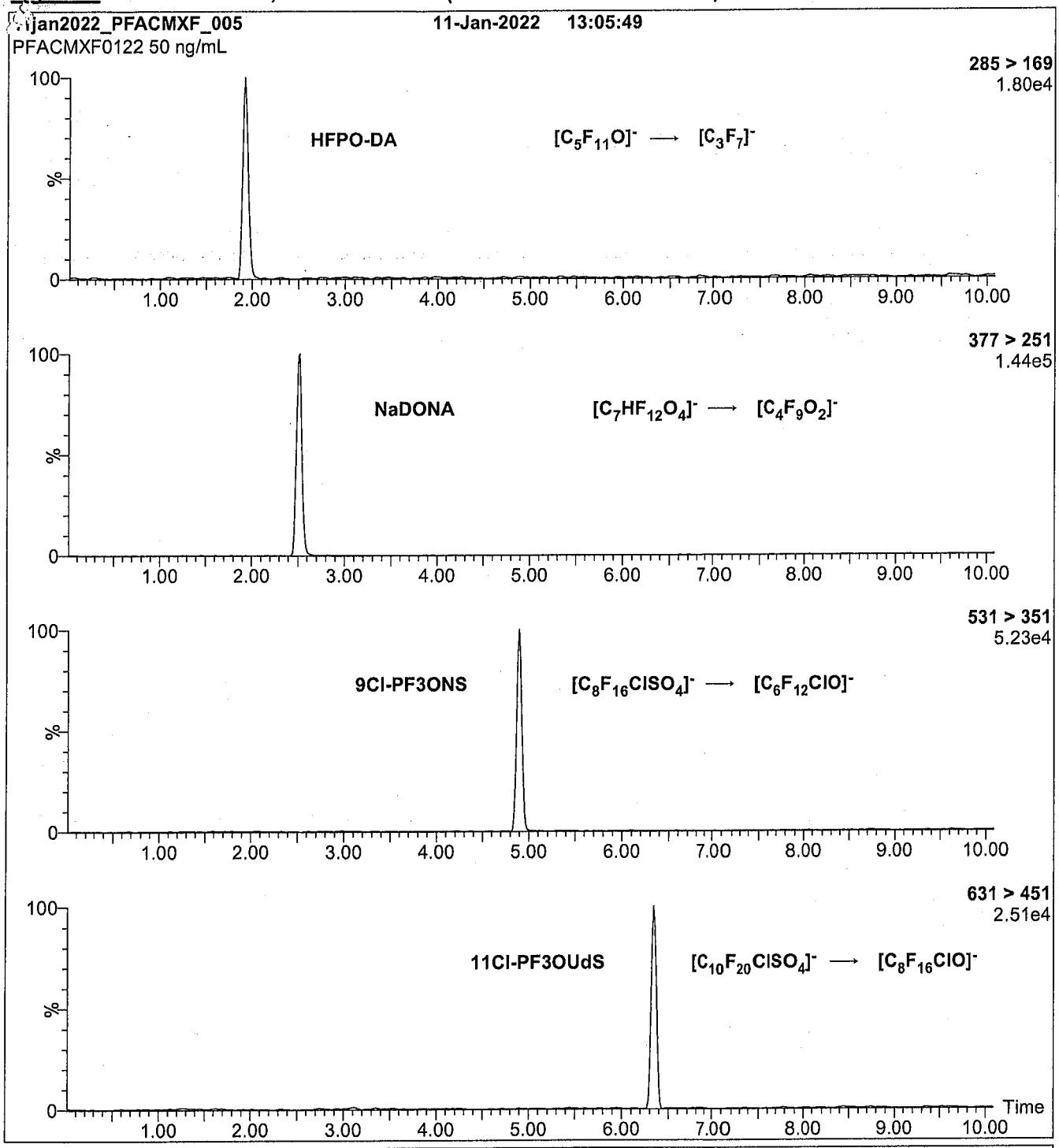
Flow: 300 µL/min

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.

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

Table A: **PFAC-MXH; Components and Concentrations (µg/mL, ± 5% in methanol / isopropanol (2%) / water (<1%))**

Compound	Acronym	Concentration* (µg/mL)		Peak Assignment in Figure 1
Perfluoro-n-butanoic acid	PFBA	4.00		1
Perfluoro-n-pentanoic acid	PFPeA	2.00		2
Perfluoro-n-hexanoic acid	PFHxA	1.00		5
Perfluoro-n-heptanoic acid	PFHpA	1.00		7
Perfluoro-n-octanoic acid	PFOA	1.00		11
Perfluoro-n-nonanoic acid	PFNA	1.00		14
Perfluoro-n-decanoic acid	PFDA	1.00		18
Perfluoro-n-undecanoic acid	PFUdA	1.00		23
Perfluoro-n-dodecanoic acid	PFDoA	1.00		26
Perfluoro-n-tridecanoic acid	PFTrDA	1.00		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1.00		29
Perfluoro-1-octanesulfonamide	FOSA	1.00		25
N-methylperfluorooctanesulfonamidoacetic acid [a]	N-MeFOSAA: linear isomer	0.760		20
	N-MeFOSAA: ∑ branched isomers	0.240		17
N-ethylperfluorooctanesulfonamidoacetic acid [b]	N-EtFOSAA: linear isomer	0.775		22
	N-EtFOSAA: ∑ branched isomers	0.225		21
Compound	**Acronym**	**Concentration* (µg/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Potassium perfluoro-1-butanesulfonate	L-PFBS	1.00	0.887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1.00	0.941	6
Potassium perfluorohexanesulfonate [c]	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: ∑ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctanesulfonate [d]	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: ∑ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1.00	0.965	24
Sodium perfluoro-1-dodecanesulfonate	L-PFDoS	1.00	0.970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4.00	3.75	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4.00	3.80	10
Sodium 1H,1H,2H,2H-perfluorodecanesulfonate	8:2FTS	4.00	3.84	16

[a] See Table B for percent composition of linear and branched N-MeFOSAA isomers.
[b] See Table C for percent composition of linear and branched N-EtFOSAA isomers.
[c] See Table D for percent composition of linear and branched PFHxSK isomers.
[d] See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 09/23/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **br-NMeFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	0.2	
7	Other Unidentified Isomers		1.1	

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Table C: **br-NEtFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3	22.5
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	2.2	
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	5.4	
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(C_2H_5)CH_2CO_2H$	10.4	
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	0.3	
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3	
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3	
9	Other Unidentified Isomers		1.3	

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Table D: **PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FSO_3^-K^+$	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2SO_3^-K^+$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2CF_2SO_3^-K^+$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3\underset{\displaystyle CF_3}{\underset{\vert}{C}}FCF_2CF_2CF_2SO_3^-K^+$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3\underset{\displaystyle CF_3}{\underset{\vert}{\overset{\displaystyle CF_3}{\overset{\vert}{C}}}}CF_2CF_2SO_3^-K^+$	0.2	
7	Other Unidentified Isomers		0.5	

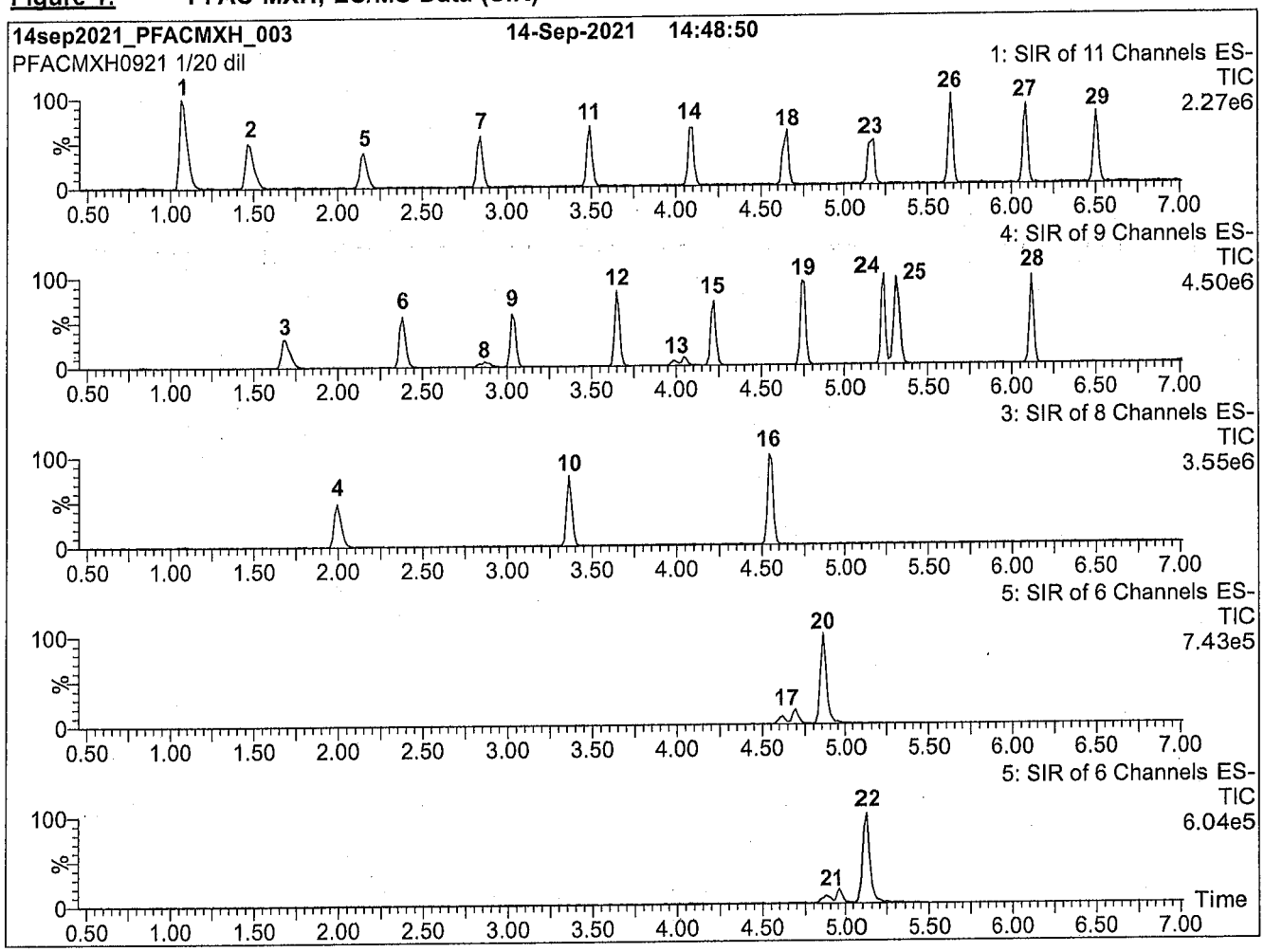
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Table E: **PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR	
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)_2CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	0.07	

* Percent of total perfluorooctanesulfonate isomers only.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Figure 1: **PFAC-MXH; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 9 min and hold for 2 min
before returning to initial conditions in 1 min.
Time: 15 min

Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (2-74)
Desolvation Temperature (°C) = 350
Desolvation Gas Flow (L/hr) = 1000

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

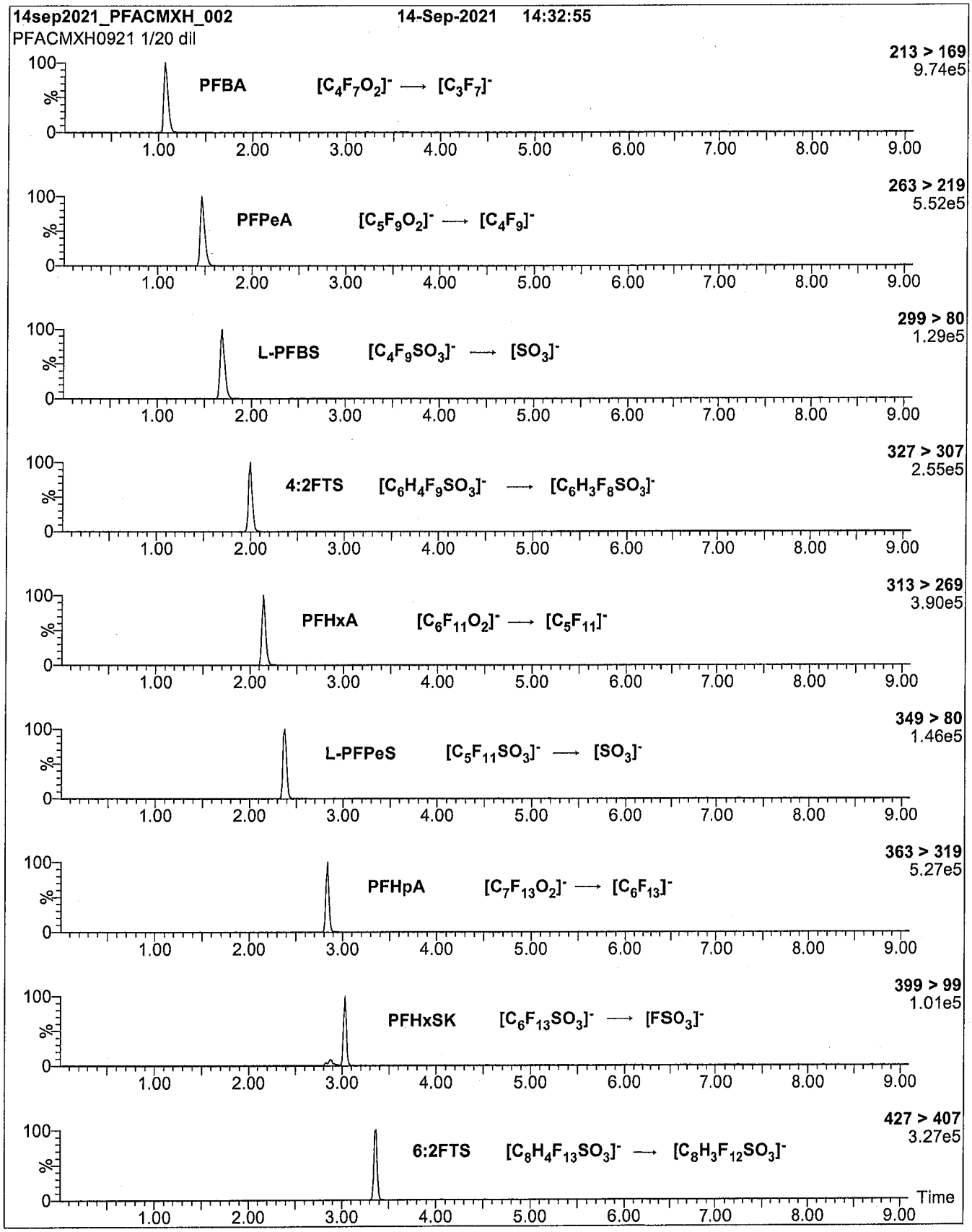


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

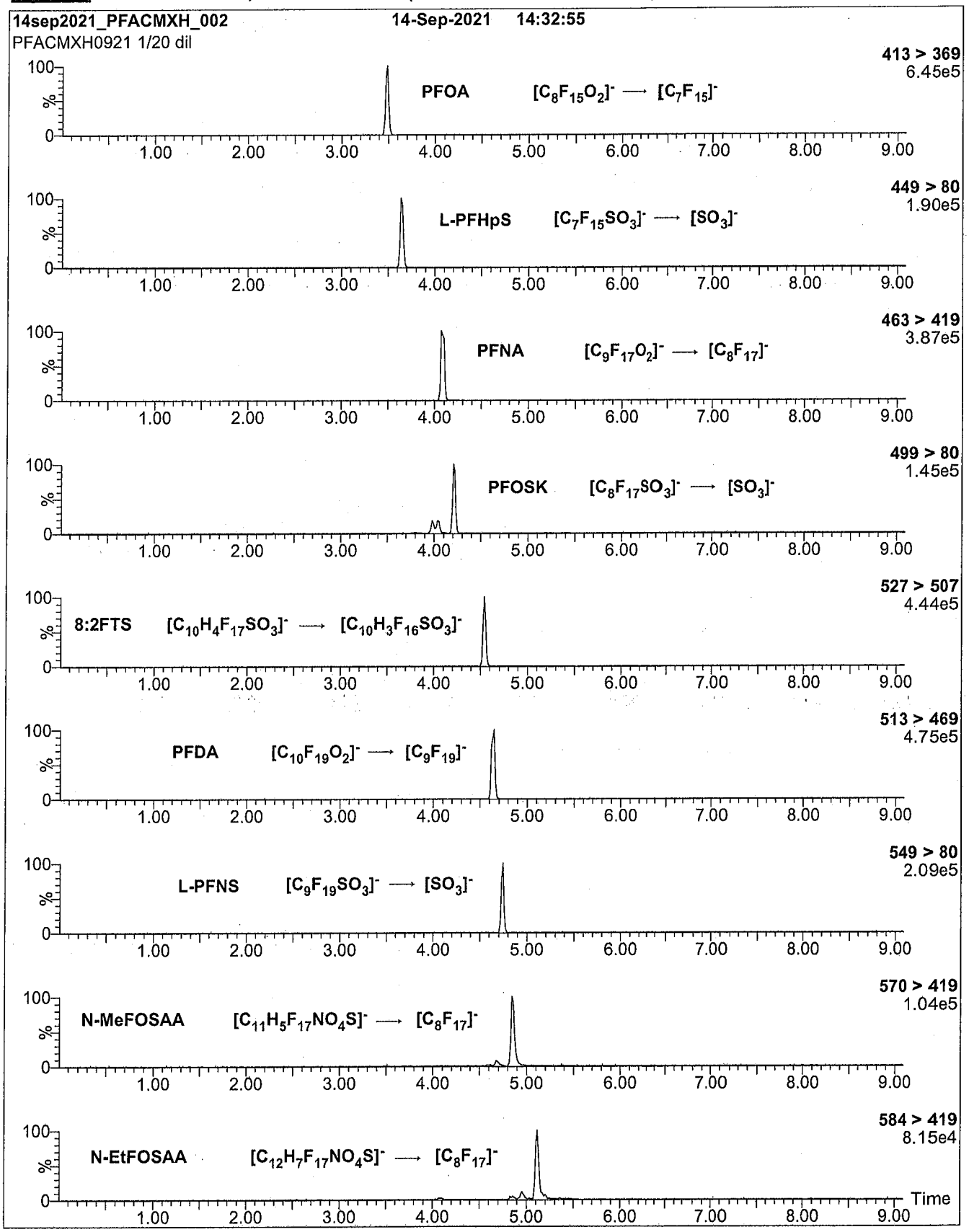
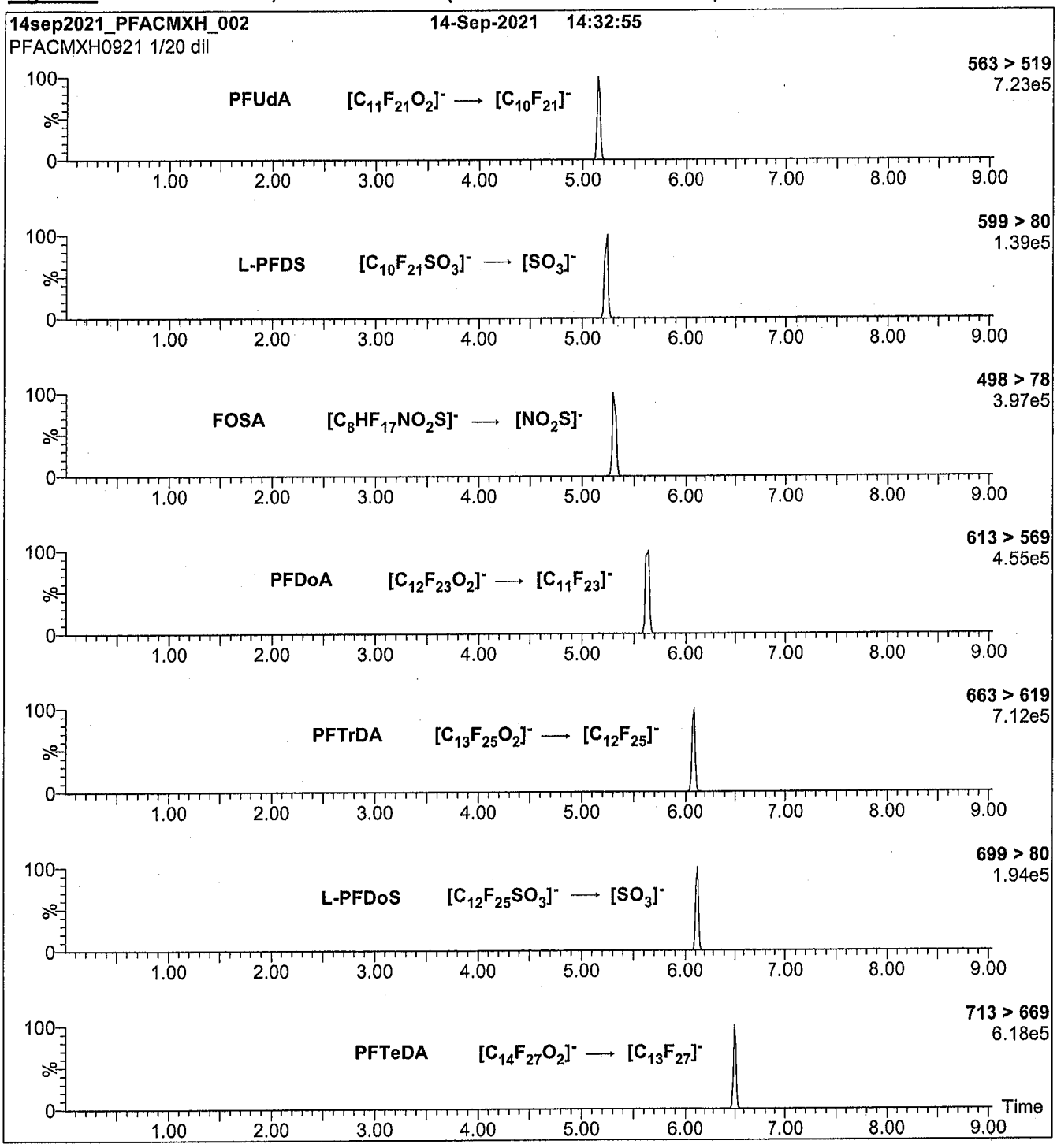


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**



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.

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

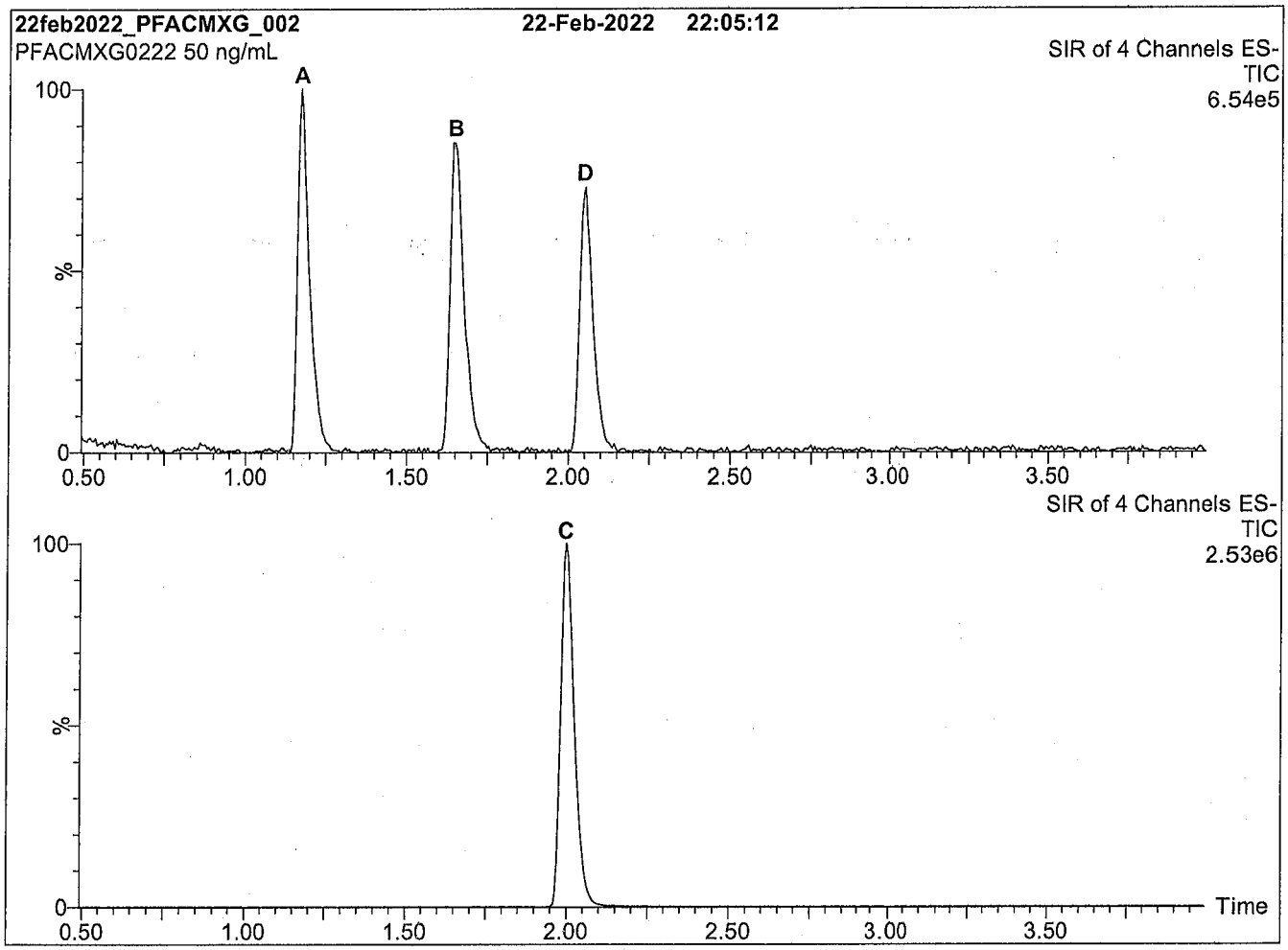
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 03/03/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **PFAC-MXG; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

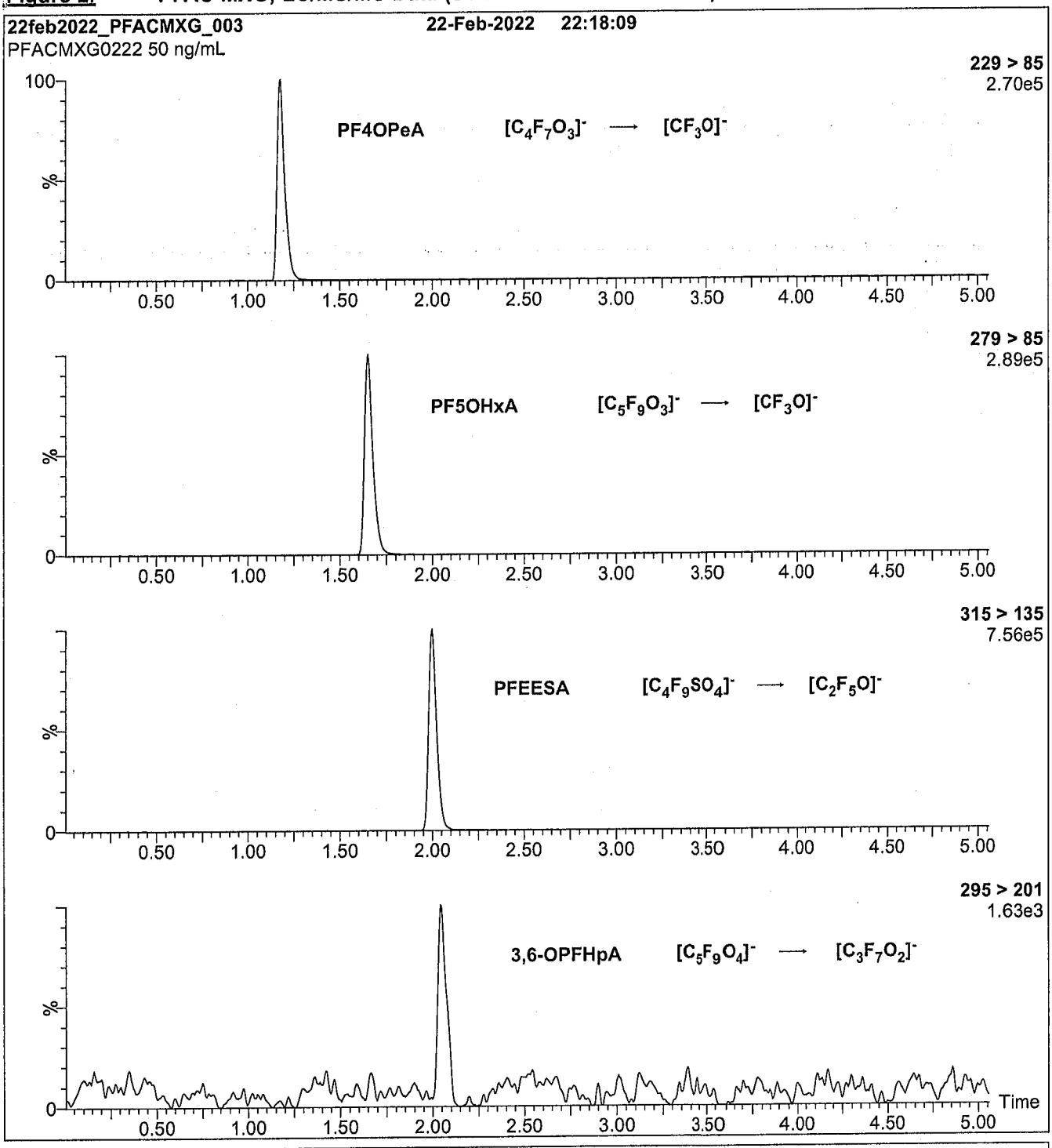
Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = variable (15-35)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (PFAC-MXG)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:
Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 8-48 (variable)

Analytical Standard Record

22F0061

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG
Comments:	contains NFHDA PFMBA PFMPA PFEESA @ 2ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

Reviewed By

Date

Analytical Standard Record

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

PRODUCT CODE:	PFAC-MXG
LOT NUMBER:	PFACMXG0222
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	02/07/2022
LAST TESTED: (mm/dd/yyyy)	02/22/2022
EXPIRY DATE: (mm/dd/yyyy)	02/22/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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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

Analytical Standard Record

22I0342

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:55 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

22I0343

Description:	PFAS - MIX MXF 2ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	09/26/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:47 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-MXF

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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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

Analytical Standard Record

22I0343

Description:	PFAS - MIX MXF 2ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:54 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

APPL ID:22I0334

PFAC-MXH

Native PFAS Solution/Mixture

PRODUCT CODE:	PFAC-MXH
LOT NUMBER:	PFACMXH0822
SOLVENT(S):	Methanol/Isopropanol (2%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	08/05/2022
LAST TESTED: (mm/dd/yyyy)	08/08/2022
EXPIRY DATE: (mm/dd/yyyy)	08/08/2027
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (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 N-MeFOSAA
Table C: Isomeric Components and Percent Composition of N-EtFOSAA
Table D: Isomeric Components and Percent Composition of PFHxSK
Table E: Isomeric Components and Percent Composition of PFOSK
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **PFAC-MXH; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))**

Compound	Acronym	Concentration* (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-butanoic acid	PFBA	4000	1
Perfluoro-n-pentanoic acid	PFPeA	2000	2
Perfluoro-n-hexanoic acid	PFHxA	1000	5
Perfluoro-n-heptanoic acid	PFHpA	1000	7
Perfluoro-n-octanoic acid	PFOA	1000	11
Perfluoro-n-nonanoic acid	PFNA	1000	14
Perfluoro-n-decanoic acid	PFDA	1000	18
Perfluoro-n-undecanoic acid	PFUdA	1000	24
Perfluoro-n-dodecanoic acid	PFDoA	1000	26
Perfluoro-n-tridecanoic acid	PFTrDA	1000	27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000	29
Perfluoro-1-octanesulfonamide	FOSA	1000	23
N-methylperfluorooctanesulfonamidoacetic acid [a]	N-MeFOSAA: linear isomer	760	20
	N-MeFOSAA: ∑ branched isomers	240	17
N-ethylperfluorooctanesulfonamidoacetic acid [b]	N-EtFOSAA: linear isomer	775	22
	N-EtFOSAA: ∑ branched isomers	225	21

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanesulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexanesulfonate [c]	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctanesulfonate [d]	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecanesulfonate	L-PFDoS	1000	970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4000	3750	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4000	3800	10
Sodium 1H,1H,2H,2H-perfluorodecanesulfonate	8:2FTS	4000	3840	16

[a] See Table B for percent composition of linear and branched N-MeFOSAA isomers.
[b] See Table C for percent composition of linear and branched N-EtFOSAA isomers.
[c] See Table D for percent composition of linear and branched PFHxSK isomers.
[d] See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 08/09/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager

Analytical Standard Record

22I0344

Description:	PFAS - MIX MXH 1-4ug/mL	Expires:	08/08/2027
Standard Type:	Other	Prepared:	08/05/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:59 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

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

22J0552

Description:	PFAS - MIX 1633 200ng/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	10/31/2022
Solvent:	MeOH 62244	Prepared By:	Dipti Gokal
Final Volume (mls):	6	Department:	PFAS
Vials:	1	Last Edit:	10/31/2022 14:57 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSA	21J0007	4151-50-2	0.8	ug/mL
NMeFOSE	21J0014	24448-09-7	0.8	ug/mL
3:3FTCA	21L0004	113507-82-7	0.8	ug/mL
5:3FTCA	21L0005	914637-49-3	0.8	ug/mL
NEtFOSE	21L0006	1691-99-2	0.8	ug/mL
7:3FTCA	21L0007	812-70-4	0.8	ug/mL
NMeFOSA	21L0008	31506-32-8	0.8	ug/mL
NFDHA	22I0342	151772-58-6	0.4	ug/mL
PFEESA	22I0342	113507-82-7	0.356	ug/mL
PFMBA	22I0342	863090-89-5	0.4	ug/mL
PFMPA	22I0342	377-73-1	0.4	ug/mL
11CL-PF3OUDS	22I0343	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22I0343	756426-58-1	0.374	ug/mL
ADONA	22I0343	919005-14-4	0.378	ug/mL
HFPO-DA	22I0343	13252-13-6	0.4	ug/mL
4:2FTS	22I0344	757124-72-4	0.75	ug/mL
6:2FTS	22I0344	27619-97-2	0.76	ug/mL
8:2FTS	22I0344	39108-34-4	0.768	ug/mL
NEtFOSAA	22I0344	2991-50-6	0.2	ug/mL
NMeFOSAA	22I0344	2355-31-9	0.2	ug/mL
PFBA	22I0344	375-22-4	0.8	ug/mL
PFBS	22I0344	375-73-5	0.177	ug/mL
PFDA	22I0344	335-76-2	0.2	ug/mL
PFDOA	22I0344	307-55-1	0.2	ug/mL
PFDOS	22I0344	79780-39-5	0.194	ug/mL
PFDS	22I0344	335-77-3	0.193	ug/mL
PFHPA	22I0344	375-85-9	0.2	ug/mL
PFHPS	22I0344	375-92-8	0.191	ug/mL
PFHXA	22I0344	307-24-4	0.2	ug/mL
PFHXS	22I0344	355-46-4	0.183	ug/mL
PFNA	22I0344	375-95-1	0.2	ug/mL
PFNS	22I0344	68259-12-1	0.192	ug/mL
PFOA	22I0344	335-67-1	0.2	ug/mL
PFOS	22I0344	1763-23-1	0.186	ug/mL
PFOSA	22I0344	754-91-6	0.2	ug/mL
PFPEA	22I0344	2706-90-3	0.4	ug/mL
PFPES	22I0344	630402-22-1	0.188	ug/mL
PFTEDA	22I0344	376-06-7	0.2	ug/mL
PFTRDA	22I0344	72629-94-8	0.2	ug/mL
PFUnA	22I0344	2058-94-8	0.2	ug/mL

Reviewed By

Date

Analytical Standard Record

22J0552

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
21J0007	PFAS - SAS N-EtFOSA 50ug/mL	08/12/2021	Wellington Laboratories	NEtFOSA0821M	08/12/2026	10/31/2022 14:36	by DAG	0.096
21J0014	PFAS - SAS N-MeFOSE 50ug/mL	09/22/2021	Wellington Laboratories	NMeFOSE0921M	09/23/2026	10/31/2022 14:35	by DAG	0.096
21L0004	PFAS - SAS 3:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPrPA1020	11/12/2025	10/31/2022 14:39	by DAG	0.096
21L0005	PFAS - SAS 5:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPePA1120	11/11/2025	10/31/2022 14:41	by DAG	0.096
21L0006	PFAS - SAS EtFOSE 50ug/mL	12/07/2021	Wellington Laboratories	FPePA1120	09/23/2026	10/31/2022 14:41	by DAG	0.096
21L0007	PFAS - SAS 7:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FHpPA1020	11/12/2025	10/31/2022 14:42	by DAG	0.096
21L0008	PFAS - SAS N-MeFOSA 50ug/mL	12/07/2021	Wellington Laboratories	NMeFOSA0721M	08/03/2026	10/31/2022 14:42	by DAG	0.096
22I0342	PFAS - MIX MXG 2ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	10/31/2022 14:48	by DAG	1.2
22I0343	PFAS - MIX MXF 2ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	10/31/2022 14:55	by DAG	1.2
22I0344	PFAS - MIX MXH 1-4ug/mL	08/05/2022	Wellington Laboratories	PFACMXH0822	08/08/2027	10/31/2022 14:56	by DAG	1.2

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

PRODUCT CODE:	MPFAC-HIF-ES
LOT NUMBER:	MPFACHIFES0822
SOLVENT(S):	Methanol/Isopropanol (1%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	07/20/2022
LAST TESTED: (mm/dd/yyyy)	08/02/2022
EXPIRY DATE: (mm/dd/yyyy)	08/02/2025
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4-C_{12}, C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4, C_6, and C_8), three mass-labelled (one ^{13}C and two ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-($^{13}C_4$)butanoic acid	MPFBA	2000	1
Perfluoro-n-($^{13}C_5$)pentanoic acid	M5PFPeA	1000	2
Perfluoro-n-(1,2,3,4,6-$^{13}C_5$)hexanoic acid	M5PFHxA	500	5
Perfluoro-n-(1,2,3,4-$^{13}C_4$)heptanoic acid	M4PFHpA	500	7
Perfluoro-n-($^{13}C_8$)octanoic acid	M8PFOA	500	10
Perfluoro-n-($^{13}C_9$)nonanoic acid	M9PFNA	250	11
Perfluoro-n-(1,2,3,4,5,6-$^{13}C_6$)decanoic acid	M6PFDA	250	14
Perfluoro-n-(1,2,3,4,5,6,7-$^{13}C_7$)undecanoic acid	M7PFUdA	250	17
Perfluoro-n-(1,2-$^{13}C_2$)dodecanoic acid	MPFDoA	250	19
Perfluoro-n-(1,2-$^{13}C_2$)tetradecanoic acid	M2PFTeDA	250	23
Perfluoro-1-($^{13}C_8$)octanesulfonamide	M8FOSA	500	18
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	22
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:** 08/02/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager

Analytical Standard Record

22K0502

Description:	PFAS IIS 7C 40ng/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	11/28/2022
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mls):	25	Department:	PFAS
Vials:	1	Last Edit:	11/28/2022 15:10 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA	22A0234	13C2-PFDA	0.04	ug/mL
13C2-PFHXA	22A0234	13C2-PFHxA	0.04	ug/mL
13C3-PFBA	22A0234	13C3-PFBA	0.04	ug/mL
13C4-PFOA	22A0234	13C4-PFOA	0.04	ug/mL
13C4-PFOS	22A0234	13C4-PFOS	0.04	ug/mL
13C5-PFNA	22A0234	13C5-PFNA	0.04	ug/mL
18O2-PFHXS	22A0234	18O2-PFHXS	0.04	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0234	PFAS IIS 7C 5ug/mL	01/20/2022	In house	*	01/20/2023	01/20/2022 15:49	by HGH	0.2

Reviewed By

Date

Analytical Standard Record

22K0503

Description:	1633- IIS Static 1ng/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	11/28/2022
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mls):	2	Department:	PFAS
Vials:	1	Last Edit:	11/28/2022 15:11 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA	22K0502	13C2-PFDA	0.001	ug/mL
13C2-PFHXA	22K0502	13C2-PFHxA	0.001	ug/mL
13C3-PFBA	22K0502	13C3-PFBA	0.001	ug/mL
13C4-PFOA	22K0502	13C4-PFOA	0.001	ug/mL
13C4-PFOS	22K0502	13C4-PFOS	0.001	ug/mL
13C5-PFNA	22K0502	13C5-PFNA	0.001	ug/mL
18O2-PFHXS	22K0502	18O2-PFHXS	0.001	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22K0502	PFAS IIS 7C 40ng/mL	11/28/2022	In house	*	01/20/2023	11/28/2022 15:10	by DAG	0.05

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

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

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4-C_{12}, C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4, C_6, and C_8), three mass-labelled (one ^{13}C and two ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) perfluorooctane-sulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-($^{13}C_4$)butanoic acid	MPFBA	2000	1
Perfluoro-n-($^{13}C_5$)pentanoic acid	M5PFPeA	1000	2
Perfluoro-n-(1,2,3,4,6-$^{13}C_5$)hexanoic acid	M5PFHxA	500	5
Perfluoro-n-(1,2,3,4-$^{13}C_4$)heptanoic acid	M4PFHpA	500	7
Perfluoro-n-($^{13}C_8$)octanoic acid	M8PFOA	500	10
Perfluoro-n-($^{13}C_9$)nonanoic acid	M9PFNA	250	11
Perfluoro-n-(1,2,3,4,5,6-$^{13}C_6$)decanoic acid	M6PFDA	250	14
Perfluoro-n-(1,2,3,4,5,6,7-$^{13}C_7$)undecanoic acid	M7PFUdA	250	18
Perfluoro-n-(1,2-$^{13}C_2$)dodecanoic acid	MPFDoA	250	19
Perfluoro-n-(1,2-$^{13}C_2$)tetradecanoic acid	M2PFTeDA	250	22
Perfluoro-1-($^{13}C_8$)octanesulfonamide	M8FOSA	500	17
N-methyl-d_3-perfluoro-1-octanesulfonamide	d-N-MeFOSA	500	21
N-ethyl-d_5-perfluoro-1-octanesulfonamide	d-N-EtFOSA	500	24
N-methyl-d_3-perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	15
N-ethyl-d_5-perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	16
2-(N-methyl-d_3-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d7-N-MeFOSE	5000	20
2-(N-ethyl-d_5-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d9-N-EtFOSE	5000	23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)($^{13}C_3$)propanoic acid	M3HFPO-DA	2000	6

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4-$^{13}C_3$)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3-$^{13}C_3$)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-($^{13}C_8$)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 11/24/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager

Analytical Standard Record

22L0255

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	meoh	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/13/2022 17:15 by DAG

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

Reviewed By

Date

Analytical Standard Record

22L0255

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	meoh	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/13/2022 17:15 by DAG

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

Reviewed By

Date

Analytical Standard Record

22L0432

Description:	PFAS IIS 7C 40ng/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	12/29/2022
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mls):	25	Department:	PFAS
Vials:	1	Last Edit:	12/29/2022 09:09 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA	22A0234	13C2-PFDA	0.04	ug/mL
13C2-PFHXA	22A0234	13C2-PFHxA	0.04	ug/mL
13C3-PFBA	22A0234	13C3-PFBA	0.04	ug/mL
13C4-PFOA	22A0234	13C4-PFOA	0.04	ug/mL
13C4-PFOS	22A0234	13C4-PFOS	0.04	ug/mL
13C5-PFNA	22A0234	13C5-PFNA	0.04	ug/mL
18O2-PFHXS	22A0234	18O2-PFHXS	0.04	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0234	PFAS IIS 7C 5ug/mL	01/20/2022	In house	*	01/20/2023	01/20/2022 15:49	by HGH	0.2

Reviewed By

Date

Analytical Standard Record

22L0442

Description:	PFAS - MIX 1633 10ng/mL	Expires:	06/27/2023
Standard Type:	Analyte Spike	Prepared:	12/29/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	12/29/2022 09:41 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS	22J0552	763051-92-9	0.0189	ug/mL
3:3FTCA	22J0552	113507-82-7	0.04	ug/mL
4:2FTS	22J0552	757124-72-4	0.0375	ug/mL
5:3FTCA	22J0552	914637-49-3	0.04	ug/mL
6:2FTS	22J0552	27619-97-2	0.038	ug/mL
7:3FTCA	22J0552	812-70-4	0.04	ug/mL
8:2FTS	22J0552	39108-34-4	0.0384	ug/mL
9CL-PF3ONS	22J0552	756426-58-1	0.0187	ug/mL
ADONA	22J0552	919005-14-4	0.0189	ug/mL
HFPO-DA	22J0552	13252-13-6	0.02	ug/mL
NEtFOSA	22J0552	4151-50-2	0.04	ug/mL
NEtFOSAA	22J0552	2991-50-6	0.01	ug/mL
NEtFOSE	22J0552	1691-99-2	0.04	ug/mL
NFDHA	22J0552	151772-58-6	0.02	ug/mL
NMeFOSA	22J0552	31506-32-8	0.04	ug/mL
NMeFOSAA	22J0552	2355-31-9	0.01	ug/mL
NMeFOSE	22J0552	24448-09-7	0.04	ug/mL
PFBA	22J0552	375-22-4	0.04	ug/mL
PFBS	22J0552	375-73-5	0.00885	ug/mL
PFDA	22J0552	335-76-2	0.01	ug/mL
PFDOA	22J0552	307-55-1	0.01	ug/mL
PFDOS	22J0552	79780-39-5	0.0097	ug/mL
PFDS	22J0552	335-77-3	0.00965	ug/mL
PFEESA	22J0552	113507-82-7	0.0178	ug/mL
PFHPA	22J0552	375-85-9	0.01	ug/mL
PFHPS	22J0552	375-92-8	0.00955	ug/mL
PFHXA	22J0552	307-24-4	0.01	ug/mL
PFHXS	22J0552	355-46-4	0.00915	ug/mL
PFMBA	22J0552	863090-89-5	0.02	ug/mL
PFMPA	22J0552	377-73-1	0.02	ug/mL
PFNA	22J0552	375-95-1	0.01	ug/mL
PFNS	22J0552	68259-12-1	0.0096	ug/mL
PFOA	22J0552	335-67-1	0.01	ug/mL
PFOS	22J0552	1763-23-1	0.0093	ug/mL
PFOSA	22J0552	754-91-6	0.01	ug/mL
PFPEA	22J0552	2706-90-3	0.02	ug/mL
PFPES	22J0552	630402-22-1	0.0094	ug/mL
PFTEDA	22J0552	376-06-7	0.01	ug/mL
PFTRDA	22J0552	72629-94-8	0.01	ug/mL
PFUnA	22J0552	2058-94-8	0.01	ug/mL

Reviewed By

Date

Analytical Standard Record

22L0442

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22J0552	PFAS - MIX 1633 200ng/mL	10/31/2022	In house	x	01/11/2025	10/31/2022 15:40	by DAG	0.5

Analytical Standard Record

23A0098

Description:	MPFAC-HIF-ES 20.0ng/mL	Expires:	07/05/2023
Standard Type:	Surrogate Spike	Prepared:	01/06/2023
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	01/06/2023 10:26 by DAG
Comments:	Half the concentration of previous EIS solution used for 1633/B-15. Double the spiking volume from 100 uL to 200 uL		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS	22L0255	13C2-4:2FTS	0.04	ug/mL
13C2-6:2FTS	22L0255	13C2-6:2FTS	0.04	ug/mL
13C2-8:2FTS	22L0255	13C2-8:2FTS	0.04	ug/mL
13C2-PFDOA	22L0255	13C2-PFDOA	0.01	ug/mL
13C2-PFTEDA	22L0255	13C2-PFTEDA	0.01	ug/mL
13C3-HFPO-DA	22L0255	13C3-HFPO-DA	0.08	ug/mL
13C3-PFBS	22L0255	13C3-PFBS	0.02	ug/mL
13C3-PFHXS	22L0255	13C3-PFHXS	0.02	ug/mL
13C4-PFBA	22L0255	13C4-PFBA	0.08	ug/mL
13C4-PFHPA	22L0255	13C4-PFHPA	0.02	ug/mL
13C5-PFHXA	22L0255	13C5-PFHXA	0.02	ug/mL
13C5-PFPEA	22L0255	13C5-PFPEA	0.04	ug/mL
13C6-PFDA	22L0255	13C6-PFDA	0.01	ug/mL
13C7-PFUnA	22L0255	13C7-PFUDA	0.01	ug/mL
13C8-PFOA	22L0255	13C8-PFOA	0.02	ug/mL
13C8-PFOS	22L0255	13C8-PFOS	0.02	ug/mL
13C8-PFOSA	22L0255	13C8-PFOSA	0.02	ug/mL
13C9-PFNA	22L0255	13C9-PFNA	0.01	ug/mL
D3-NMEFOSA	22L0255	D3-NMEFOSA	0.02	ug/mL
D3-NMEFOSAA	22L0255	D3-NMEFOSAA	0.04	ug/mL
D5-NETFOSA	22L0255	D5-NETFOSA	0.02	ug/mL
D5-NETFOSAA	22L0255	D5-NETFOSAA	0.04	ug/mL
D7-NMEFOSE	22L0255	D7-NMEFOSE	0.2	ug/mL
D9-NETFOSE	22L0255	D9-NETFOSE	0.2	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22L0255	MPFAC-HIF-ES-EIS	10/28/2022	Wellington Laboratories	MPFACHIFES1022	11/23/2025	12/13/2022 17:15	by DAG	0.4

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Date